Devolutions Server

Self-Hosted Repository & Management Platform

User Manual

2020.1

Devolutions

Table of Contents

Overview

Part I

1 Overview

1.1 What is Devolutions Password Server?

DESCRIPTION

This documentation is valid for version 2020.1.0.Previous Versions

Devolutions Password Server is an **on-premise** vault for storing and **sharing** information across your whole organization. Manage remote connections, credentials, and sensitive information with ease.

Use our **Role Based Access Control** to grant permissions in a granular fashion. Advanced logging of all user activity is included to offer visibility in all aspects of the solution.

Because of its Web Architecture you have the possibility to offer it only from your intranet or publish it on the Internet.

There are two ways of using Devolutions Password Server:

Web-Based Vault

Session Management

Web browser access and Devolutions Web Login	Using a client application (desktop or mobile)
Access vaulted resources from a web browser using a Client Access License (CAL). Credentials are managed directly from the web interface and no client application is required. With the Devolutions Web Login browser extension, credentials can be automatically submitted when connecting to a website.	Access vaulted resources using our client applications which communicate with Devolutions Password Server web services. A local installation of a client application such as Remote Desktop Manager is required to manage the data source and its resources. Note that we offer Windows, macOS, Android and iOS editions. Use any type of entry, manage all aspects of the data source and monitor user activity all in the same application.
Remote access technologies (RDP, VNC, etc) are not supported within a web browser.	**Unlike with web browser access, Remote Desktop Manager can launch sessions using remote access technologies.**

HIGHLIGHTS

HIGH-END SERVER

FULL ACTIVE DIRECTORY (AD) INTEGRATION

WEB ARCHITECTURE

Installed **on-premise** on an application server. Store entries in an unlimited number of vaults and manage access to these entries with our **Role Based Access Control**.	Users accessing the system will be granted permissions based on their membership in specific AD groups, making user management almost seamless for organizations that use AD to manage teams.	Implemented using a Web architecture so it can exposed publicly on the **Internet** or only to your **Intranet** or **private cloud**.
 **TWO-FACTOR AUTHENTICATION**	 **EMAIL NOTIFICATIONS**	 **IP RESTRICTIONS**
Widest choice of Two-factor authentication (2FA) providers. Many providers can be enabled concurrently. They can selectively be enforced per user.	Optionally receive email notifications for various events on sessions, users, roles, etc.	Controlling access to Devolutions Password Server from IP addresses / ranges, including GeoIP restriction and IP whitelisting / blacklisting.

1.2 System Requirements

MINIMUM REQUIREMENTS

Devolutions Password Server needs Microsoft .NET Framework 4.7.2 to function. Please adapt your environment depending on which version you are running.

DEPENDENCIES

- Microsoft SQL Server 2012/2014/2016/2017/2019 (including Express editions).
- Windows 10, Windows Server 2012R2, 2016 and 2019.
- Windows Server 2012R2 domain functional level or higher.
- Microsoft .NET Framework 4.7.2 (Please refer to the requirements for the .Net Framework for operating systems).
- Internet Information Services (IIS) 7.0 or better.
- Devolutions Password Server Console must be installed on the server to manage the Devolutions Password Server instance(s).

SERVER SIZING

Many customers often ask how to properly customize their servers for various topologies. This is essentially unreliable because the way the system is used has a significant impact on the resource usage of each node within the chosen Topology.

The great majority of setups that we have observed work well with nodes of 4GB RAM and a dual CPU. Most of these are virtualized environments, so granting more resources is relatively simple.

For a proper estimate, the following aspects must be considered:

- Number of entries stored in your instance (server details, credentials, etc.).
- Churn of these entries; do you create entries daily or are they quite static?
- Number of concurrent users that connect to the Devolutions Password Server instance during peak times.
- Usage of information by the users. Are they launching 10 sessions at a time, doing a batch operation that takes a few minutes and then repeating the cycle, or are they opening only a few sessions but working within them all day long. This

results in **write** operations to our logs, therefore the former case is more intensive then the latter.

64-BIT SUPPORT

Devolutions Password Server is compatible with all 64-bit versions of Windows.

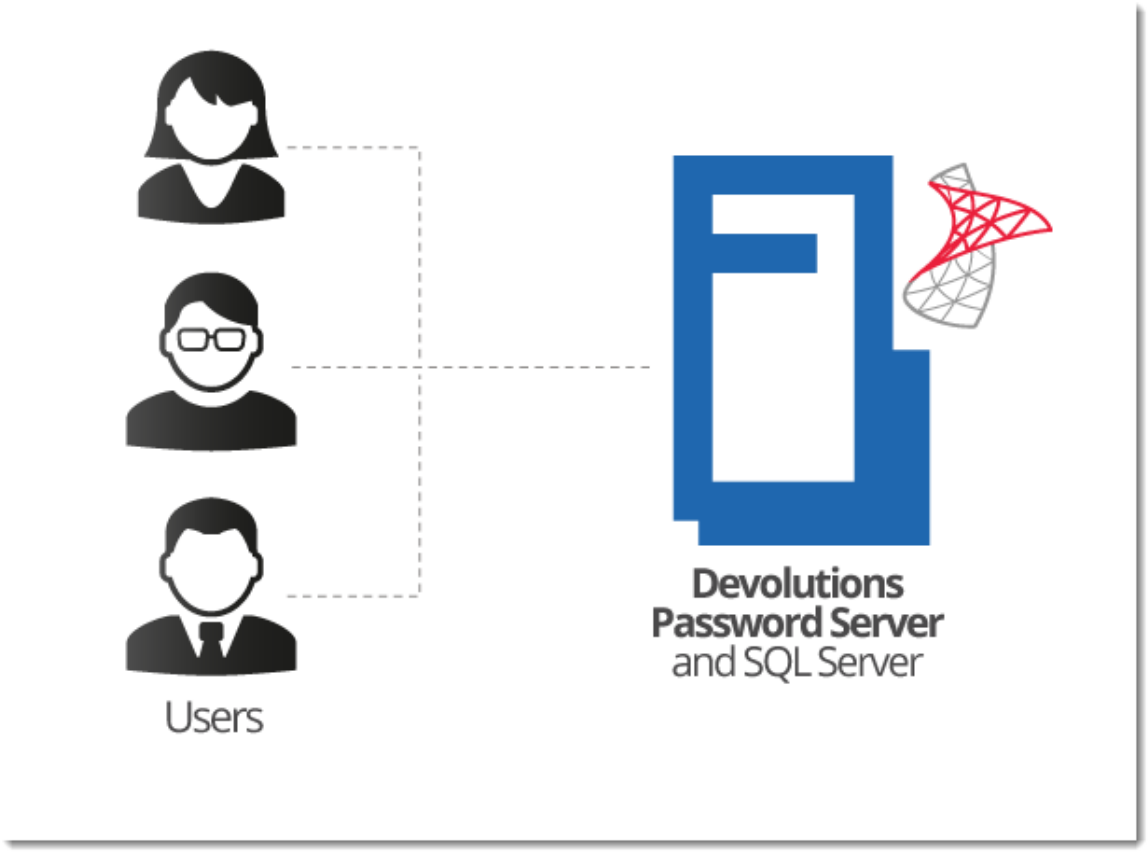
1.3 Topologies

DESCRIPTION

Devolutions Password Server instances can be installed through different topologies. The following are examples of different topologies serving various purposes.

SINGLE SERVER TOPOLOGY

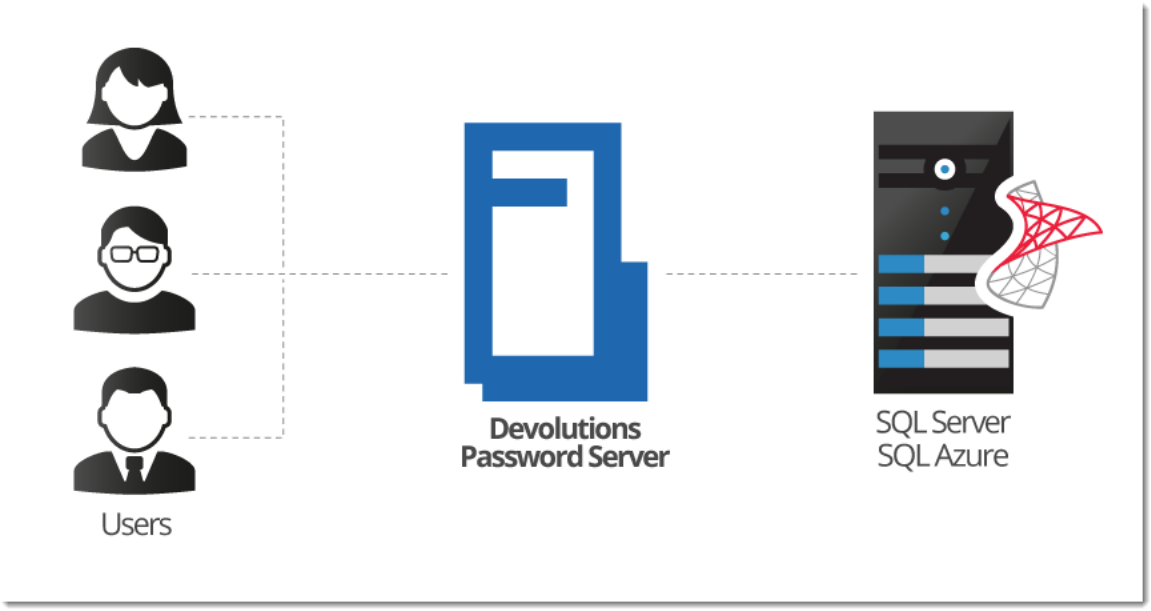
The Devolutions Password Server and the SQL Server can be installed on the same machine for a small team up to 20 users. Having Devolutions Password Server and SQL Server on the same machine could result in certain performance issues if you attempt to serve more than 20 users.



Single Server Installation

RECOMMENDED BASIC TOPOLOGY

A recommended basic topology consists of two servers, one for the Devolutions Password Server and one for the SQL Database. By doing so, all queries are made by the SQL server and performance is less affected on the application server.

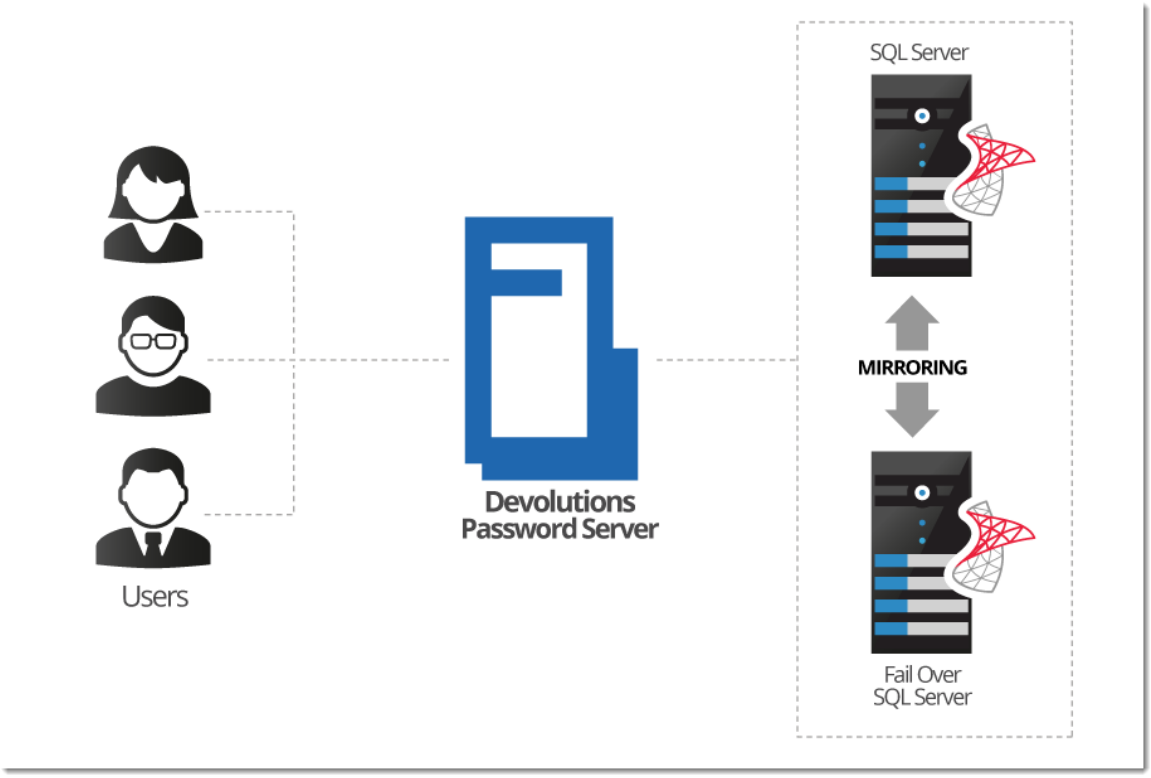


Basic Topology

HIGH AVAILABILITY TOPOLOGY

DATABASE LAYER ONLY

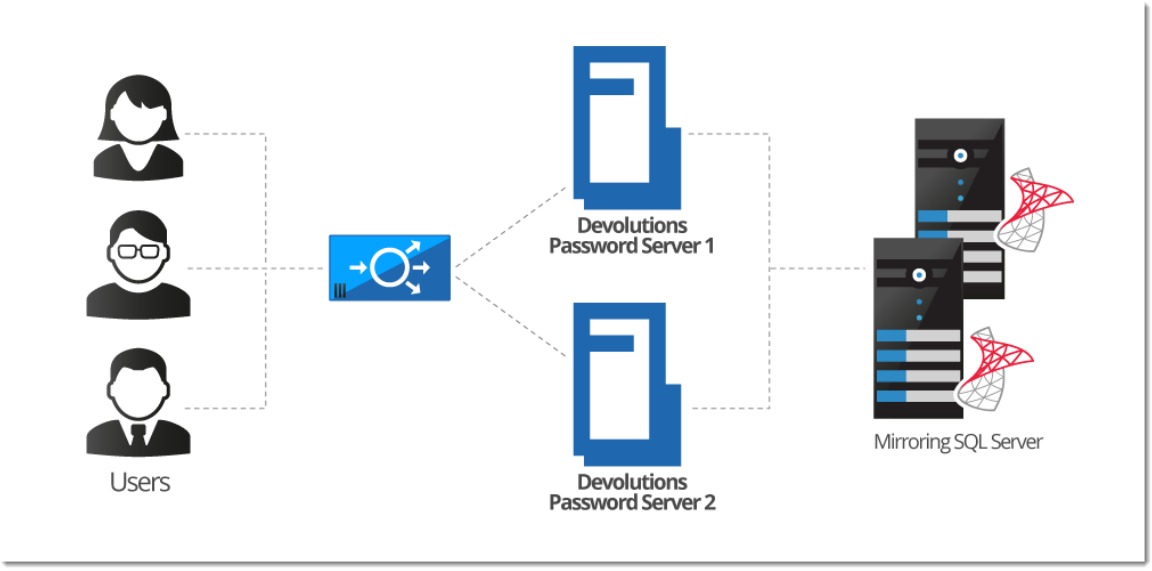
For a high availability of the database, Database Mirroring can be used which replicates data to a partner server. The failover partner server will be ready at anytime when the main server becomes unavailable. This ensures that the Devolutions Password Server is still accessing the data source and is transparent for Remote Desktop Manager users.



High Availability Topology

LOAD BALANCING TOPOLOGY

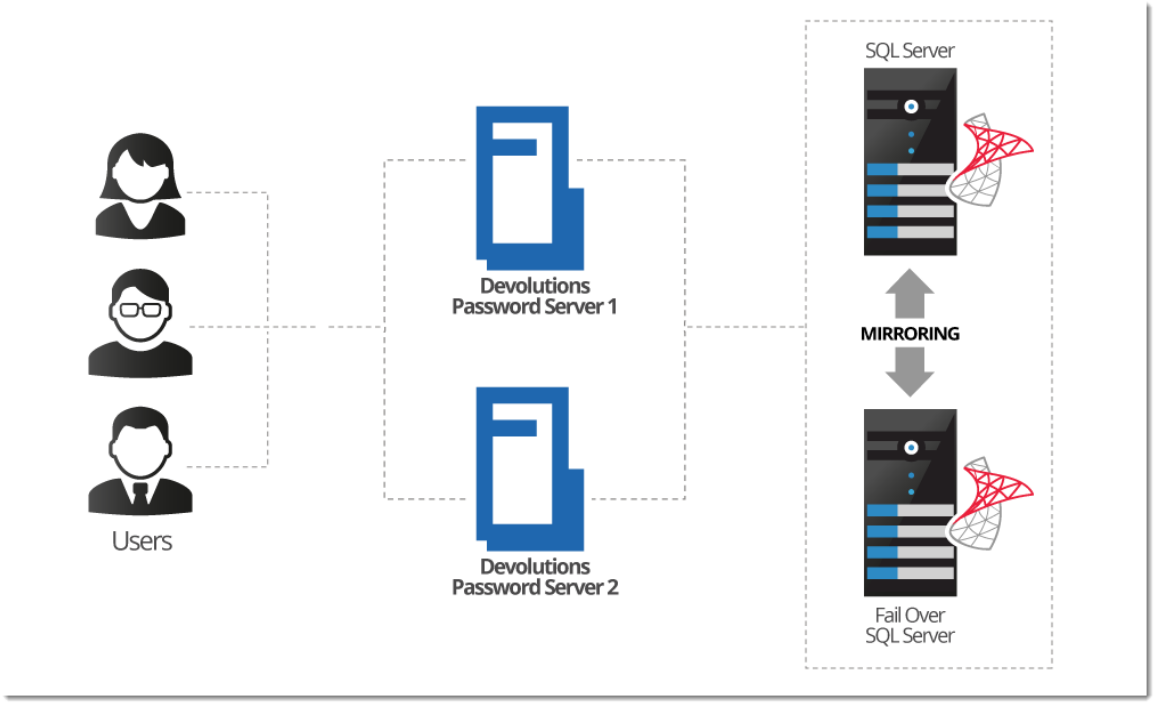
To ensure maximum performance of the Devolutions Password Server, it can be deployed as a load balancing Devolutions Password Server topology as illustrated in the image below. It can either be a physical or software load balancing system.



Load Balancing Devolutions Password Server Topology

DEVOLUTIONS PASSWORD SERVER INSTANCE MANUAL FAILOVER

For customers that do not wish to purchase a load balancer or are seeking a more simplified topology for their system, you can simply utilize two Devolutions Password Server instances on two different web servers and direct them to the same SQL Server database. By registering both instances as separate data sources in the client applications, users can manually toggle between servers in the scenario that one becomes unresponsive.



Manual Failover with Two Devolutions Password Servers

1.4 Fault Tolerance

DESCRIPTION

The Devolutions platform follows certain design guidelines to preserve full version history of your data, be it modifications or deletions. It also has an extensive logging layer to provide full visibility on the activity carried out while using the system. These design choices impact the choices offered to you when you wish to provide fault tolerance at the database level.

IMPACT ON TECHNOLOGICAL CHOICES

Because of all of the write operations that occur behind the scenes, you cannot have a topology other than ACTIVE/PASSIVE. The standby replica must be kept in sync at all times, but left untouched. There can be only ONE database in use at any one time. You can use both Microsoft technologies of mirroring or clustering, but it is key is that the replicated content is only accessed when the master content is unavailable.

MIRRORING AS A WAY TO SHARE WITH DISTANT TEAMS

The consequence of keeping replicated data untouched means that replication is NOT the proper solution to use whenever you have multiple teams and you wish to share a set of master data across them. For this scenario it is best to use a mix of:

- Synchronizers, particularly the one for RDM data.
- PowerShell scripting (to export a specific branch of your tree).

Getting Started

Part II

2 Getting Started

DESCRIPTION

This topic is for **Devolutions Password Server - Corporate Edition**. If you have purchased **Devolutions Password Server - Team Edition** instead, please consult Getting Started - Team Edition.

After completing your purchase of Devolutions Password Server - Corporate Edition, you will receive an email with **three** license serials. Each license serial allows for running a Devolutions Password Server instance. An instance is in itself a web server application which acts as a back-end for our client applications. You can think of it as a specialized database for your data. All instances can be installed on the same physical server or spread across many.

Devolutions Password Server can be installed through different topologies.

DOMAIN REQUIREMENTS

These requirements apply especially if you intend to use Automatic User Account Creation (see Authentication) and/or Roles to manage your instance.

✓	Create Active Directory groups to manage your instance. Typical examples are: **RDM Admins, RDM Operators, RDM Users**.
✓	Add domain users to the Active Directory groups.
✓	Create a **VaultOwner** account that will be the owner of the database. Performing upgrades with this account will ensure the proper rights are held.
✓	Create a **VaultRunner** account that will be used as the identity of the website. This will allow you to harden the permissions to what is minimally required.

CHECKLIST FOR INSTALLING AND RUNNING DEVOLUTIONS PASSWORD SERVER

SOFTWARE REQUIREMENTS ON THE SERVER HOSTING THE INSTANCE

✓	Microsoft .NET Framework 4.7.2 (can be installed using the Microsoft Web Platform Installer).
✓	Microsoft SQL Server (see Database Instance) **if you intend to host the solution on a single server** (see Topologies).
✓	Internet Information Services (IIS) 7.0 or better (see https://technet.microsoft.com/en-ca/library/hh831475.aspx#InstallIIS).

INSTALLATION STEPS

✓	Create a new instance of Devolutions Password Server (see Create Devolutions Password Server instance).
✓	Create a Devolutions Password Server administrator account in the User Management.
✓	Create roles (see Role Management).
✓	Add domain users or built-in users (see User Management).

2.1 Security Checklist

DESCRIPTION

To achieve the highest level of security, you should adhere to the following guidelines.

These recommendations are valid ONLY if the Devolutions Password Server instance is hosted on an **intranet** EXCLUSIVELY. You must involve a person with knowledge of Internet security to safely host any application on the Internet. You need to protect the site from **Denial of Service** attacks using an appliance or a security module that is external to Devolutions Password Server.

GENERAL

- Use Windows Authentication exclusively.
- Ensure all LDAP communication uses LDAP over SSL.

SQL SERVER

- Enable only the **Windows Authentication Mode**.
- Create a domain account that will be used to create the database (**VaultOwner**), as well as another account that will be used by the web server to connect to the database (**VaultRunner**). The latter must have only the minimal set of permissions to perform its tasks.
- Communicate **ONLY** through an encrypted connection, please see Encrypting Connections to SQL Server.

WEB SERVER

- Configure the application pool to use domain credentials. This account will be added to the SQL Server as a login and be granted only the permissions that are needed (**VaultRunner**).
- Serve content through SSL (https). See Configure SSL.

2.1.1 LDAP over SSL

DESCRIPTION

The LDAP over SSL (LDAPS) is a method to secure LDAP communications.

By default, LDAP communications between client and server are not encrypted. In some organizations, this could lead to a security breach.

Follow this link for further information http://social.technet.microsoft.com/wiki/contents/articles/2980.ldap-over-ssl-ldaps-certificate.aspx.

2.1.2 Encrypting Connections to SQL Server

DESCRIPTION

To ensure that the communication between the Devolutions Password Server instance and the SQL Server database is encrypted, an extensive procedure must be followed on the SQL Server instance.

Please consult this technet article that provides detailed instructions Encrypting Connections to SQL Server (technet).

After proper configuration, the only modification required in Devolutions Password Server is to enable the **Use SQL Server encrypted connection** in the Database tab of the instance settings.

2.2 Team Edition

DESCRIPTION

After the purchase of the **Devolutions Password Server - Team Edition**, an email is sent with the license serial. This key allows you to create a new instance of Devolutions Password Server.

The installation procedure is available at Devolutions Password Server Installation

Please check your junk/spam mail folder if you do not see the email in your inbox.

DOMAIN REQUIREMENTS

These requirements apply only if you intend to use Automatic User Account Creation (see Authentication) and/or Roles to manage your instance.

✓	Create Active Directory groups to manage your instance. Typical examples are: **RDM Admins, RDM Operators, RDM Users.**
✓	Add domain users to the Active Directory groups.

CHECK LIST FOR INSTALLING AND RUNNING <%TITLEBE%>

SOFTWARE REQUIREMENTS ON THE SERVER HOSTING THE INSTANCE

✓	Microsoft .NET Framework 4.7.2 (It can be installed through the Microsoft Web Platform Installer).
✓	Microsoft SQL Server database (see Database Instance).
✓	Information Services (IIS) 7.0 or better (see https://technet.microsoft.com/en-ca/library/hh831475.aspx#InstallIIS).

INSTALLATION STEPS

✓	Create a new instance of Devolutions Password Server (see Create Devolutions Password Server Instance).
✓	Create a Devolutions Password Server administrator account in the User Management.
✓	Create Roles (see Role Management).
✓	Add domain users or built-in users (see User Management).

Installation

Part III

3 Installation

TOPOLOGY

If you just have received your license serials, please refer to the Getting Started topic.

A Devolutions Password Server instance is actually a web application. This allows for exposing its services on the Internet or an Intranet.

The recommended topology is the use of two servers: a Database server and a Web server. For smaller installations, a single server can be used, but resources will be shared between the two roles, thereby minimizing performance.

The Devolutions Password Server Console is now offered as a stand alone application. It is available on the Download page.

Please ensure before starting the installation that you have .NET 4.7.2 installed on your machine. You can download it on the following page. https://dotnet.microsoft.com/download/dotnet-framework-runtime/net472

It's highly recommended to enable SSL Encryption in order to protect communication with the instance of the SQL Server. Please follow the instructions on http://support.microsoft.com/kb/316898. Note that we recommend this be done **after** the initial setup is complete.

For full Active Directory integration, the application pool uses a domain identity. Both servers need to be joined to the domain.

INSTALL DEVOLUTIONS PASSWORD SERVER

WEB SERVER PREREQUISITES

Please refer to the appropriate topic depending on the operating system of the web server.

INSTALLING WEB ROLES

Please refer to the Installing Web Roles Prerequisites topic.

> After you have installed the pre-requisites, test the IIS installation by navigating to http://localhost. **Do not proceed further** if you do not see the IIS welcome screen. There are issues that must be resolved.

DATABASE SERVER PRE-REQUISITES

Please refer to the Database Instance topic.

CREATE DEVOLUTIONS PASSWORD SERVER INSTANCE

Please refer to the Create Devolutions Password Server instance topic.

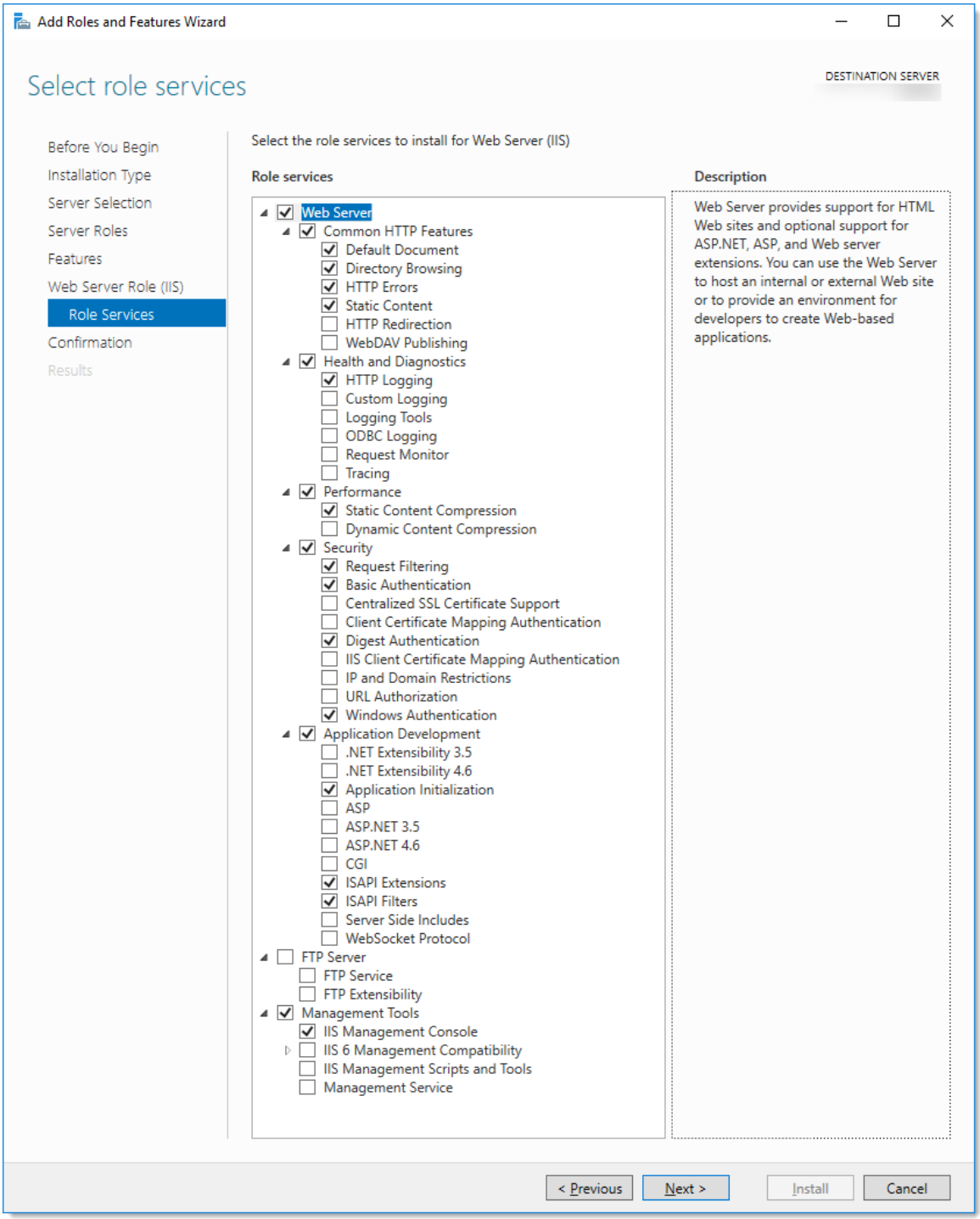
3.1 Installing Web Roles Prerequisites

DESCRIPTION

> The installation of the Devolutions Password Server is supported by Windows 10, Windows Server 2012R2, 2016 and 2019. For previous Windows Server versions, please consult the PDF documentation of previous Devolutions Password Server.

As a web application, Devolutions Password Server requires the IIS Manager, the URL Rewrite Module and specific Web Roles on the machine on which it will be hosted. It is

possible to install these prerequisites, IIS Manager and URL Rewrite Module included, from the Devolutions Password Server Console or through an existing PowerShell scripts provided with Remote Desktop Manager Enterprise Edition for Windows.



Web Roles needed for Devolutions Password Server

Installing prerequisites from Devolutions Password Server Console or from the PowerShell script require internet access to download Web Platform Installer and URL Rewrite Module.

STEPS

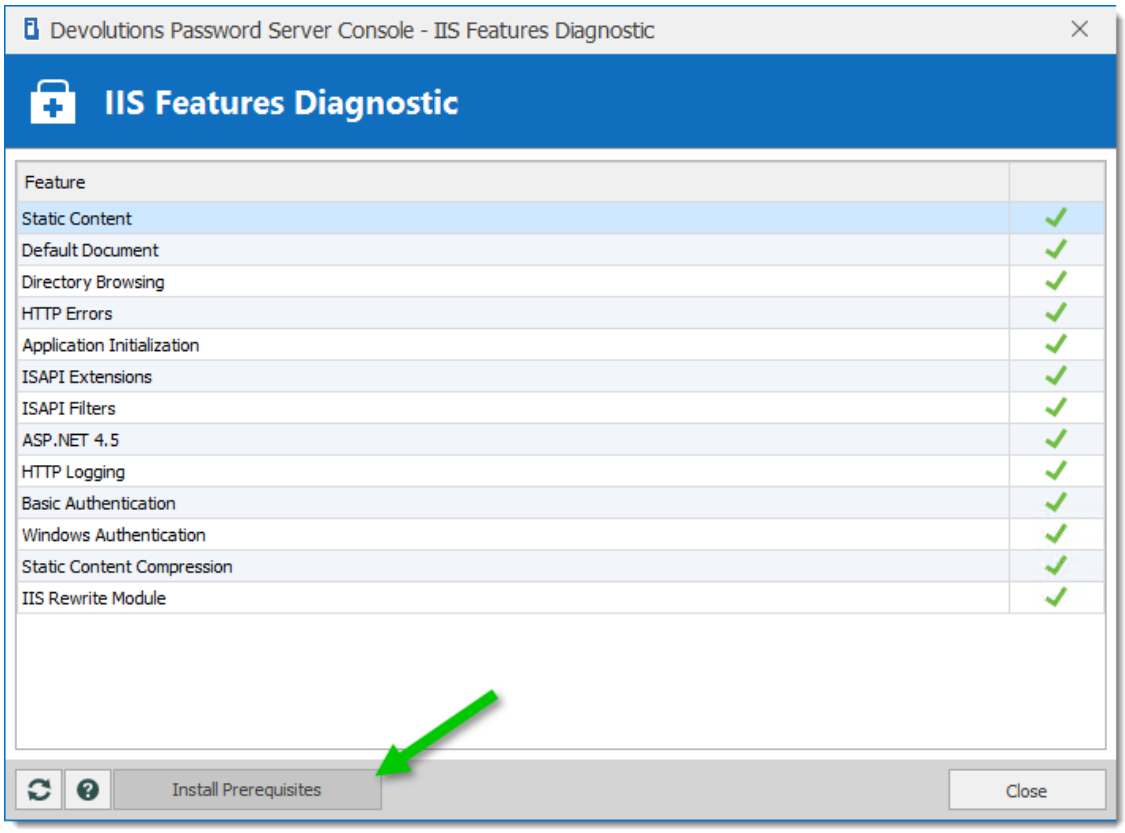
Here are the two different methods available to install the prerequisites:

1. **Devolutions Password Server Console**

   a. Open the Devolutions Password Server Console.

   b. Expand the Advanced menu and select Check Prerequisites.

   c. Click on the Install Prerequisites button to run the PowerShell script.

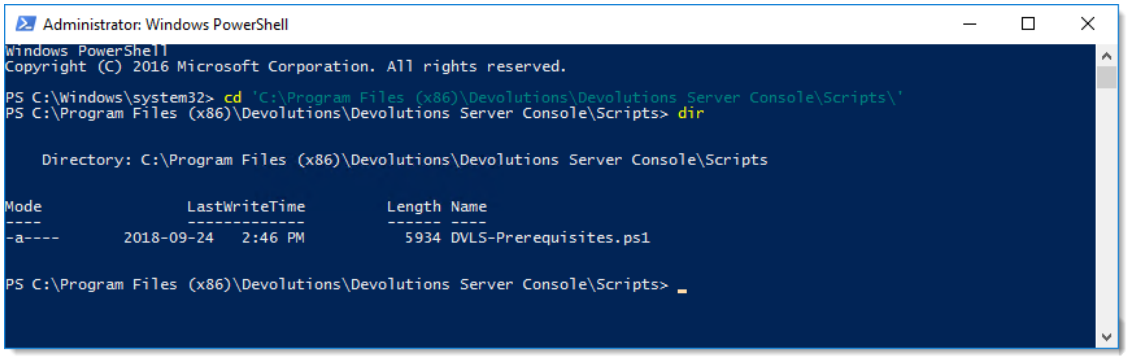


IIS Features Diagnostic Dialog

2. **PowerShell command line**

   a. Run Windows PowerShell with elevated privileges.

   b. Change the current path to the sub-folder Scripts that is located in the current installation folder of Devolutions Password Server Console. (***C:\Program Files (x86)\Devolutions\Devolutions Server Console\Scripts***)



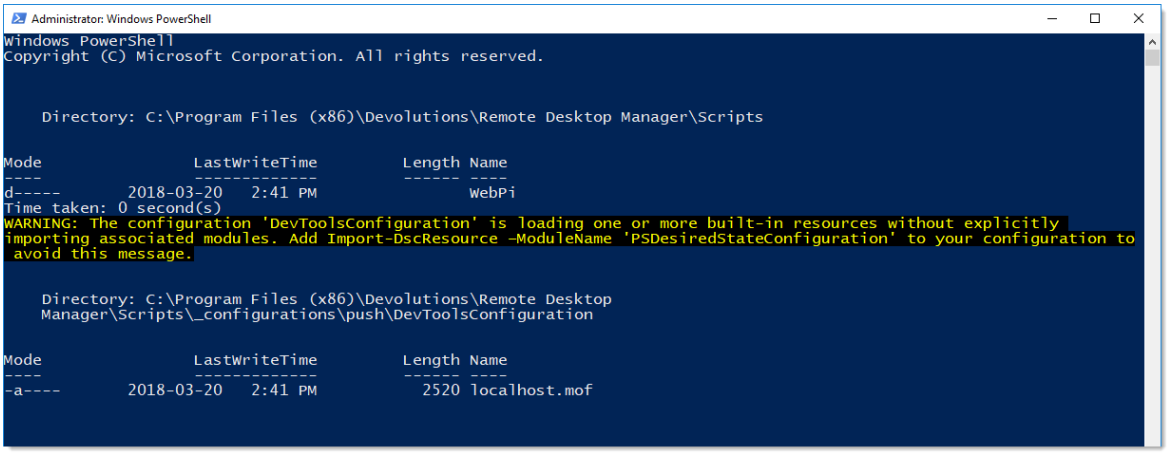
Location of DVLS-Prerequisites PowerShell script

   c. Run the script DVLS-Prerequisites.ps1.

RESULTS

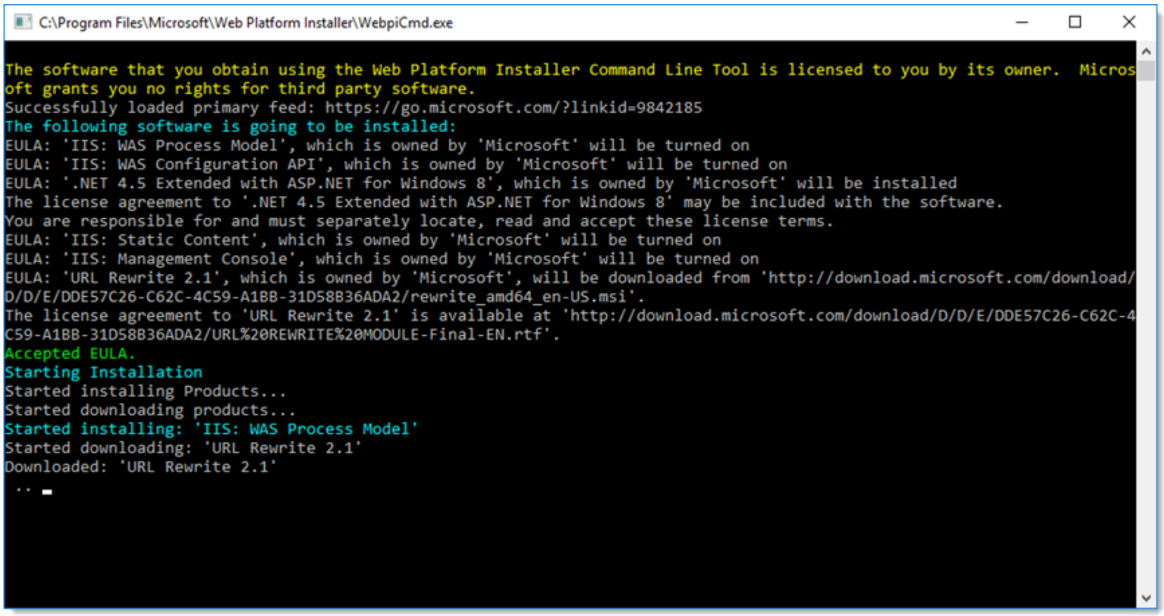
Here is what the installation of these prerequisites through the PowerShell script should display.

1. On the beginning of the PowerShell script, it will install Microsoft Web Platform Installer if it is not already installed.



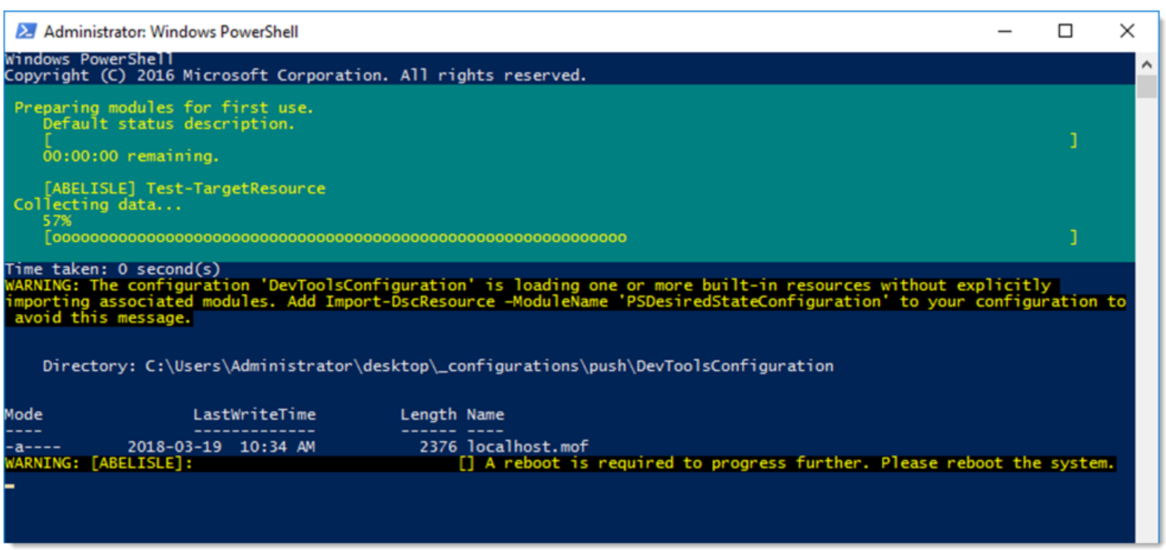
PowerShell Window

2. Next, the Command windows is displayed and will install the IIS Manager, ASP .Net 4.5, some specific Web Roles and the URL Rewrite Module.



IIS Installation

3. Then, the PowerShell script will install all missing Web Roles.



Web Roles Installation

3.2 Database Instance

DESCRIPTION

Devolutions Password Server has no requirements that would dictate which communication protocol is used, as well as many of the options offered to you by the chosen SQL Server instance. As long as the client workstation can connect to the SQL instance, Devolutions Password Server will run effectively. Please refer to the Microsoft Documentation in order to allow connectivity to the instance.

With Windows authentication, you must set the Application Pool identity to an account from the domain. We recommend creating a dedicated account for this purpose. Please refer to Configure Devolutions Password Server to use integrated security for instructions that need to be performed **after** creating the Devolutions Password Server instance.

3.2.1 On-Premise

DESCRIPTION

Install any edition of **Microsoft SQL Server**. Many of our customers with less than 30 users run successfully with the free edition called **SQL Server Express**. Download SQL Server 2017 Express from Microsoft's site.

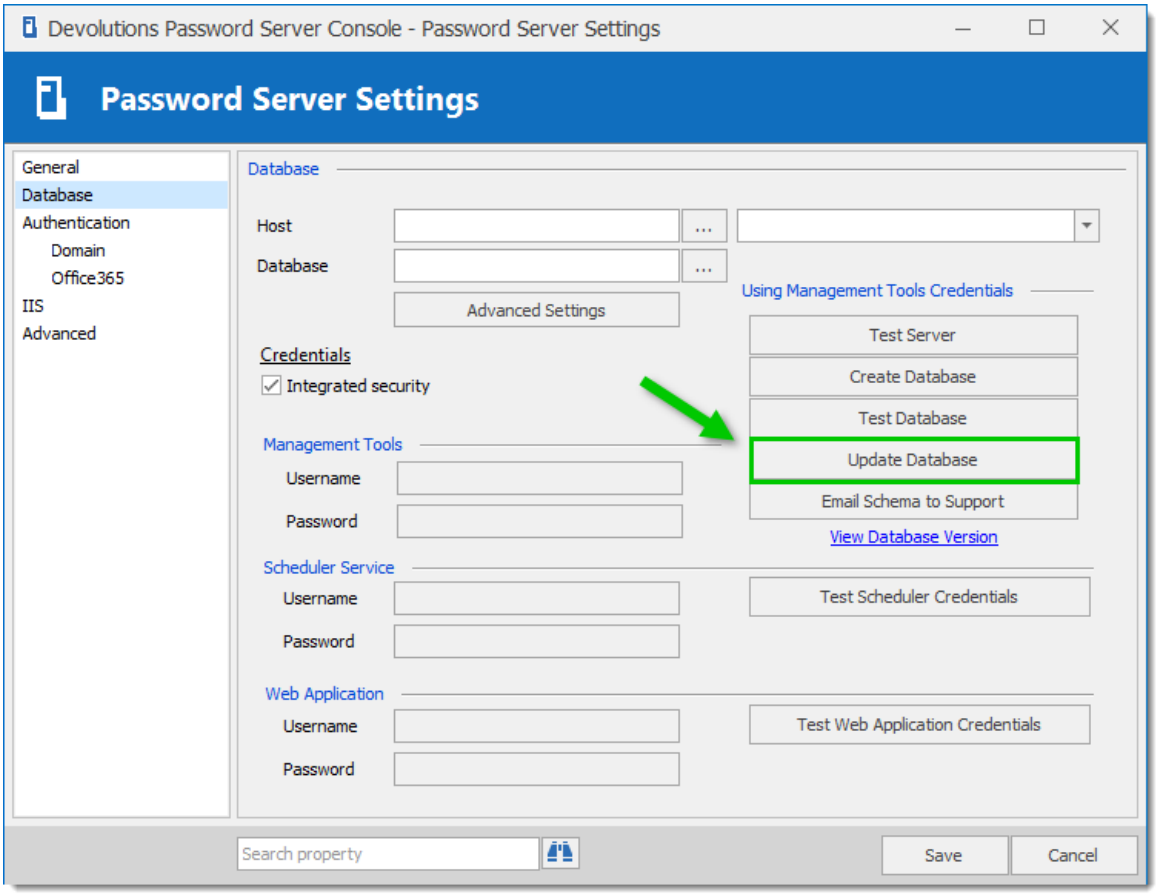
If full integration with Active Directory is required, you can decide to activate Windows Authentication solely. Please refer to the MSDN online help for full details.

3.2.2 Microsoft Azure SQL

DESCRIPTION

Create an empty SQL database on your Microsoft Azure SQL portal. Provide enough privileged to an account you will use to update the database schema from the Devolutions Password Server Console.

Once all fields are properly configured, click on the **Update database** button to update the database schema.



Devolutions Password Server Console - Database Tab

3.3 Create Devolutions Password Server instance

DESCRIPTION

If you have recently received your serial licenses keys, please refer to the Getting Started topic.

For more information about any of the features in the deploy wizard, please consult their respective topic under the Server Settings chapter.

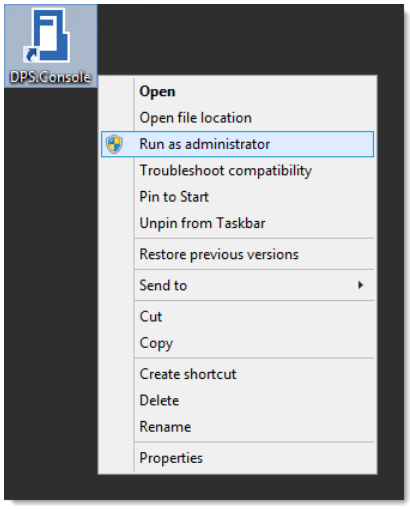
Multiple Devolutions Password Server instances can be hosted on the same server. Each instance resides in its own Web Application within IIS. The following steps are carried out using the **Devolutions Password Server Console**.

PROCEDURE

1. Install **Devolutions Password Server Console** on the web server. It is available from the Download page

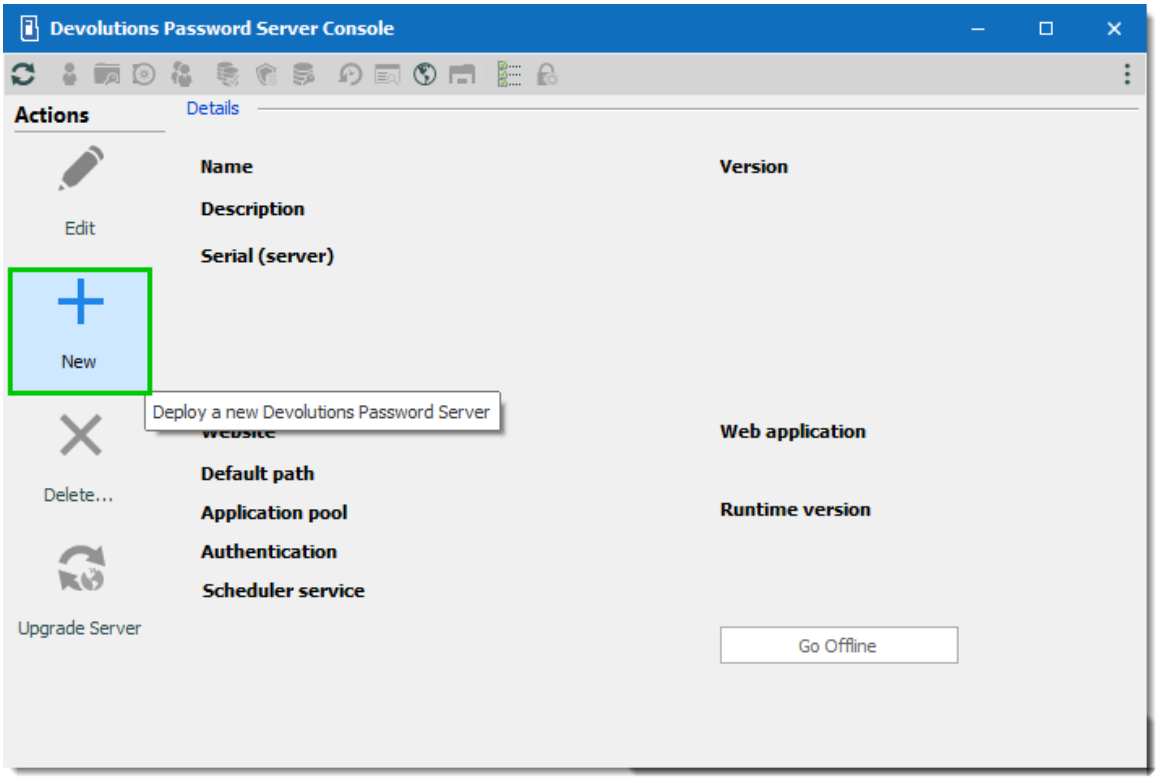
2. Execute **Devolutions Password Server Console** with elevated privileges (run as administrator). This is performed by right-clicking on the application, and selecting **Run as administrator**.

> All operations performed through the console are done with the credentials used to launch **Devolutions Password Server Console**. If you must use other credentials, you will need to launch another Windows session. The RunAs command does not offer the option of starting a process with elevated privileges.



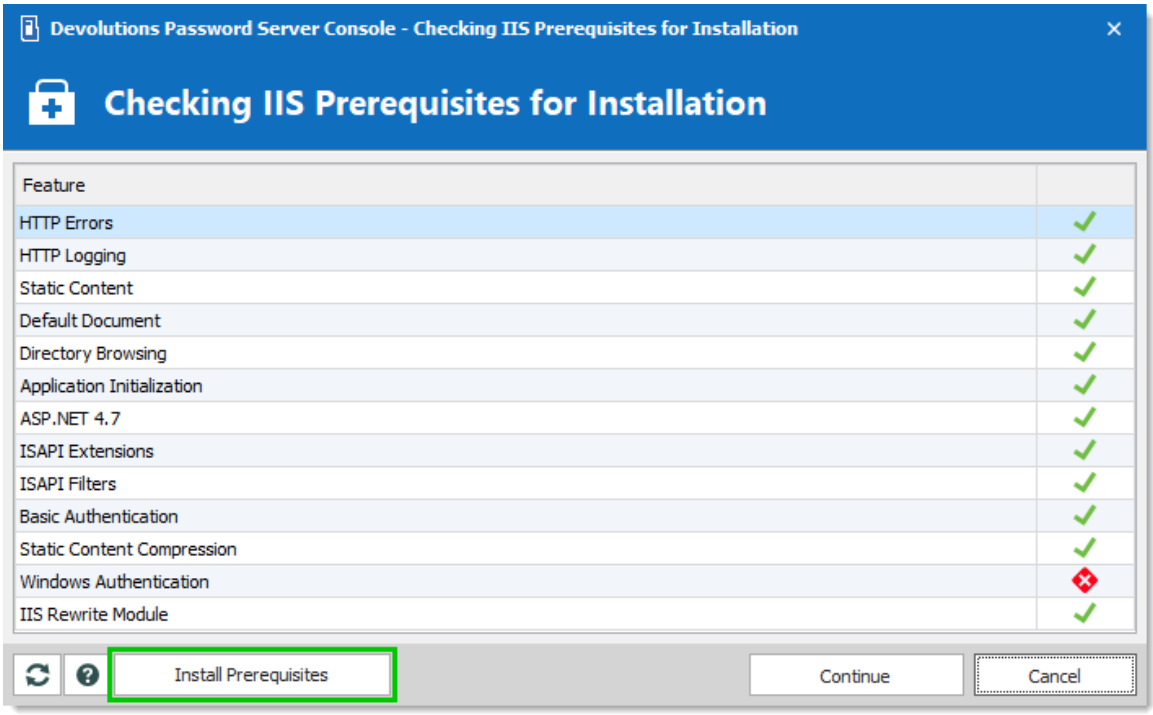
Run as administrator

3. In the **Devolutions Password Server Console**, click on the **New** button to deploy a new server instance.



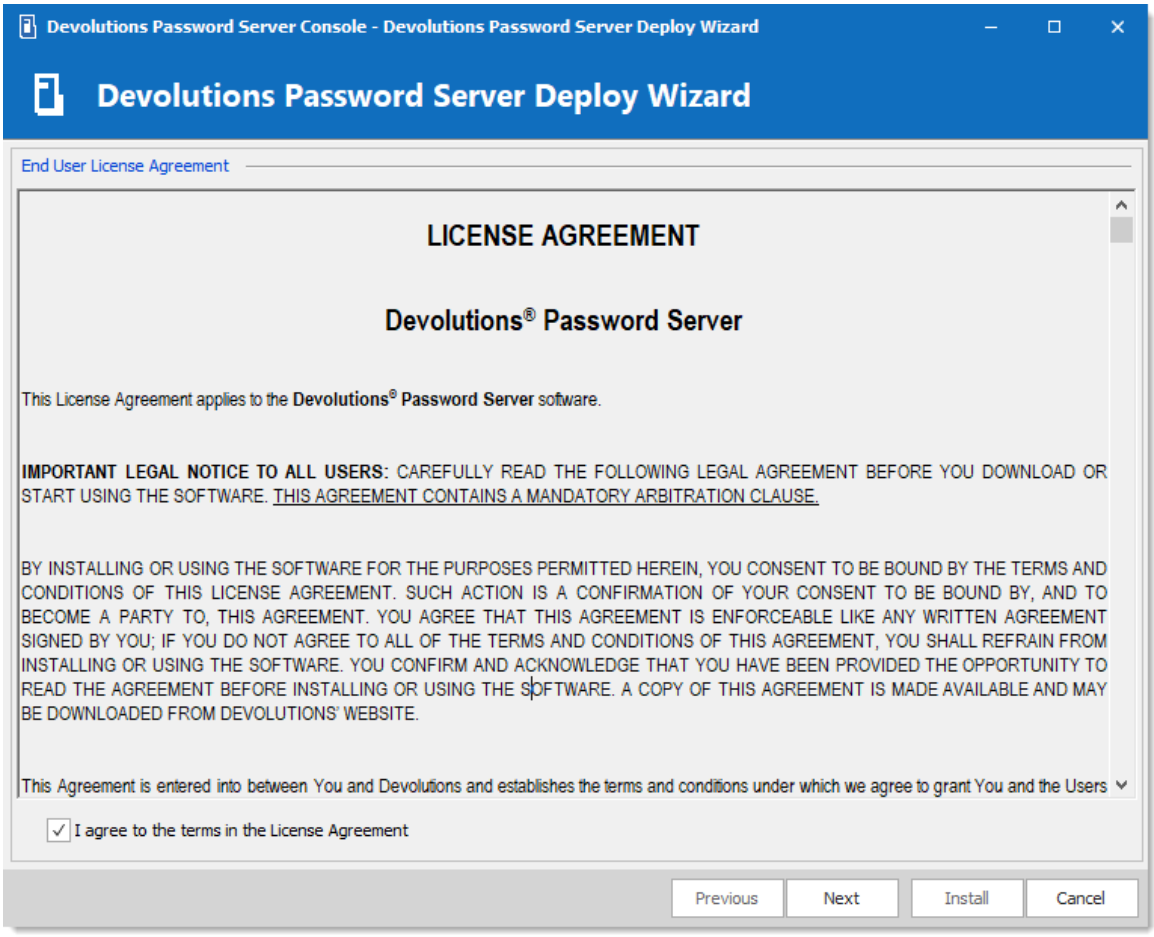
Deploy a new Devolutions Password Server

4. The first dialog will run diagnostics on the server to verify if the IIS Server has all the necessary Web Roles prerequisites installed and is ready to run Devolutions Password Server. Missing features are marked with an . The Install Prerequisites button will install all missing features using a PowerShell script.



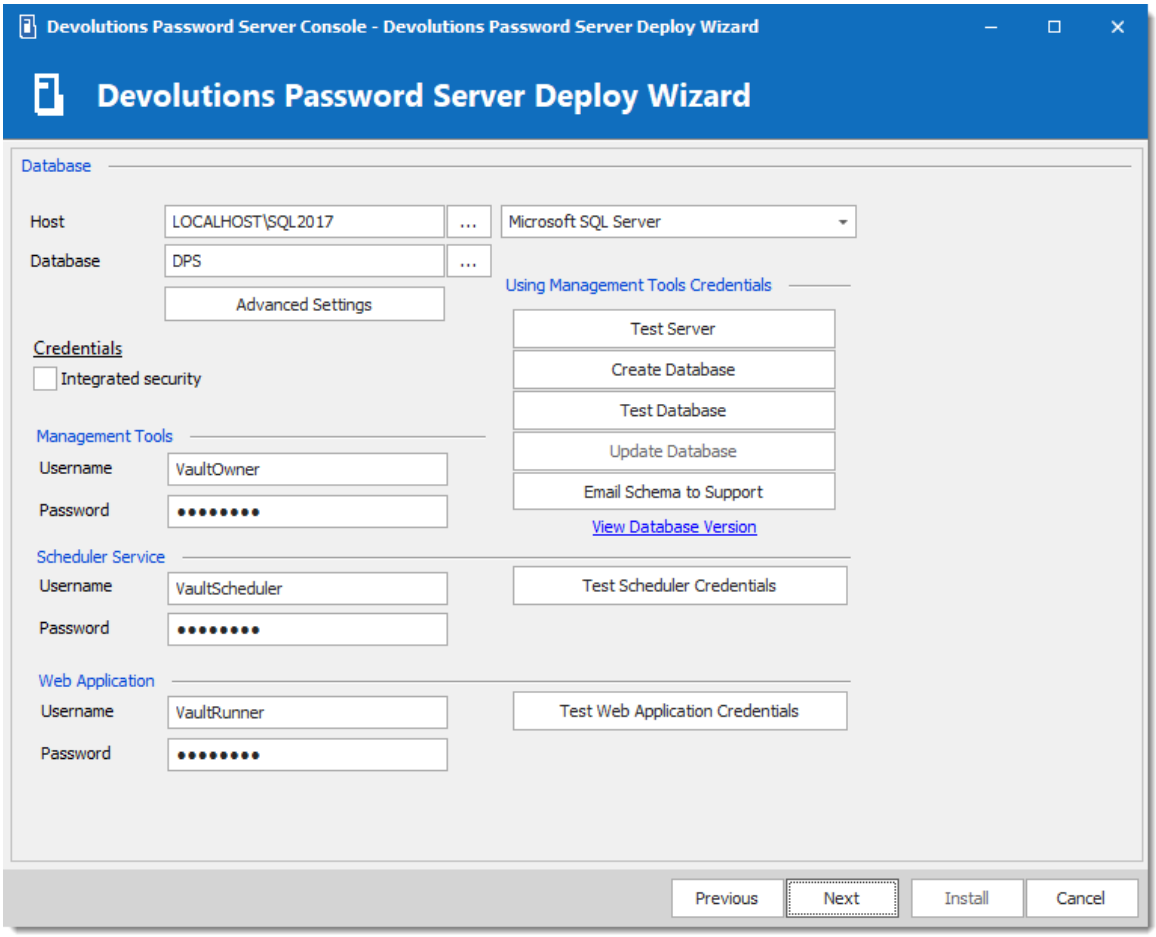
IIS Features Diagnostic Dialog

5. The License Agreement needs to be accepted to proceed.



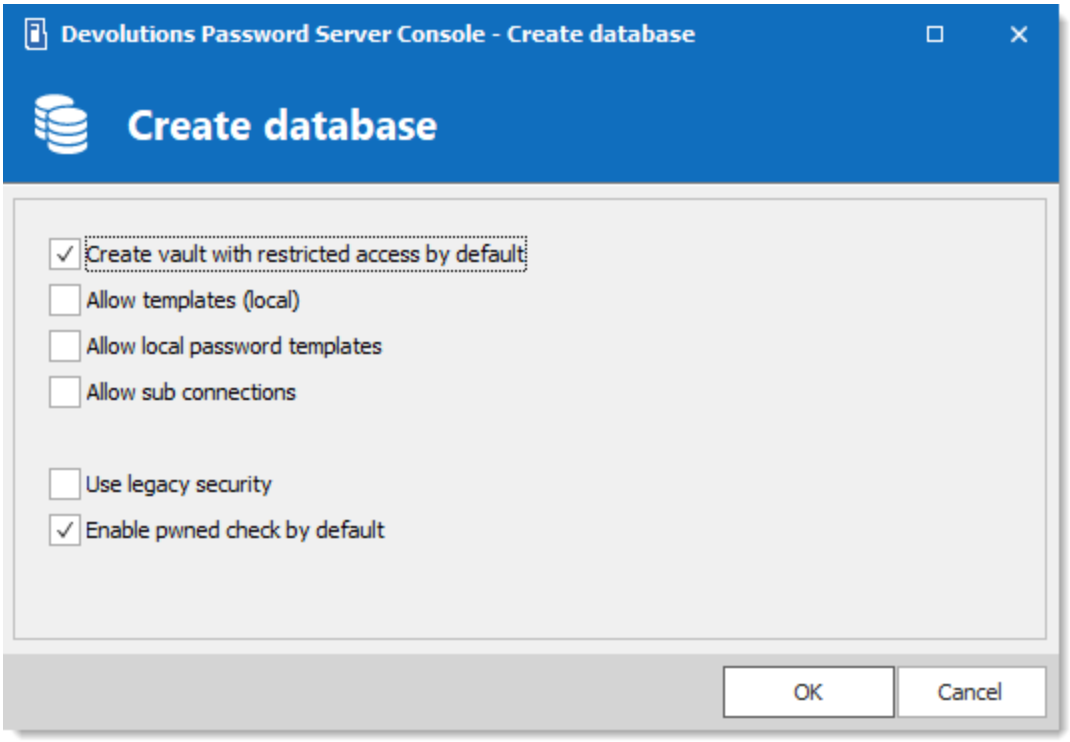
Devolutions Password Server License Agreement Dialog

6. Under **Database**, enter the server and database information, then create the database using the **Create Database** button.
   The user account used to create the database must have sysadmin privileges in the SQL Server instance. Consult the Database topic for more information.
   To use **Integrated Security** to connect to the database, it is important to change the Application Pool Identity in the IIS Manager and set the proper permission of the service account on the SQL database. Please consult How to Configure Devolutions Password Server to use integrated security.

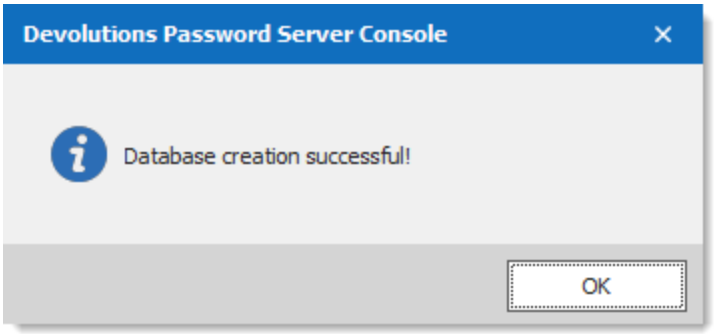


Database Dialog

7. On the creation of the database, some options can be enabled. For a simple installation, the default selection must be kept. For more information about these options, refer to the Database topic for further information.

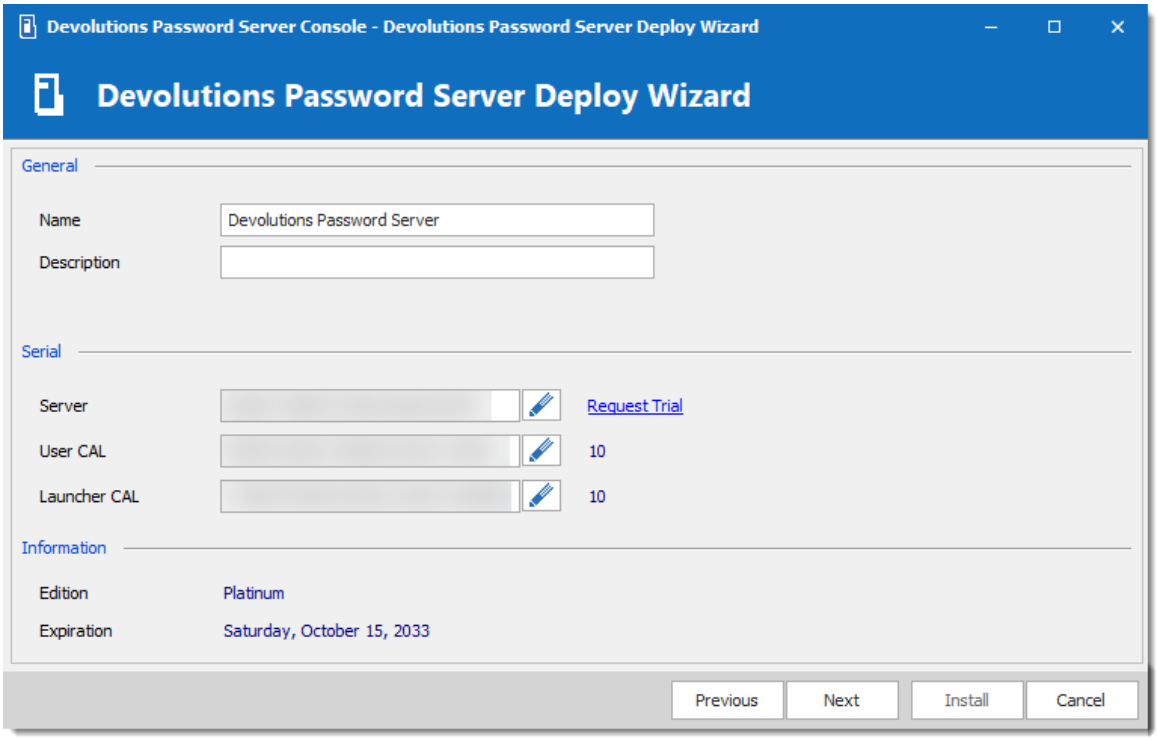


Create daTabase Dialog



Database Creation Successful Dialog

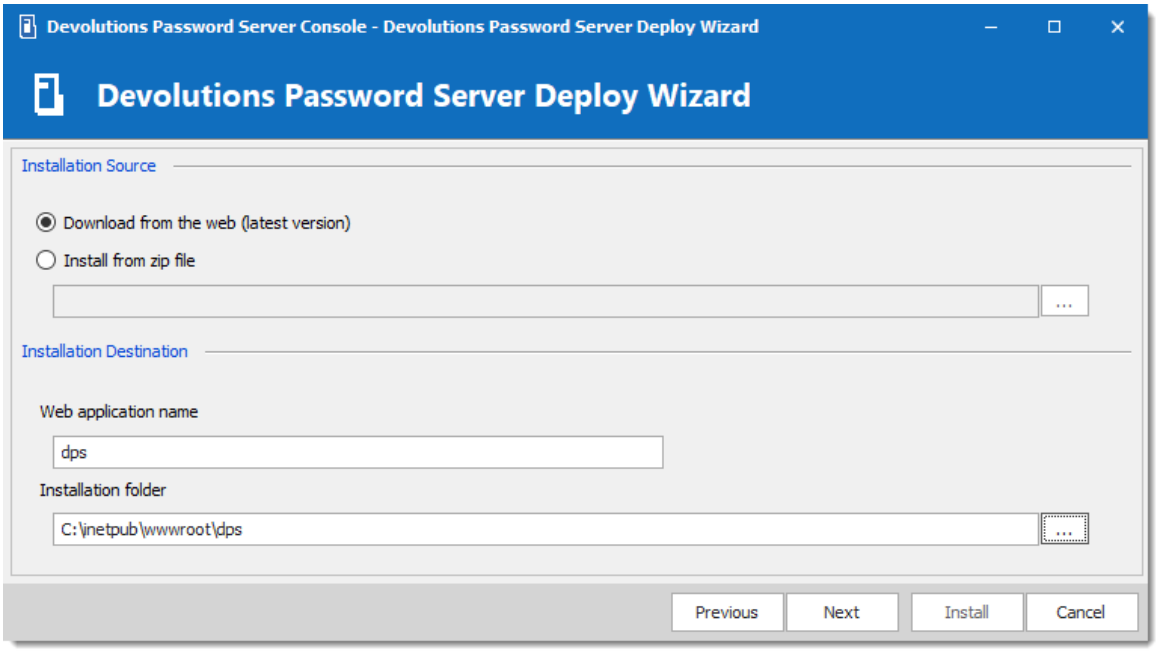
8. Under **General**, enter a custom **Name** and **Description**. Under **Serial**, provide a license serial that has been received by email upon buying the product.
   If you did not buy any Devolutions Password Server license yet, you may Request a 30-days trial.



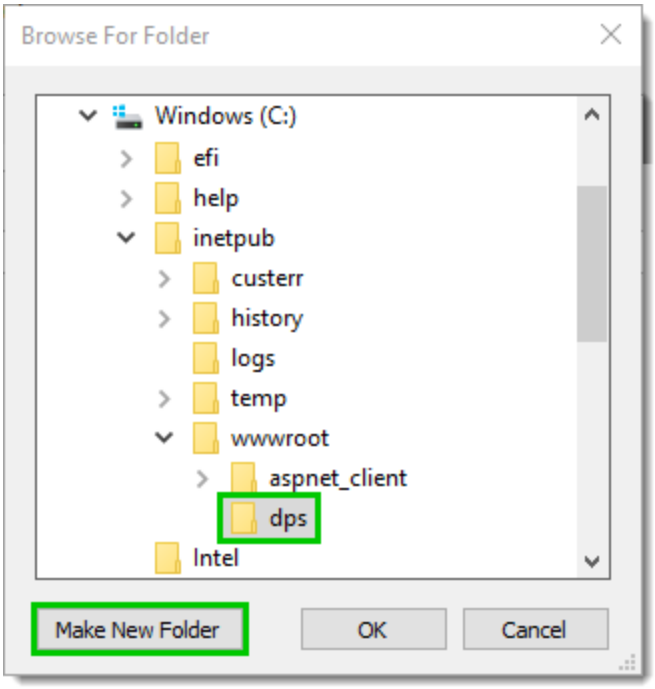
General and Registration Dialog

9. Under **Installation Source**, select to either **download the latest version from the web**, or **install from a local zip file**.
   Under **Installation Destination**, select the destination folder, and an IIS virtual directory name. The process to run Web sites has been granted the proper permissions under ***c:\inetpub\wwwroot***. We recommend to create a new folder beneath it and create the Devolutions Password Server instance within this folder.

> We do not recommend to set the installation folder to ***C:\Program Files*** or ***C:\Program Files (x86)***. Devolutions Password Server is a web application and this could result in unwanted behavior and issues because IIS do not have enough permissions to run web applications that are located under those folders.

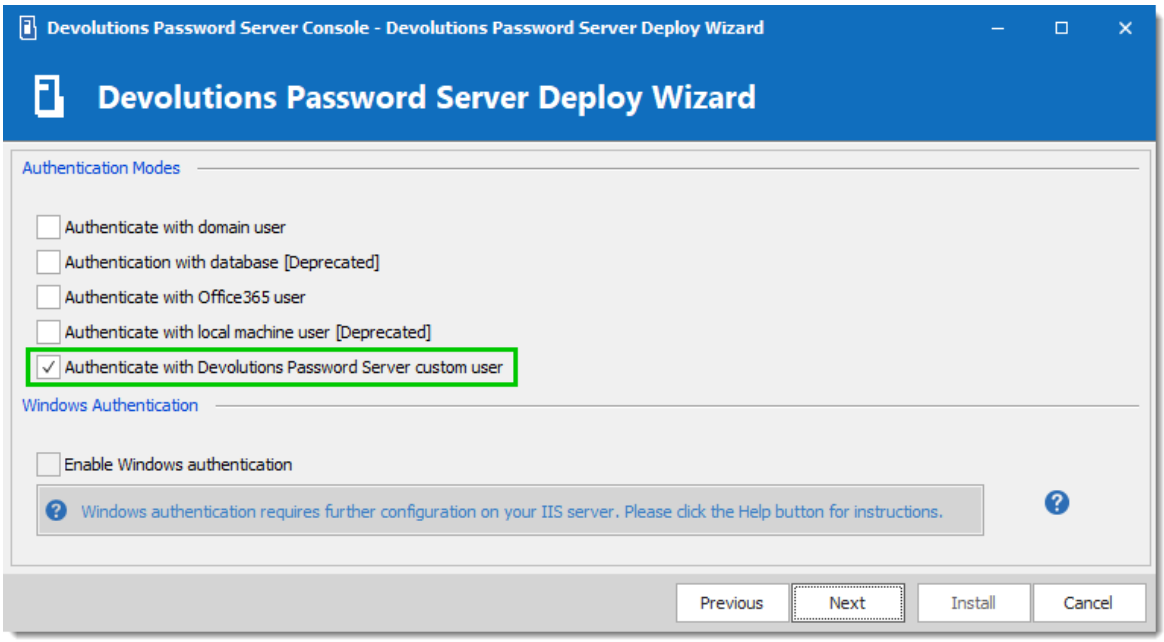


Source and Destination Dialog



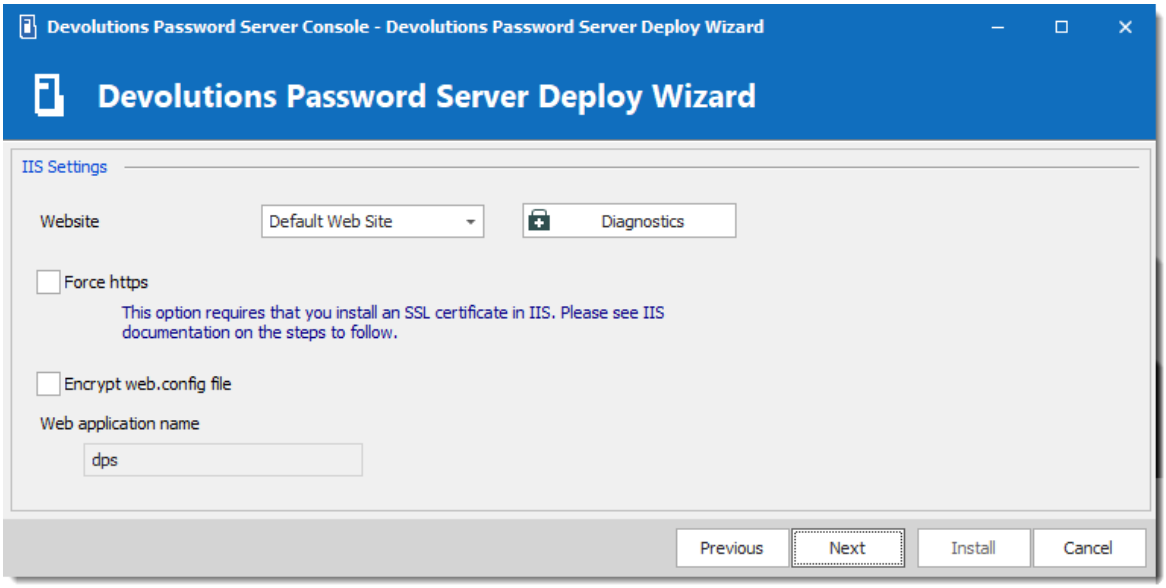
Create and select Folder

10. Under Authentication Modes, select the modes which users authenticate with. For the initial setup, we recommend enabling **Authenticate with Devolutions Password Server custom user**. This guarantees connectivity for the first steps and can be disabled later. If you are connected to a domain, please refer to the Authentication server settings topic for further information.



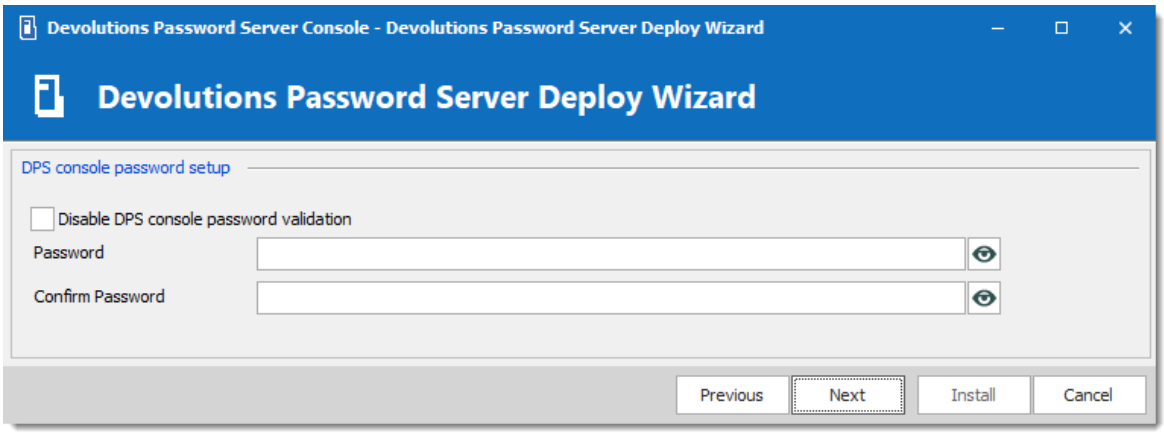
Authentication Modes Dialog

11. Under IIS Settings, select the website used to host the Devolutions Password Server instance. Make sure the Internet Information Services (IIS) is installed in order to proceed with the installation of Devolutions Password Server.



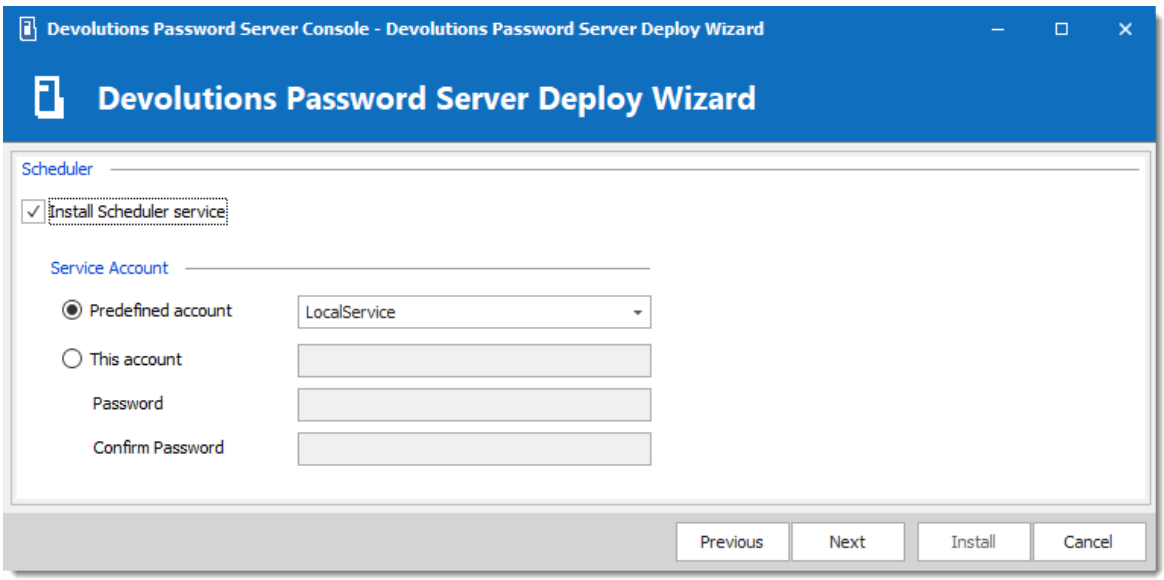
IIS Settings Dialog

12. Under DPS console password setup, when configuring a password, the Devolutions Password Server instance will be protected by a password that will be saved in the database.



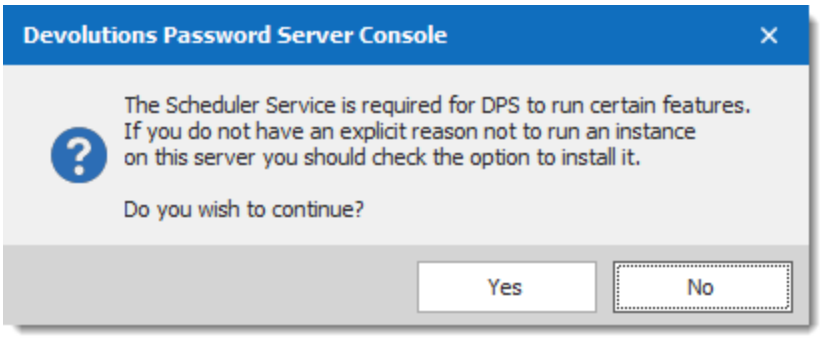
Devolutions Password Server password protected console

13. Under Scheduler, when enabling the Install Scheduler service option, please set the proper Service Account. The following features depend on the Scheduler : Backup manager, Domain Users and Roles cache, Office365 Users and Roles cache, Email notifications and Privileged Access Management.



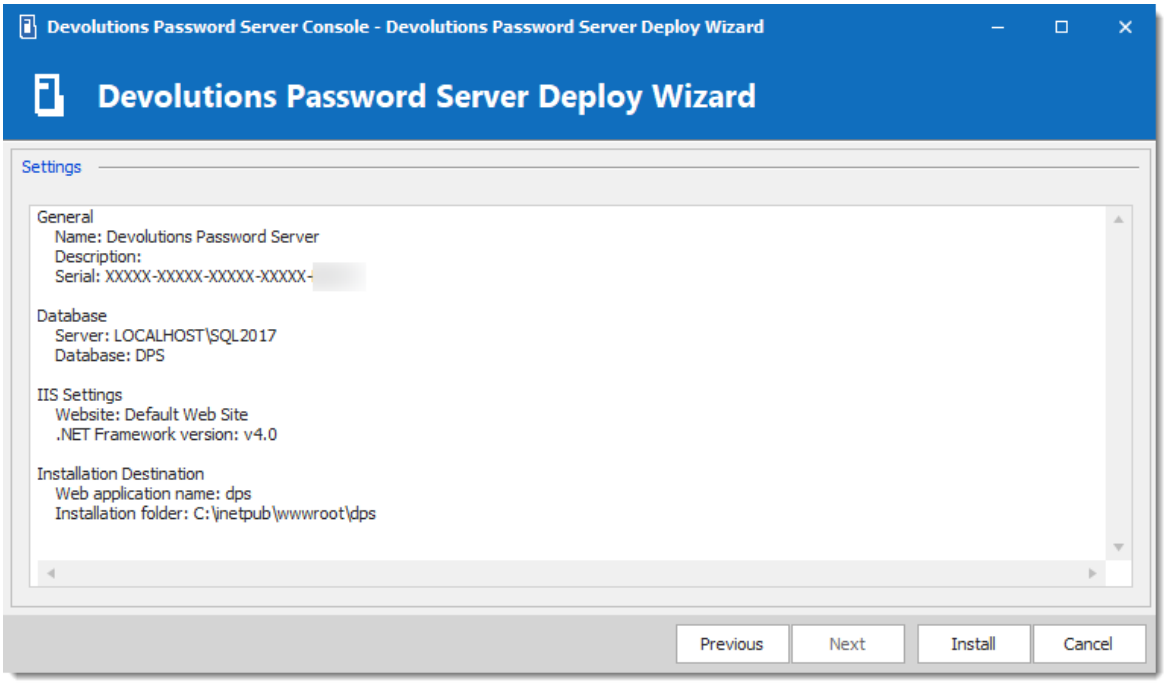
Scheduler Dialog

14. Choosing to not install the Scheduler, you will get the following warning message.



Scheduler Warning

15. Under **Settings**, validate the configuration and click **Install**.



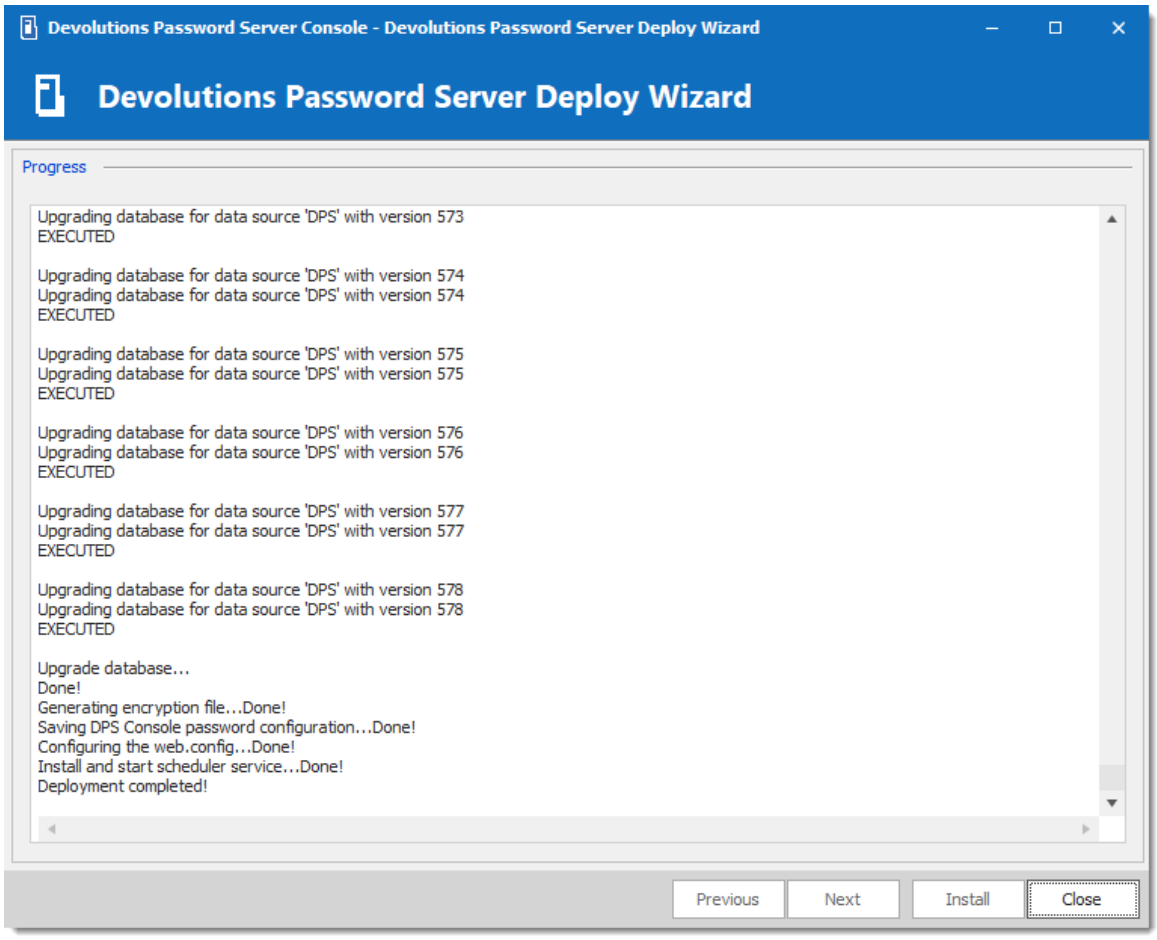
Settings Dialog

16. The last step is to save the Encryption Keys file in a folder.

We recommend to protect the Encryption Keys in a safe to avoid data loss if Devolutions Password Server has to be restored.

Backup Encryption Keys Dialog

Once the installation is complete, a summary indicates if the Devolutions Password Server has been deployed correctly.



Progress Installation Dialog

CREATE THE INITIAL ADMINISTRATOR

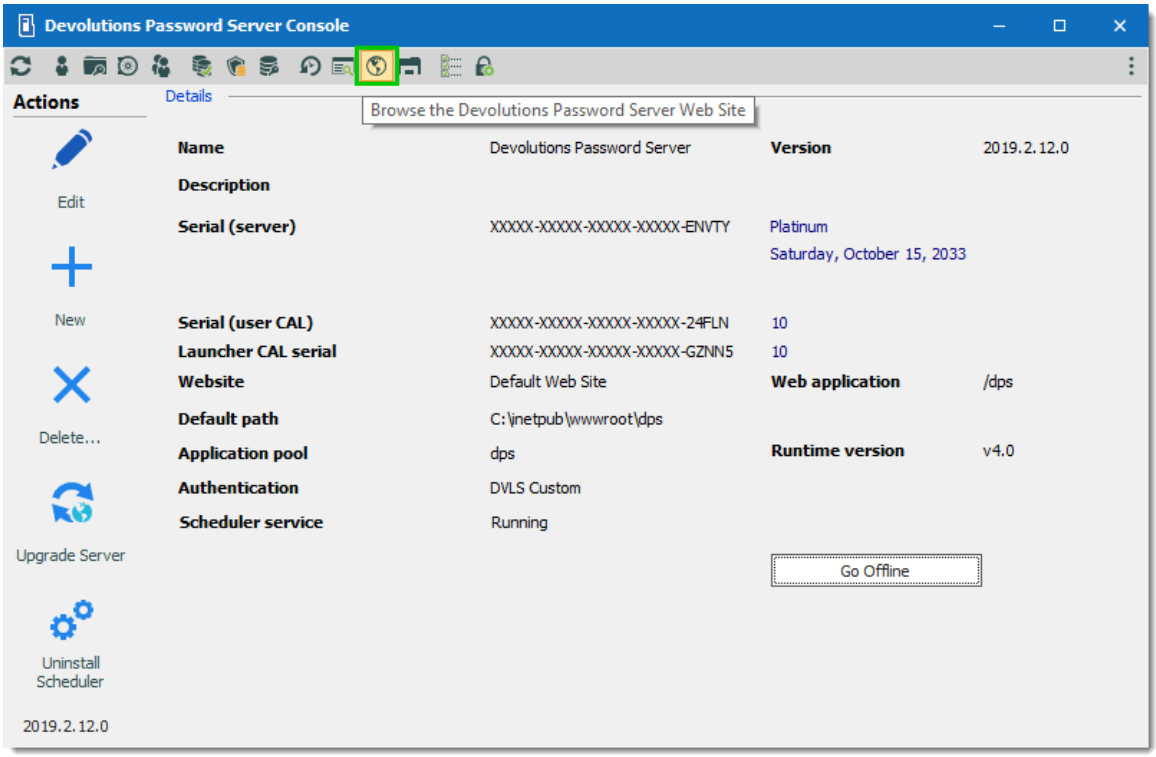
Create at least one administrator user account.

You must create an administrator account if you've enabled the Devolutions Password Server Authentication mode. In other cases, the account name must match with the chosen authentication mode. If you are unsure of the result, also enable Devolutions Password Server authentication, create an administrator account and grant the Administration privilege to the account. Please refer to User Management for further information about creating user accounts.

After the successful authentication with the other model, the Devolutions Password Server user account will have been created and you will be able to see how to format your account names. You can then disable the Devolutions Password Server authentication model. Please see Automatic User Account Creation section in the topic Authentication.

TEST THE INSTALLATION

To test the server installation, navigate to the instance URL (e.g.: http://<Machine_Name>/<InstanceName>) with any web browser or click on the **Open in web browser** button in the Devolutions Password Server Console.



Devolutions Password Server Console

To test the connection from a client by creating a data source in Remote Desktop Manager. Please consult the How to Configure Client Data Source for more information.

3.4 Upgrading Devolutions Password Server

UPGRADE

Install the proper version of Devolutions Password Server Console before upgrading the Devolutions Password Server web application. It is available on the Download page.

Since Devolutions Password Server 2019.x, many features can only be managed from the web interface. Please see Administration - Password Server Settings.

It is highly recommended as a best practice to first deploy the new version of Devolutions Password Server to a staging instance and verify its stability before deploying it to your whole organization. If you do not have a staging instance we then recommend a limited roll-out to ensure the work flow is supported to your satisfaction prior to impacting your whole team.

These steps are intended to be achieved on a single server or a basic topology. If your environment differs from these topologies, please contact us and we will guide you on how to upgrade Devolutions Password Server.

WORKFLOW

We highly recommend to test the upgrade process in a staging/test environment before upgrading your production instance.

The upgrade steps will be performed with Devolutions Password Server Console. You will need to upgrade your copy to the latest version that is matched with the target version of Devolutions Password Server that you are preparing to install. Please follow the steps carefully.

If you have elected to use **Integrated Security** for connecting to the database, you must perform the upgrade using a Windows user account that has full rights on the database.

If you have set the Security Provider Passphrase v1 on your current Devolutions Password Server, specific operations will need to be done before the upgrade. Please contact us for further details.

We recommend doing a backup of the Encryption Keys before any operation that could modify the information of the database or before the upgrade of Devolutions Password Server. Protect the Encryption Key in a safe to avoid data loss if Devolutions Password Server has to be restored.

PREPARATION PHASE

- Ensure that the instance users have the offline mode enabled and that they all perform a full refresh of the cache (CTRL+F5).
- Have your team switch to the offline mode, allowing them to work while the system is down.
- Update the Maximal version of Remote Desktop Manager in ***Administration - System Settings - Version Management - Maximal version***, if this option was set before the upgrade.

PHASE 1

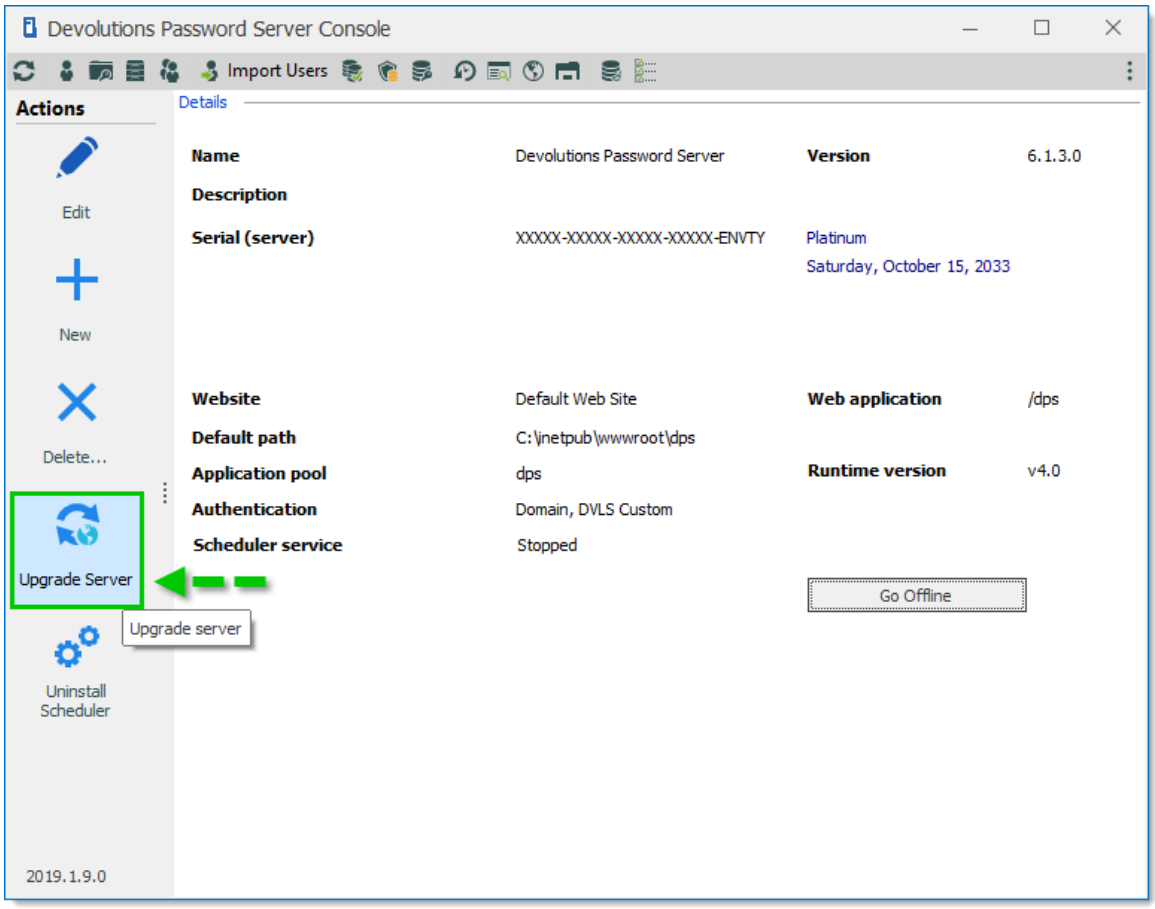
- Perform a full backup of the database, take precautions against that backup file being deleted by a maintenance plan.
- Archive the content of the folder containing the Devolutions Password Server instance, move to a safe place.
- Install the proper version of Devolutions Password Server Console. In each of the sub-topics related to a specific version of Devolutions Password Server you will find the version of the client that you need.
- Devolutions Password Server Console must be run with elevated privileges.

PHASE 2

1. Open the Devolutions Password Server Console.
2. Select the instance that you wish to upgrade.

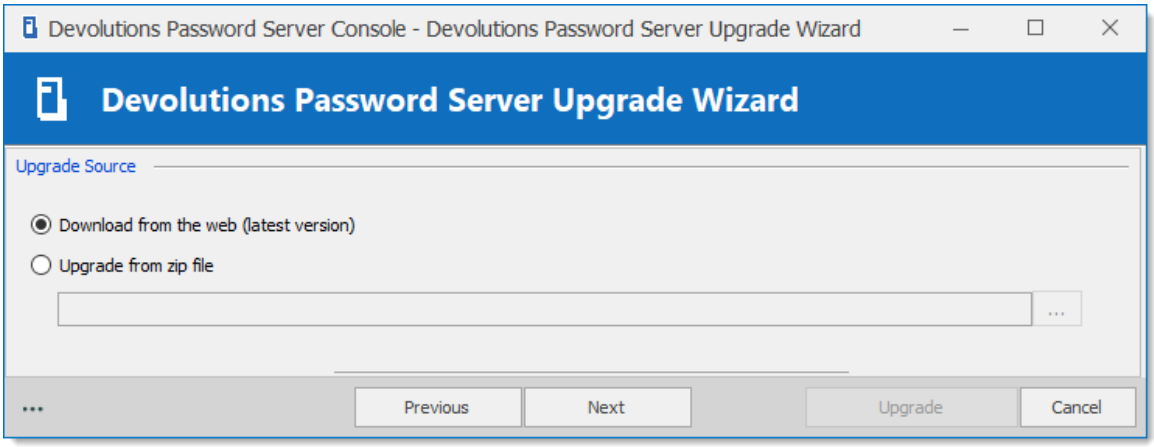
3. Set the instance in **Offline Mode** with the **Go Offline** button. On a High Availability/Load Balancing topology, all instances must be set to Offline mode before

4. Click the **Upgrade Server** button.



Devolutions Password Server Console

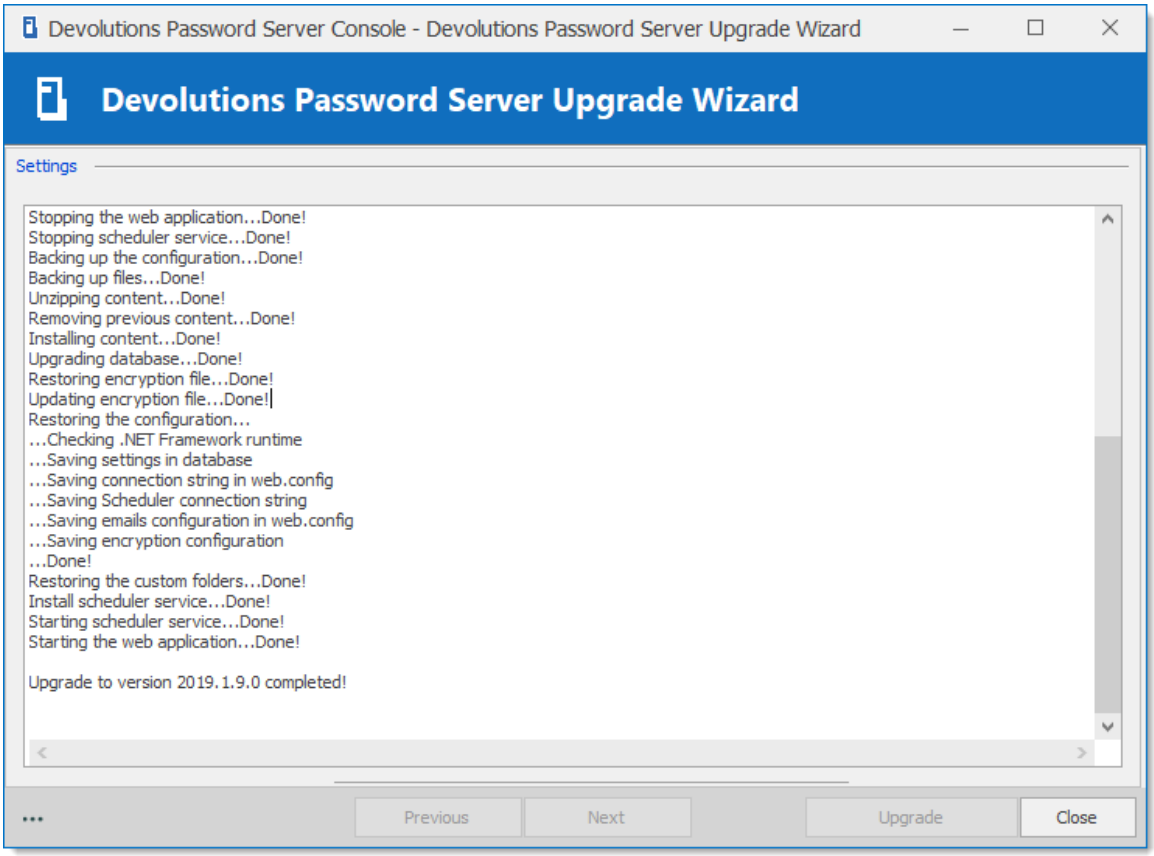
5. Select the **Upgrade Source**. You can either use the latest General Availability release that is available online automatically or specify the path to a zip file that you have downloaded yourself. Use this for beta releases or for earlier versions.



Devolutions Password Server Upgrade Wizard

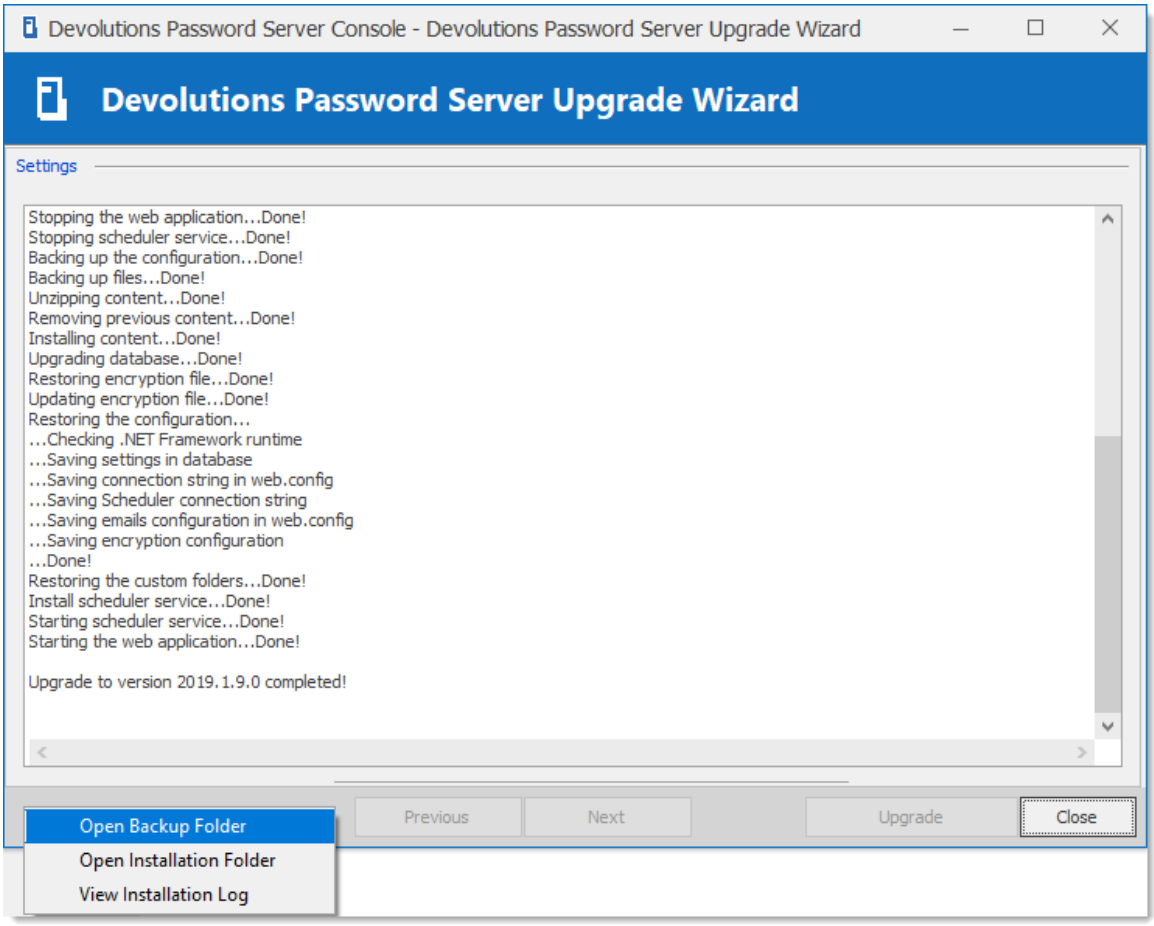
6. Press **Next**.

7. Review the summary and press **Upgrade** if you are satisfied.



Upgrade completed

8. Since Devolutions Password Server version 4.6.0.0, it is possible to access the **Backup Folder**, the **Installation Folder** or **View Installation Log** from the **More Options** button in the lower left corner of the Devolutions Password Server **Upgrade Wizard** dialog.



FINAL PHASE

The **Backup Folder** contains information about the configuration of the Devolutions Password Server instance prior to the upgrade. After a successful upgrade, you must ensure the content is either moved to a safe place, or deleted.

Our support department gets more and more urgent requests for assistance because of a rogue admin upgrading his own copy of Remote Desktop Manager and introducing a schema update for some new feature. This may prevent other users from using the system. We strongly recommend setting both the Maximal and Minimal versions allowed to connect to your instance.

If you have elected to use the Integrated Security for connecting to the database in the Database tab, ensure that the IIS Application Pool Identity and Scheduler accounts have enough privileges on the database. After an upgrading to a new version, new permissions are possibly required. Please contact us about the new permissions list.

- Have a user upgrade his workstation with the version of Remote Desktop Manager supported by the Devolutions Password Server version and test connectivity with the server instance.
- When you are satisfied with your tests, have the rest of the staff upgrade to the same version of Remote Desktop Manager.
- Update the Maximal/Minimal version of Remote Desktop Manager in ***Administration - System Settings - Version Management***
- Move or delete the **Backup Folder**, it is located in the ***%TMP%\DVLS*** folder of the current user profile. Newer versions of Remote Desktop Manager add a suffix to indicate a sequence.

Management

Part IV

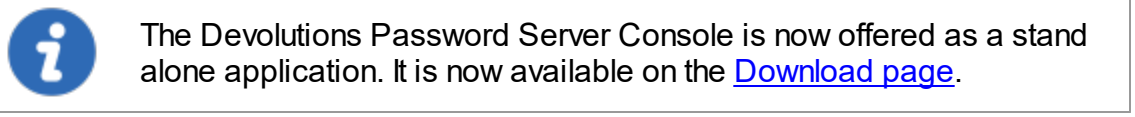
4 Management

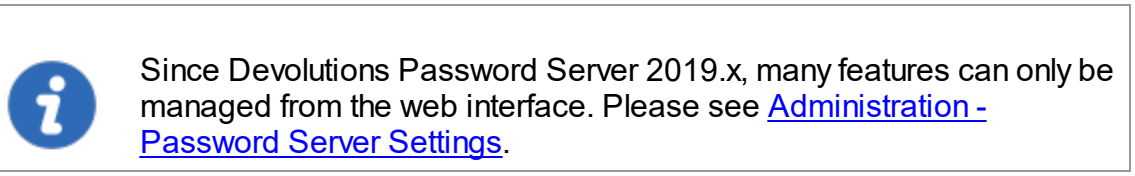
4.1 Devolutions Password Server Console

DESCRIPTION

Because Devolutions Password Server is in fact a web application, the management interface is provided by the Devolutions Password Server Console.

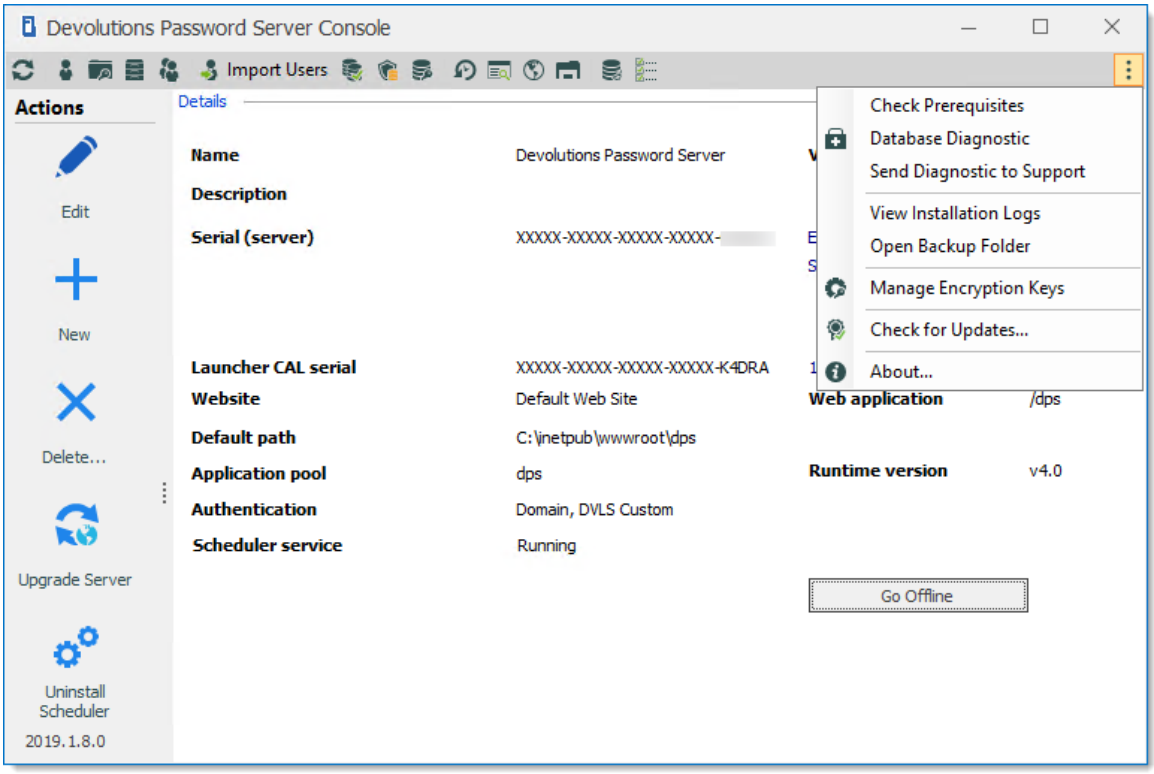
USAGE





The Devolutions Password Server Console manages the IIS metabase, it must be started with elevated privileges when the console needs to be used. Elevated privileges are granted when you use "**Run as administrator**" to launch the application. You can modify the shortcut to always start it in this manner.

CONSOLE



Devolutions Password Server Console

SETTINGS

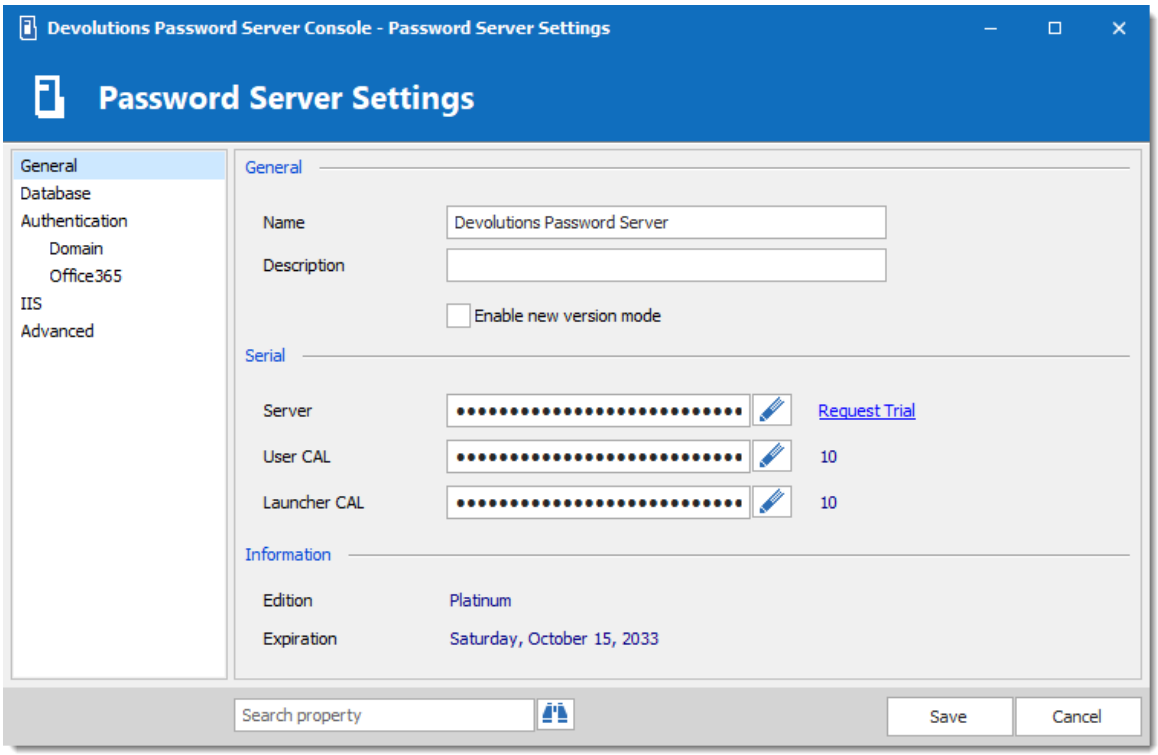
SECTION	DESCRIPTION
Actions pane	Contains the buttons for the main controls. Edit, New, Delete, Upgrade Server and Uninstall Scheduler.
Commands	The menu at the top contains the Commands accessible.
Advanced menu	The menu at the top right contains the Advanced features.

4.1.1 Devolutions Password Server Settings

4.1.1.1 General

DESCRIPTION

The General tab contains the basics information of the Devolutions Password Server instance such as the Name, Description, Serial Keys, etc.



General Tab

SETTINGS

GENERAL

OPTION	DESCRIPTION
Name	Enter the name for your server, it will be displayed in the Content area.

OPTION	DESCRIPTION
Description	Enter a short description or additional information.

SERIAL

OPTION	DESCRIPTION
Server	Insert your serial registration number.
Request trial	This will redirect you to our Devolutions Password Server page to request a free 30 days trial.
User CAL	Insert your Client Access License key.
Launcher CAL	Insert your Launcher key.

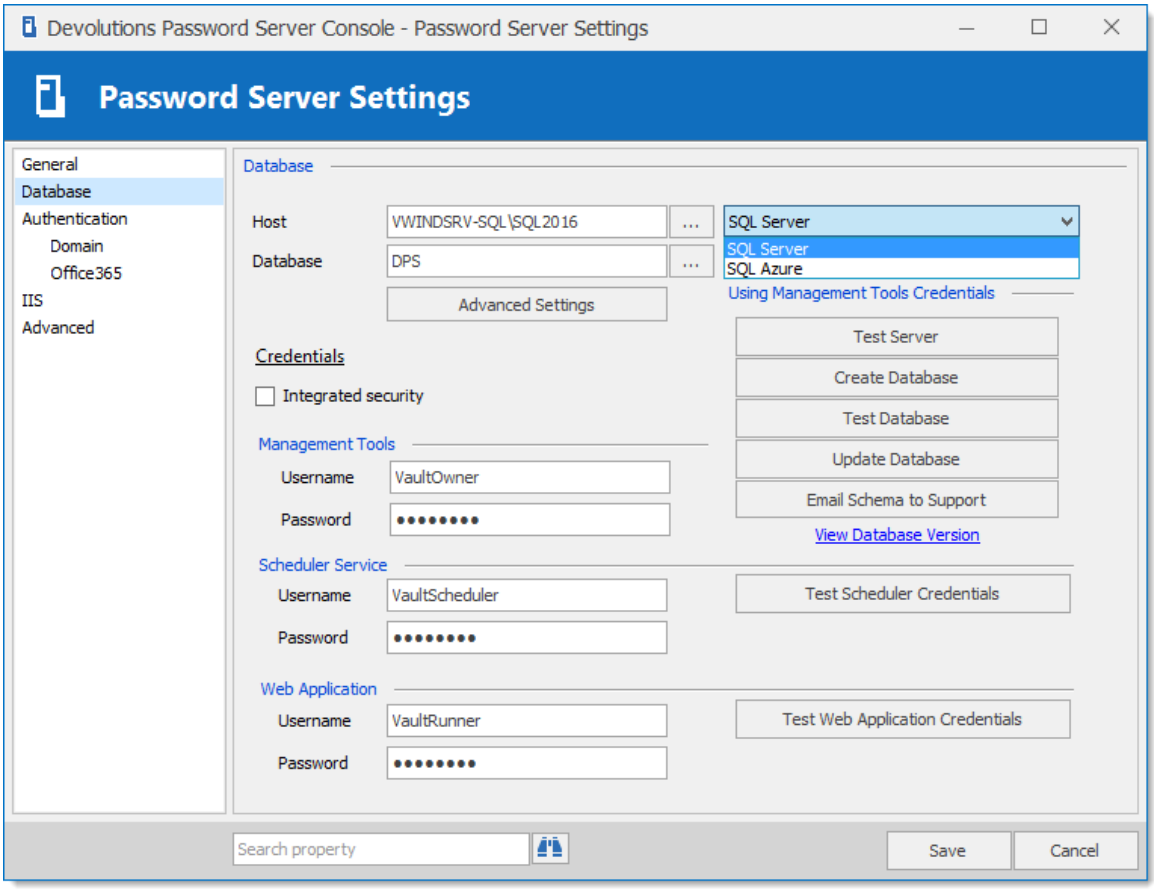
INFORMATION

OPTION	DESCRIPTION
Edition	Display the Devolutions Password Server Edition according to your Server license key.
Expiration	Expiration date of the product.

4.1.1.2 Database

DESCRIPTION

The Database tab contains the information of the SQL Server, the SQL credentials information and the database name used by Devolutions Password Server.



Database Tab

SETTINGS

DATABASE

OPTION	DESCRIPTION
Host	Name of the host where the database will be stored.
SQL Server / SQL Azure	Choose the database host type.
Database	Name of the database on the server.

OPTION	DESCRIPTION
Advanced Settings	Access the Advanced Settings.
Test Server	Test the connection with the server to validate if the proper information has been provided.
Create Database	If the database doesn't already exist you can create one directly from here. In order to use integrated security correctly, the database must be created with at least db_owner rights.
Test Database	Test the connection with the database to validate if the proper information has been provided.
Update Database	Update the database on the server.
Email Schema to Support	Directly sends your schema to the Devolutions Support team.
View database version	View what is your current database version.

CREDENTIALS

Note that the Integrated Security or Credentials settings affect how the Devolutions Password Server communicates with the SQL database. These options do not have any impact on how users will authenticate on the Devolutions Password Server instance.

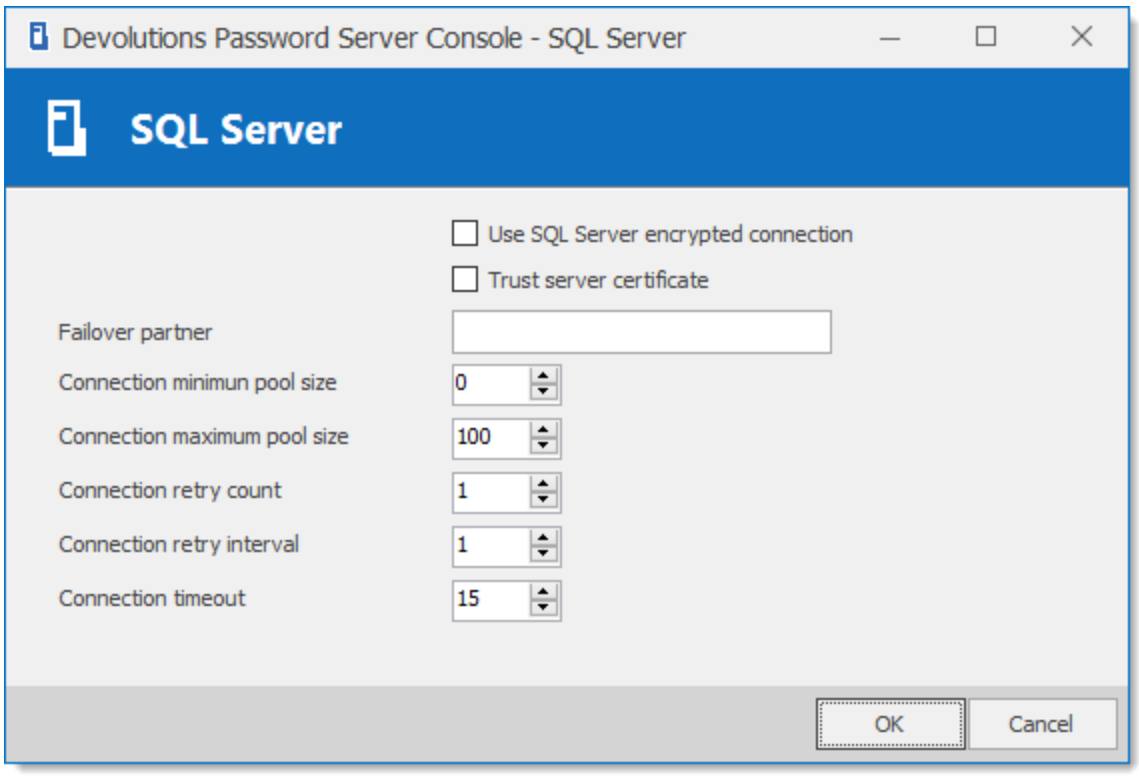
OPTION	DESCRIPTION
Integrated security	Specify to use Windows Integrated Authentication for authenticating to the database. In order for integrated security to be used to connect to the database, you must set a domain account as the Application Pool identity in the IIS Manager.

OPTION	DESCRIPTION
Management Tools	Credentials that allows the Devolutions Password Server Console to communicate with the SQL database. Must be a SQL account.
Scheduler Service	Credentials used for the Scheduler features (Backup manager, Email Notifications, Secure Messaging, Domain Users and Roles cache, Azure AD cache). Must be a SQL account.
Test Scheduler Credentials	Test against the SQL server the credentials set in Scheduler Service.
Web Application	Credentials used for the Web Application to communicate with the SQL database. Must be a SQL account.
Test Web Application Credentials	Test against the SQL server the credentials set in Web Application.

4.1.1.2.1 Advanced Settings

DESCRIPTION

The Advanced Settings contains advanced parameters that are used for the SQL database connection string.



Advanced Settings Dialog

SETTINGS

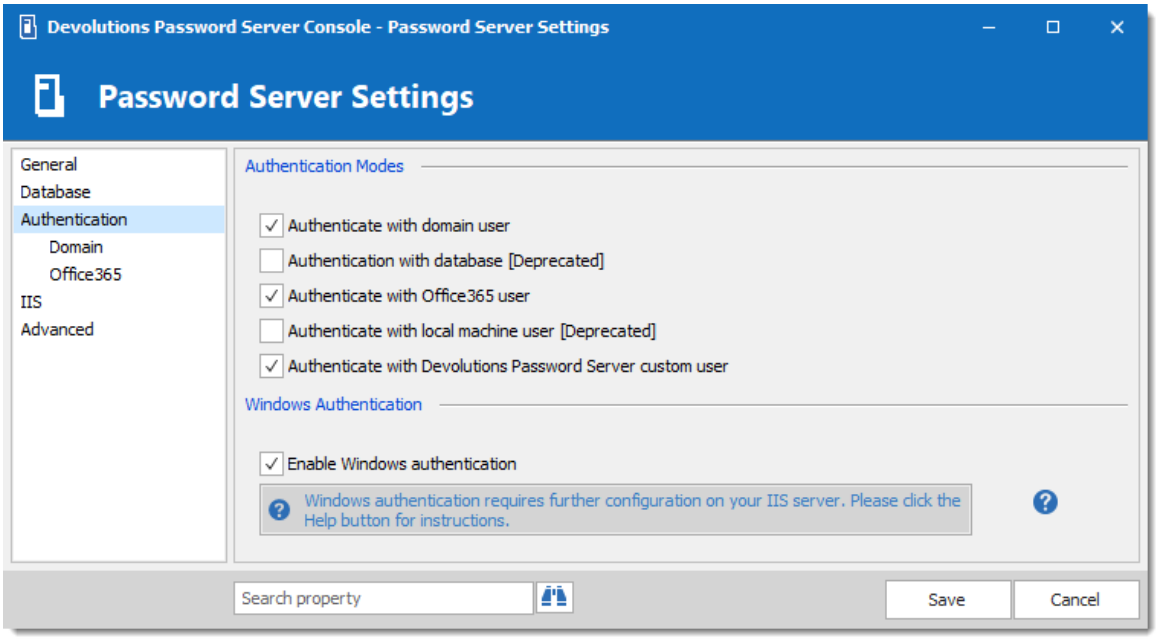
OPTION	DESCRIPTION
Use SQL Server encrypted connection	Use SSL to encrypt communication with the database.
Trust server certificate	Always trust the server certificate.
Failover partner	The name of the failover partner server if database mirroring is configured. This is used only for the initial connection as the principal server will return a name which will replace the configured value when different.

OPTION	DESCRIPTION
Connection minimum pool size	The minimum number of connections that are allowed in the pool.
Connection Maximum pool size	The maximum number of connections that are allowed in the pool.
Connection retry count	Controls the number of reconnection attempts after the client identifies an idle connection failure. Valid values are 0 to 255. The default is 1. 0 means do not attempt to reconnect .
Connection retry interval	Specifies the time between each connection retry attempt (ConnectRetryCount). Valid values are 1 to 60 seconds (default=10), applied after the first reconnection attempt. When a broken connection is detected, the client immediately attempts to reconnect; this is the first reconnection attempt and only occurs if ConnectRetryCount is greater than 0. If the first reconnection attempt fails and ConnectRetryCount is greater than 1, the client waits ConnectRetryInterval to try the second and subsequent reconnection attempts.
Connection timeout	The length of time (in seconds) to wait for a connection to the server before terminating the attempt and generating an error.

4.1.1.3 Authentication

DESCRIPTION

Select the type of authentication method used by your users to connect to the Devolutions Password Server. As best practice we would strongly recommend the use of Domain Authentication method as it can be integrated with Active Directory Group and makes it easier to manage.



Authentication Tab

SETTINGS

AUTHENTICATION MODES

OPTION	DESCRIPTION
Authenticate with domain user	The domain is used to authenticate the user.
Authenticate with database user	The database is used to authenticate the user. This authentication method is now identified as deprecated.
Authenticate with Office365 user	AzureAD is used to authenticate the user.
Authenticate with local machine user	The application allows a local user to be authenticated on the server. This authentication method is now identified as deprecated.

OPTION	DESCRIPTION
Authenticate with Devolutions Password Server custom user	The Devolutions Password Server is used to authenticate the user. You must create the initial user through the console.

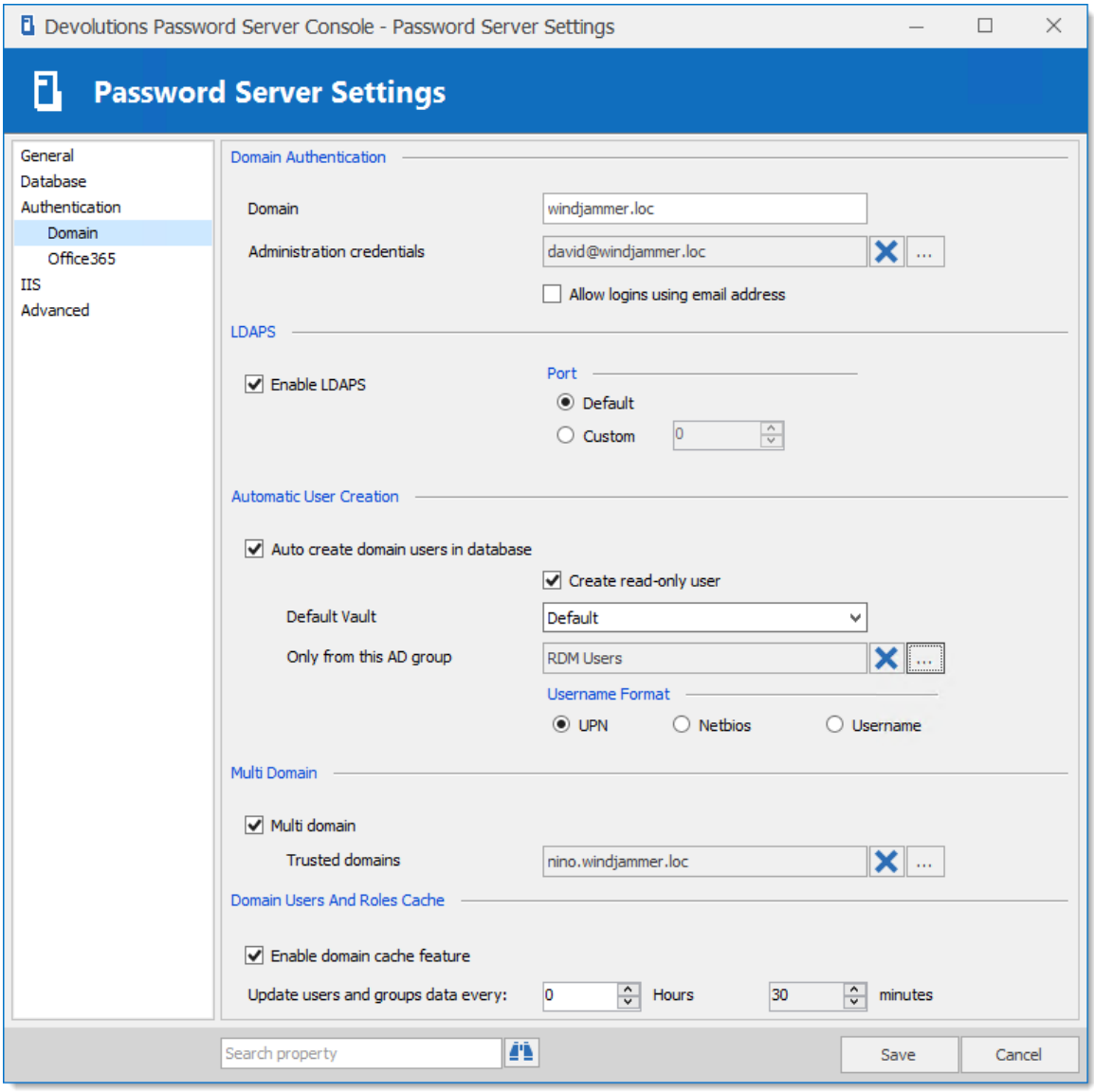
WINDOWS AUTHENTICATION

OPTION	DESCRIPTION
Enable Windows Authentication	The application will use the current Windows authenticated user to authenticate to the Devolutions Password Server instance.

4.1.1.3.1 Domain

DESCRIPTION

The domain is used to authenticate the user. This is the most secure, flexible and easiest to manage. No need to sync users between the domain and Devolutions Password Server. On first use of the Devolutions Password Server data source, the user will be created and be given access rights according to their role in the organization as defined on the domain. You simply need to grant appropriate permissions to your roles in Devolutions Password Server. Upon authentication we will validate the AD groups to which the user belongs and for any that have a corresponding role we will grant the permissions to the user.



Domain Tab

SETTINGS

DOMAIN AUTHENTICATION

OPTION	DESCRIPTION
Domain	Specify the remote computer domain name.

OPTION	DESCRIPTION
Administration credentials	Add the credentials of a domain or service account to access the Active Directory forest and obtain user account information through LDAP queries. This is needed when the server hosting the instance is not located on the domain. This account needs to be a member of the Account Operators AD group in order to have enough permissions to retrieve user account information and group memberships.
Allow logins using email address	Allow users to use their email address to connect to the Devolutions Password Server instance. The email address field must be filled in the User Management.

LDAPS

OPTION	DESCRIPTION
Enable LDAPS	Enable the LDAP over SSL communication.
Default	LDAPS default communication port.
Custom	Set a specific port value.

AUTOMATIC USER CREATION

OPTION	DESCRIPTION
Auto create domain users in database	Automatically create the domain user account in the the database on the first login attempt.
Create read-only user	When this option is enabled, the user account will be created as a Read only user type account.

OPTION	DESCRIPTION
Default Vault	Will give access to that Vault to the user.
Only from this AD group	Will create automatically the user only if he is a member of this AD group.
Username Format	Select the username format that will be created in the database. • **UPN :** The user will be created using the UPN format ex: bill@windjammer.loc. • **NetBios :** The user will be created using the NetBios format ex: WINDJAMMER\bill. • **Username :** The user will be created using the SAM account name.

MULTI DOMAIN

The Multi Domain feature requires the Devolutions Password Server Platinum Edition license. Currently, it is only working with trusted domains that belong to the same AD Forest.

OPTION	DESCRIPTION
Multi domain	Enable the Multi domain feature.
Trusted domains	Add your trusted domains.

DOMAIN USERS AND ROLES CACHE

OPTION	DESCRIPTION
Enable domain cache feature	Activate the domain cache feature.
Update users and groups data every:	Set the hours and minutes period that the Domain Users and Roles Cache will be refreshed. When enable, the default value is set to 30 minutes.

4.1.1.3.2 Office365

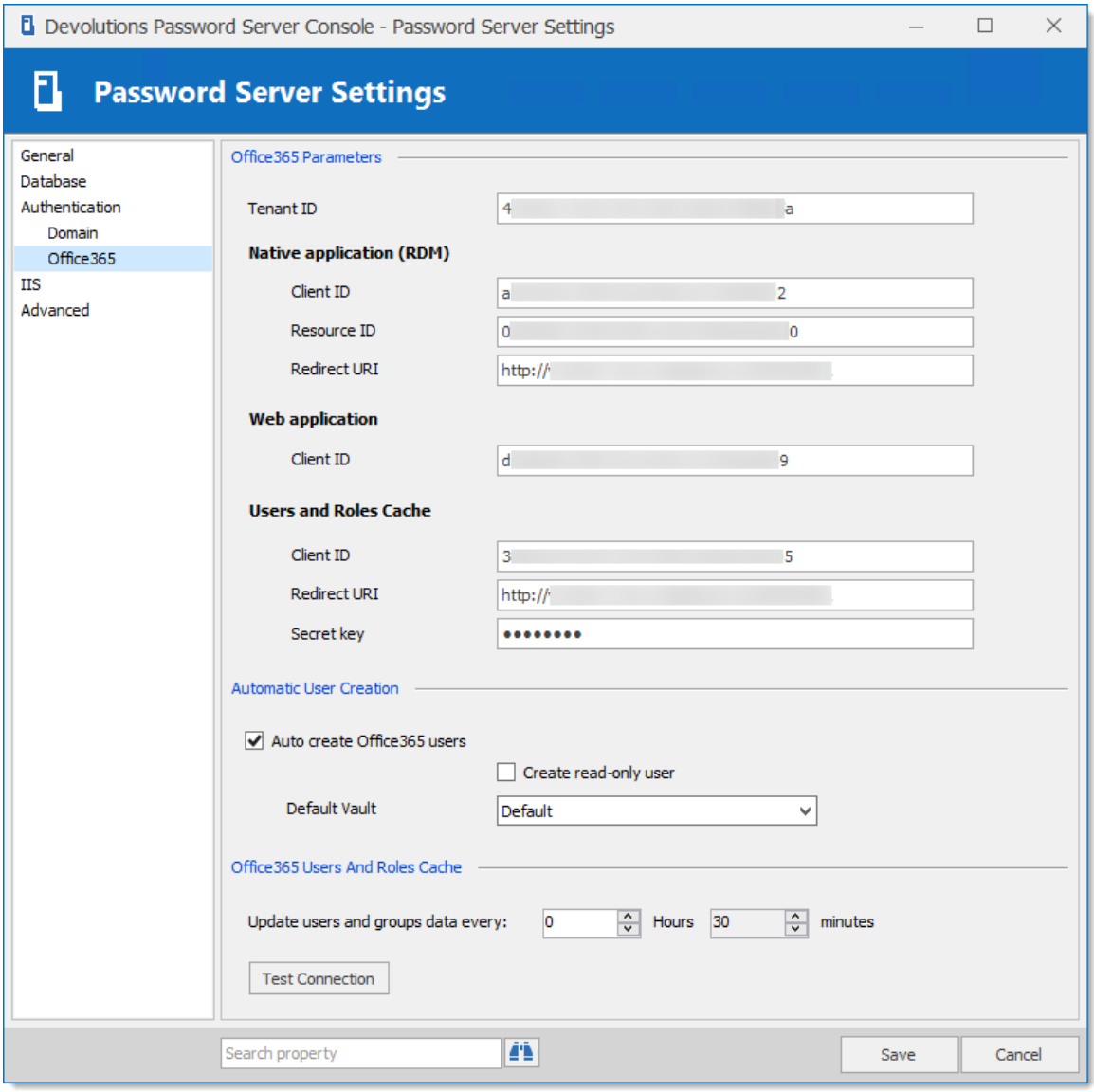
DESCRIPTION

Microsoft Azure Active Directory subscription is required to configure Office365 authentication in Devolutions Password Server. You need to create three new app registrations in Microsoft Azure Active Directory before completing the authentication settings. For more information about the app registrations, see Azure portal configuration guide for Office 365 authentication.

HOW TO CONFIGURE OFFICE 365 AUTHENTICATION

Overview about Office365 configuration: see knowledge base article for more information

The Office365 tab allows Devolutions Password Server to authenticate users using Office365 authentication. All fields are mandatory.



Office365 Tab

SETTINGS

OFFICE365 PARAMETERS

OPTION	DESCRIPTION
TenantID	The TenantID is the Directory ID of the Azure Active Directory.

Native application (RDM)	DESCRIPTION
ClientID	Application ID of the Azure AD application.
Resource ID	resourceAppid from the Manifest of the Azure AD application.
Redirect URI	Redirect URI from the Azure AD application.

Web application	DESCRIPTION
ClientID	Application ID from the web app section of the Azure AD application.

Users and Roles Cache	DESCRIPTION
Client ID	Application ID of the Azure AD application.
Redirect URI	Redirect URI from the Azure AD application.
Secret key	Key from the Password generated in Settings - Keys of the Azure AD application.

AUTOMATIC USER CREATION

OPTION	DESCRIPTION
Auto create Office365	Automatically create the Office365 user account in the

OPTION	DESCRIPTION
users	database on the first login attempt.
Create read-only user	Set the user account as a read-only account.
Default Vault	Will give access to that Vault to the user.

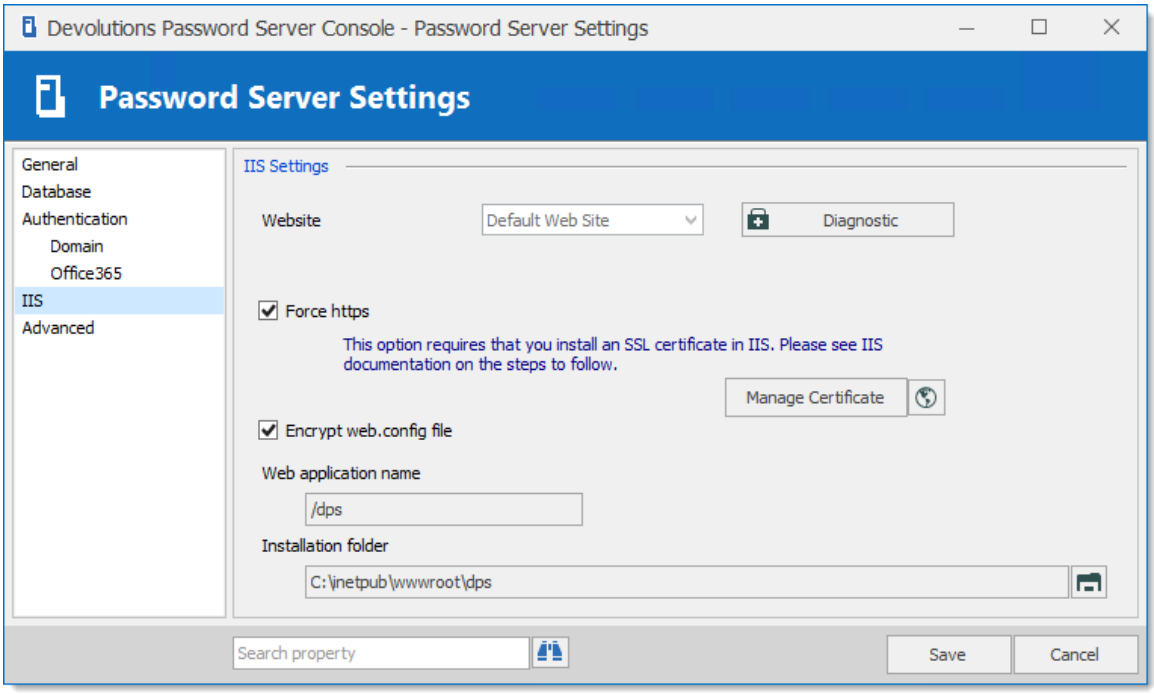
OFFICE365 USERS AND ROLES CACHE

OPTION	DESCRIPTION
Update users and groups data every:	Set the hours and minutes period that the Office365 Users and Roles Cache will be refreshed. Default value is set to 30 minutes.

4.1.1.4 IIS

DESCRIPTION

The IIS settings are part of your prerequisite at the installation level. Most of what is found in this tab is automatically filled in by the information given while setting up your Devolutions Password Server, the IIS Settings tab is used more as an informative source rather than configuration.

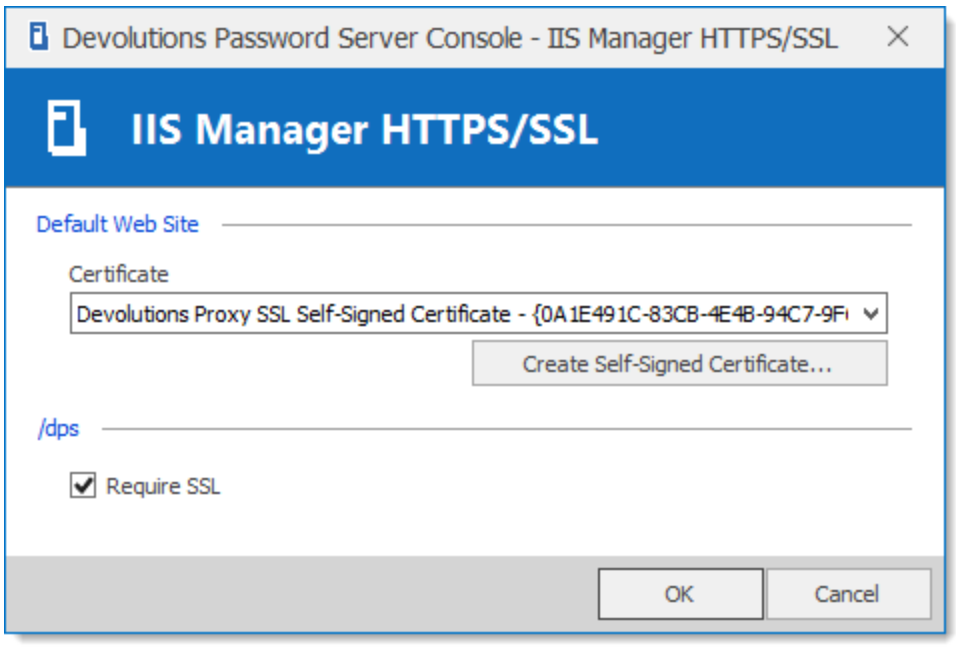


IIS Tab

SETTINGS

OPTION	DESCRIPTION
Force https	Force the use of the https instead of the http.
Encrypt web.config file	Activate this option if you wish to add an extra layer of security to your configuration by encrypting your file.

MANAGE CERTIFICATE



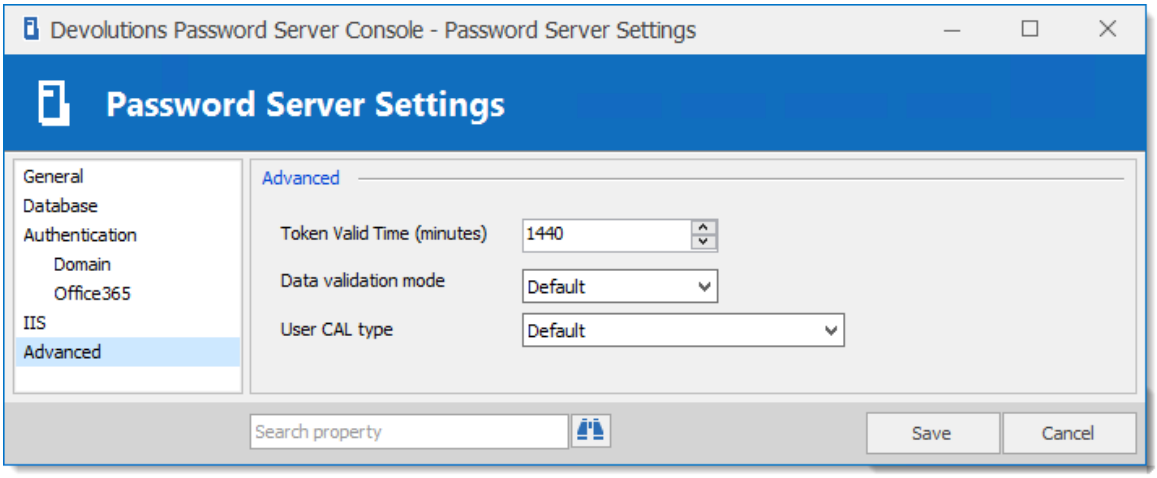
IIS Manager HTTPS/SSL Dialog

OPTION	DESCRIPTION
Certificate	Select the SSL Certificate will be use with the Devolutions Password Server instance.
Create Self-Signed Certificate...	Create a self-signed certificate to be use with the Devolutions Password Server instance.
Require SSL	The usage of a SSL certificate is mandatory when this option is enabled.

4.1.1.5 Advanced

DESCRIPTION

The Advanced tab permits to modify advanced settings in the Devolutions Password Server configuration.



Advanced Tab

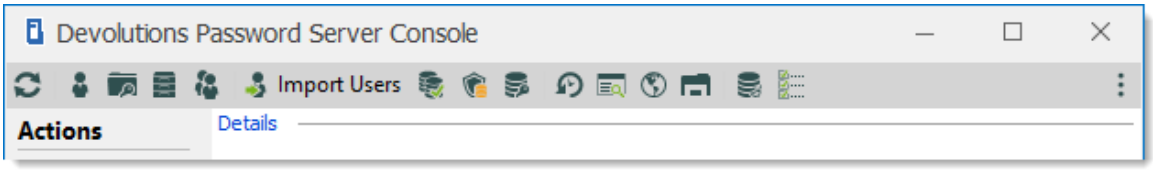
SETTINGS

CATEGORIE	DESCRIPTION
Token Valid Time (minutes)	This the duration time of the token. At the expiration of the token, the user must again authenticate himself on the Devolutions Password Server instance.
Data validation mode	Set the type of Date validation desired (Strict or Warning).
User CAL type	Choose which User license type the Devolutions Password Server instance will be use for between Connection Management and Password Management.

4.1.2 Commands

DESCRIPTION

The commands available on the toolbar of the Devolutions Password Server Console.



Devolutions Password Server Console Commands Toolbar

OPTION	DESCRIPTION
Refresh	Refresh the current information.
Manage Users	Manage users with the User Management.
Manage Security Groups	Opens the Security Group Management. (Legacy)
Manage Vaults	Opens the Vault Management.
Manage Roles	Opens the Role Management.
Import Users	Access the Import Users feature.
System Settings	Manage the System Settings.
System Permissions	Manage the System Permissions.
Security Providers	Manage the Security Providers.
Backup Manager	Access the Backup Manager feature.
View Logs	Access the View Logs feature.

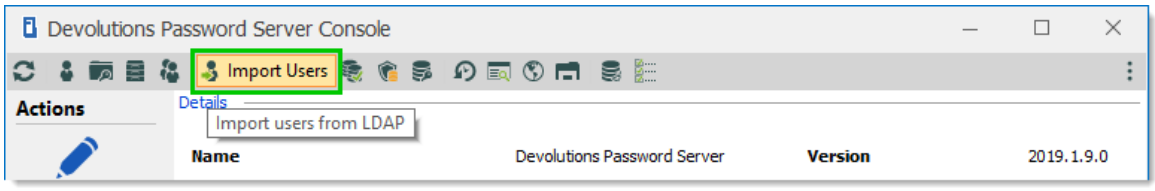
OPTION	DESCRIPTION
View web client	Access the Web Interface.
Explore Content of web site directory	Uses File Explorer to Explore the website directory.
Pack Data Source	Access the Pack Data Source feature.
Options	Access the Options.

4.1.2.1 Import Users

DESCRIPTION

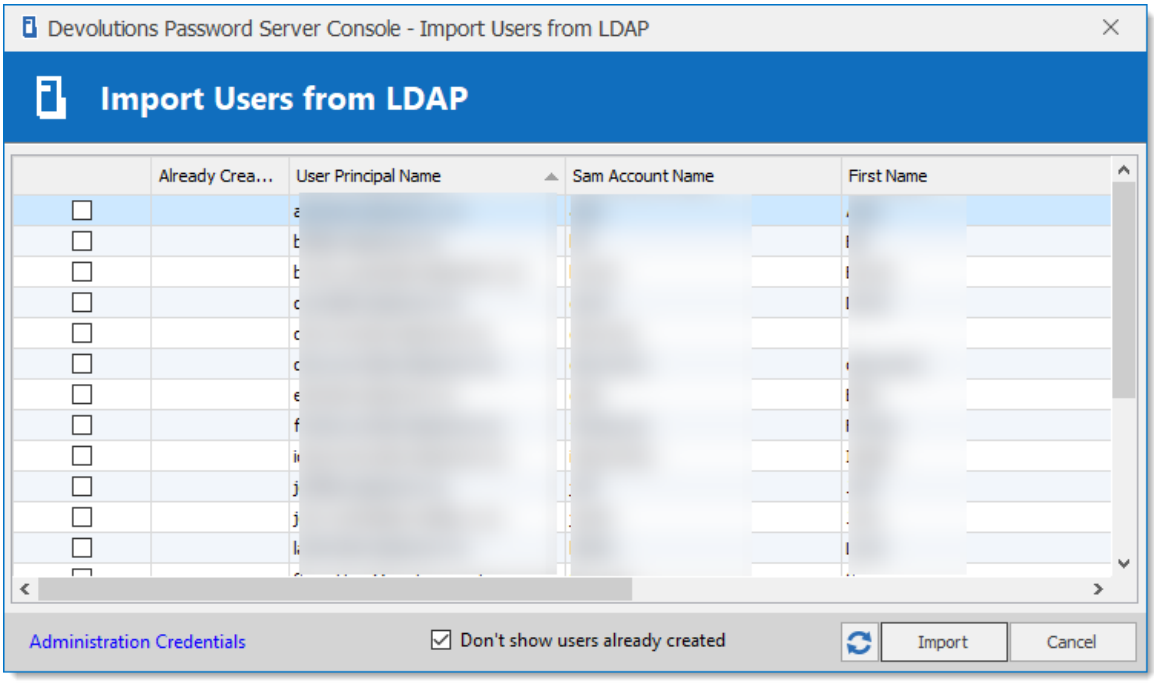
> The Domain authentication method must be activated to be able to import users from LDAP. Consult the Authentication topic for more information.

From the Devolutions Password Server Console, click on the **Import Users** button.



Devolutions Password Server Console Commands Toolbar

Select the users you want to add and click on the **Import** button.

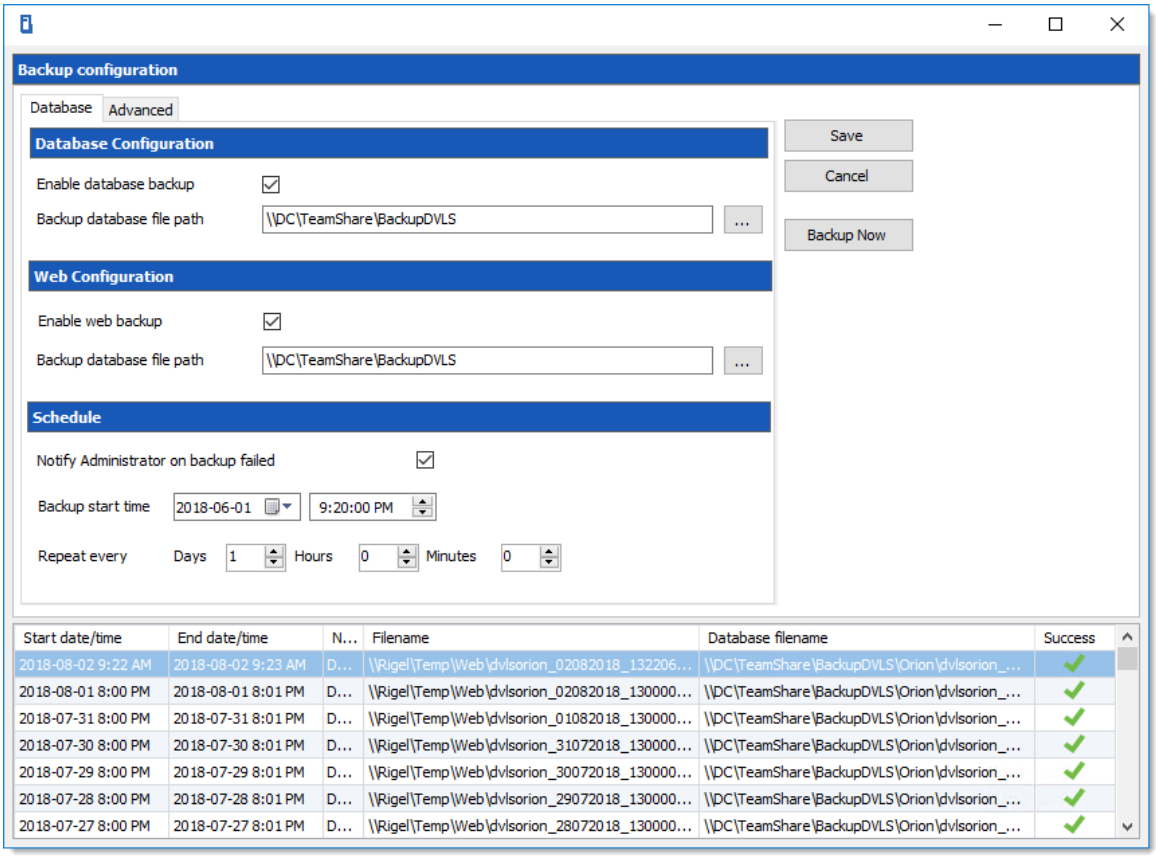


Import Users from LDAP Dialog

4.1.2.2 Backup Manager

DESCRIPTION

The **Backup Manager** is a feature that can create scheduled backups of the SQL database and the web configuration folder. It is also possible to create a live backup. The DevolutionsSchedulerService must be configured properly in order to work.



Backup Manager

For more information on the different options held in the Backup schedule settings please see:

- Database
- Advanced

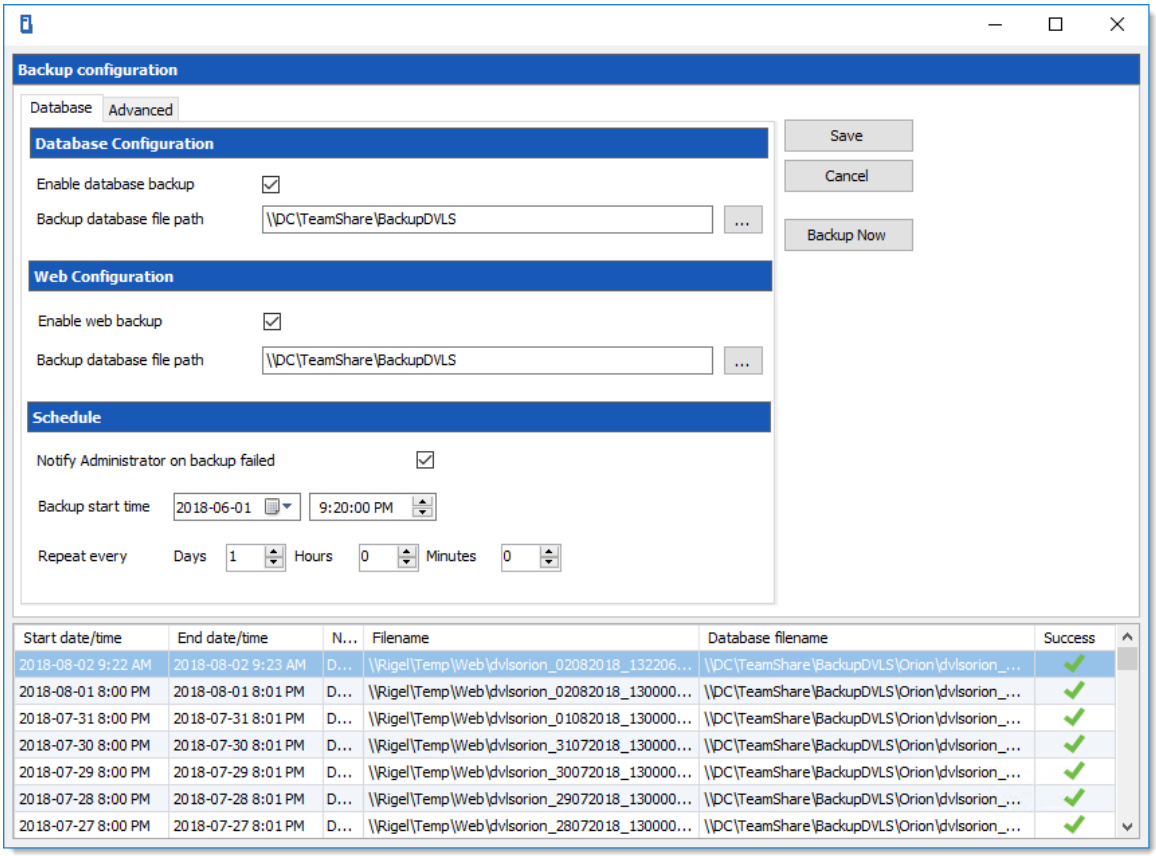
For more information about the required account configuration please see:

- Backup and restore Devolutions Password Server

4.1.2.2.1 Database

DESCRIPTION

The following details the Database tab options of the **Backup Manager** feature.



Backup Manager

SETTINGS

CONTROLS

BUTTON	DESCRIPTION
Save	Save the latest modifications of the Backup schedule options.
Cancel	Cancel the latest modifications of the Backup schedule options.
Backup Now	Create immediately a backup of the SQL database and/or the web application folder.

DATABASE CONFIGURATION

OPTION	DESCRIPTION
Enable database backup	Activate the backup of the SQL database.
Backup database file path	The path to the folder where the backup of the SQL database will be saved. We recommend to use a shared network folder with proper permissions set on it to be able to save the backup file. **Note: As the backup command is running on the SQL Server, this path must exist on the SQL Server or accessible from that SQL Server.**

WEB CONFIGURATION

OPTION	DESCRIPTION
Enable web backup	Activate the backup of the web application.
Backup web file path	The path to the folder where the backup of the web application will be saved. We recommend to use a shared network folder with proper permissions set on it to be able to save the backup file.

SCHEDULE

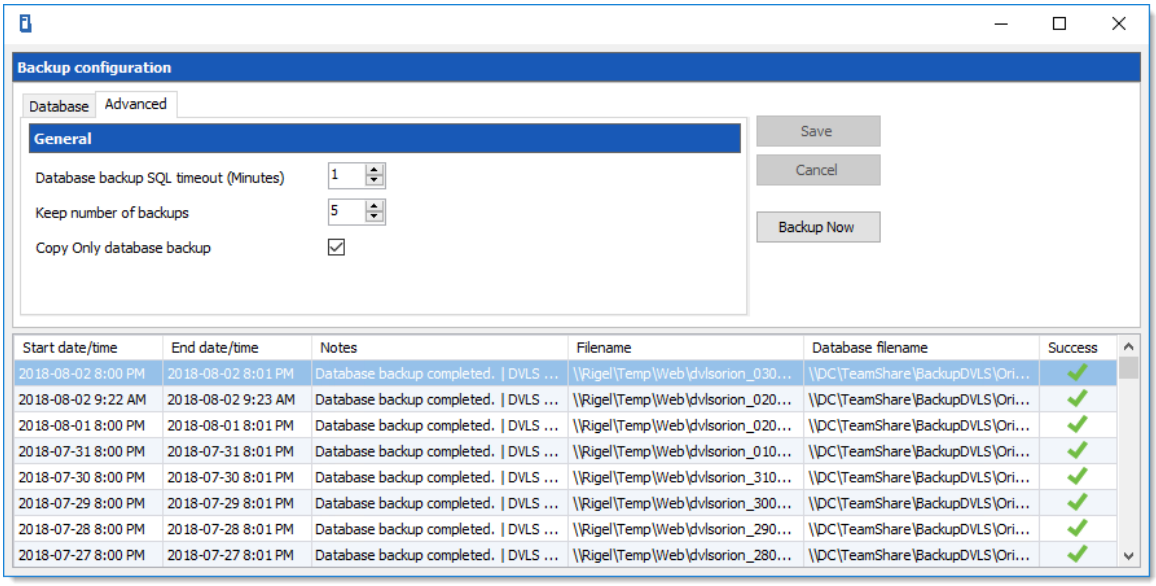
OPTION	DESCRIPTION
Notify Administrator on backup failed	Will send an email when the backup fails. The Email feature must be enabled in the Server Settings in order

OPTION	DESCRIPTION
	to work.
Backup start time	Date and time when the backup will be automatically started.
Repeat every	The time interval when the backup will be repeated.
Logs	• Start date/time : The date and time when the backup was started. • End date/time : The date and time when the backup was finished. • Notes : Message to inform the completion or the fail of the backup. • Filename : Path and name of the web application backup file. • Database filename : Path and name of the SQL database backup file. • Success : Green check = successful; Red 'X' = fail.

4.1.2.2.2 Advanced

DESCRIPTION

The following details the Advanced tab options of the **Backup Manager** feature.



Backup Manager - Advanced

SETTINGS

GENERAL

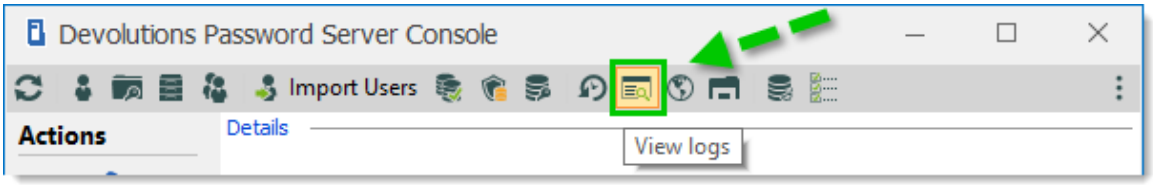
OPTION	DESCRIPTION
Database backup SQL timeout (Minutes)	Number of minutes before a timeout in the SQL instance.
Keep number of backups	Number of the backup that will be kept in the backup folder.
Copy Only database backup	A SQL Server backup that is independent of the sequence of conventional SQL Server backups. For more information, please see https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/copy-only-backups-sql-server.

4.1.2.3 View logs

DESCRIPTION

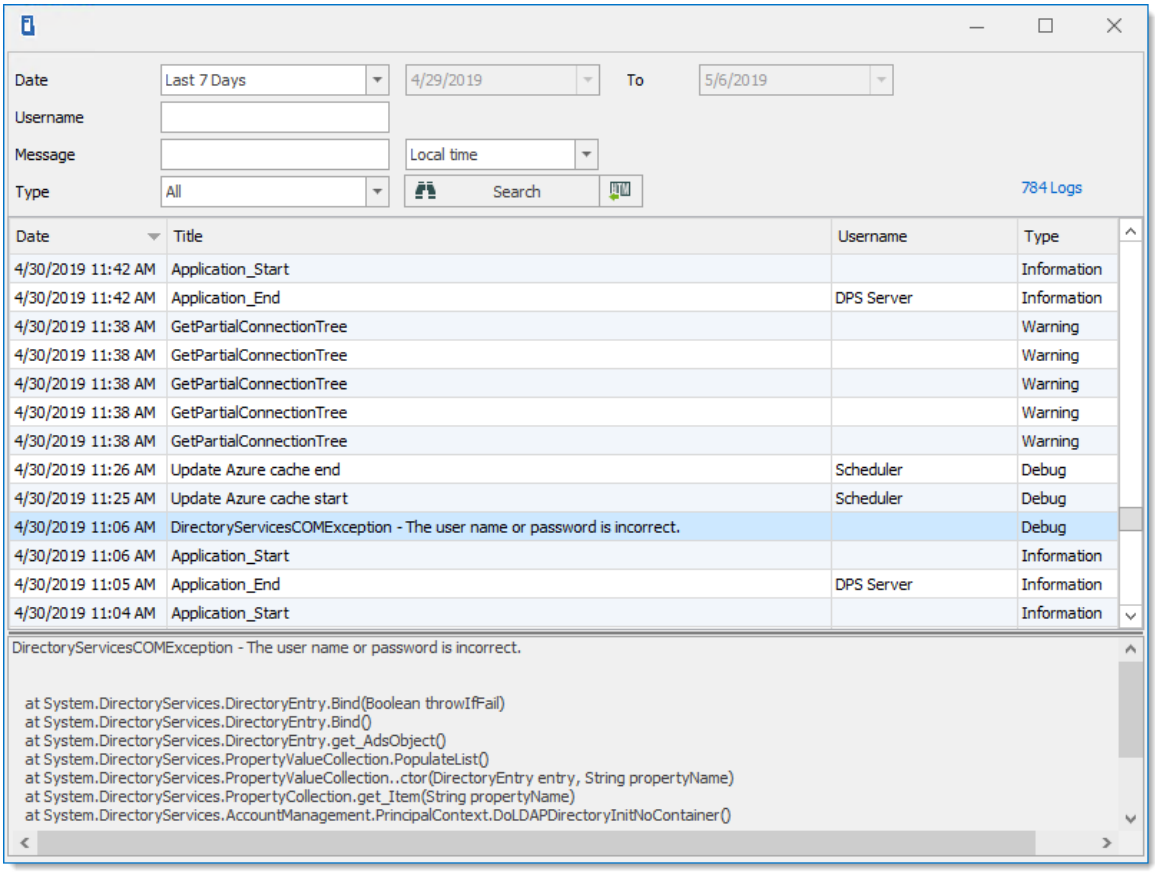
> The Log debug information option must be enabled in order to view the logs. Consult the Logging topic for more information.

From the Devolutions Password Server Console, click on the **View logs** button.



Devolutions Password Server Console

Select the log entry to view the details in the bottom section.

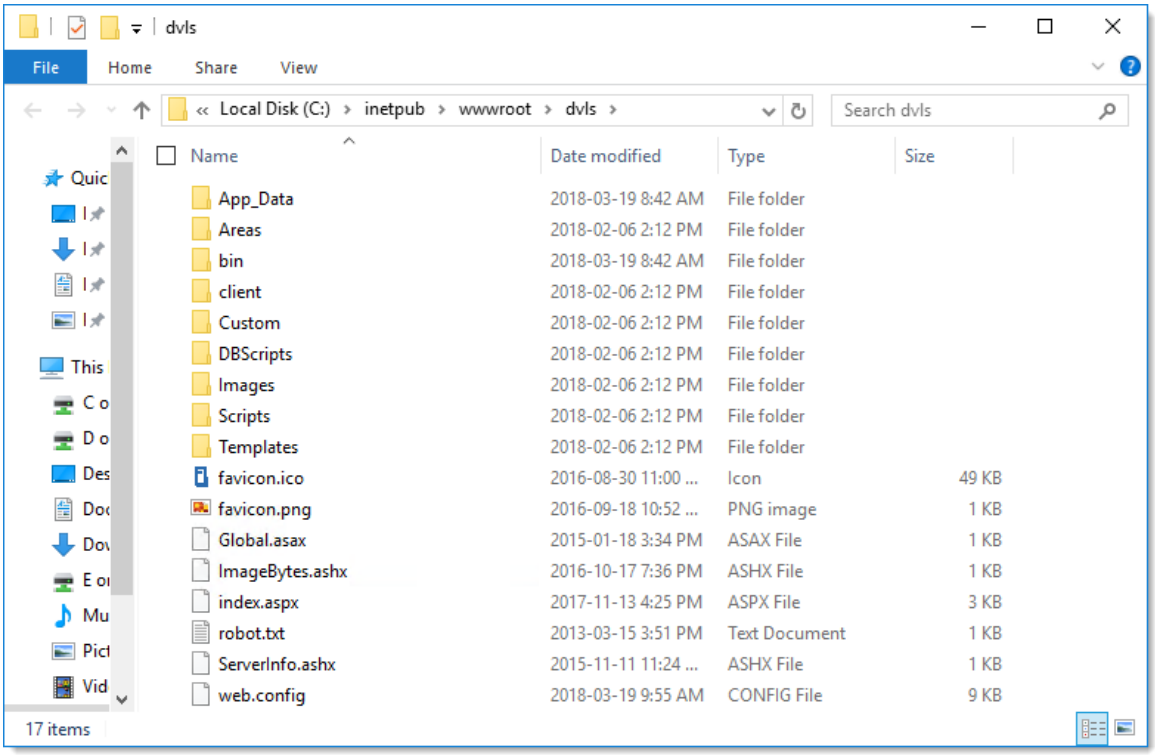


Devolutions Password Server Logs Dialog

4.1.2.4 Explore content of website directory

DESCRIPTION

The Explore content of website directory opens the Windows File Explorer in the folder where the Devolutions Password Server instance is located on the computer.



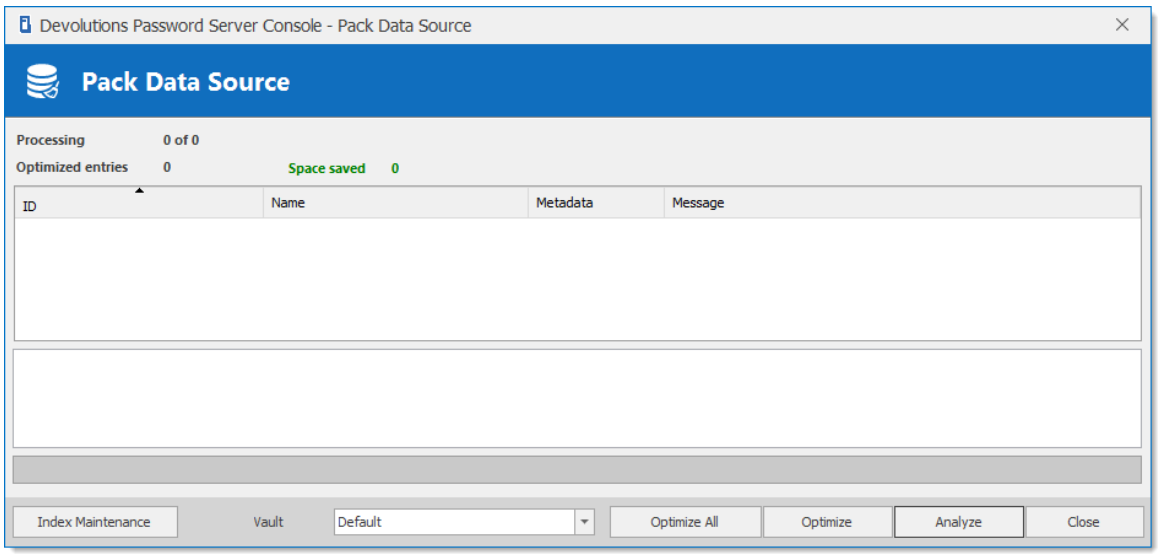
Web Site Folder

4.1.2.5 Pack Data Source

DESCRIPTION

When holding a great number of entries in your data source it is a best practice to compress them to avoid slowness issues when using your data source. The **Pack Data Source** will analyze all your entries, compress them and then resave them, thus saving space in your data source. With a Devolutions Password Server data source, the **Pack Data Source** tool is only be available through the Devolutions Password Server Console.

We recommend to backup your SQL database before performing **Index Maintenance** or **Optimize** operation.

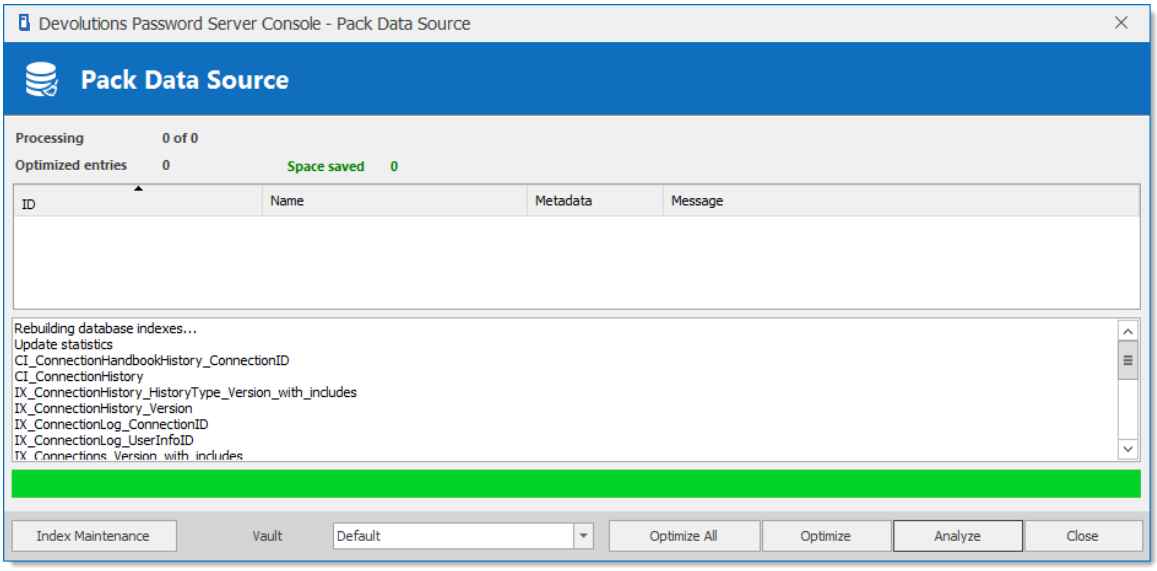


Pack Data Source Dialog

SETTINGS

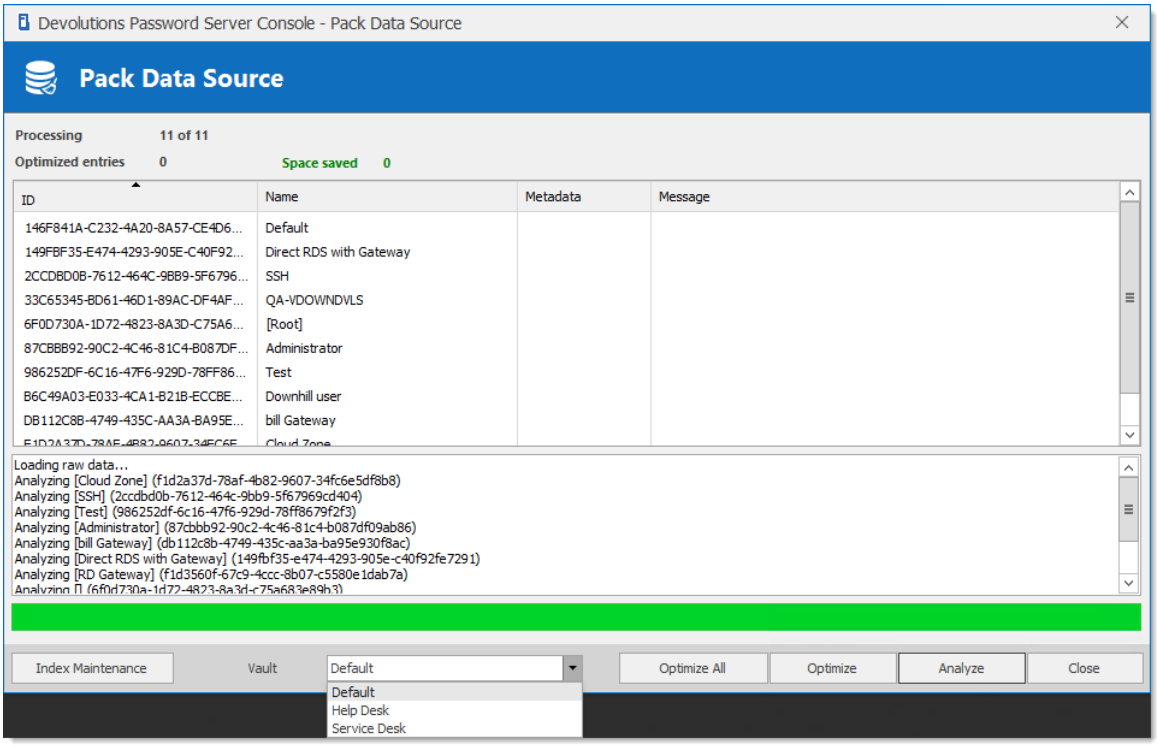
OPTION	DESCRIPTION
Index Maintenance	Will rebuild all database indexes.
Vault	Select on which Vault the Analyze or Optimize will be performed.
Optimize All	Will optimize all Vaults.
Optimize	Will optimize the data of the selected Vault. No needs to analyze the data before the optimize operation.
Analyze	Will analyze the content of all entries of the selected Vault and will produce a report of the amount of space that can be optimized.

INDEX MAINTENANCE



Index Maintenance - Pack Data Source Dialog

ANALYZE/OPTIMIZE

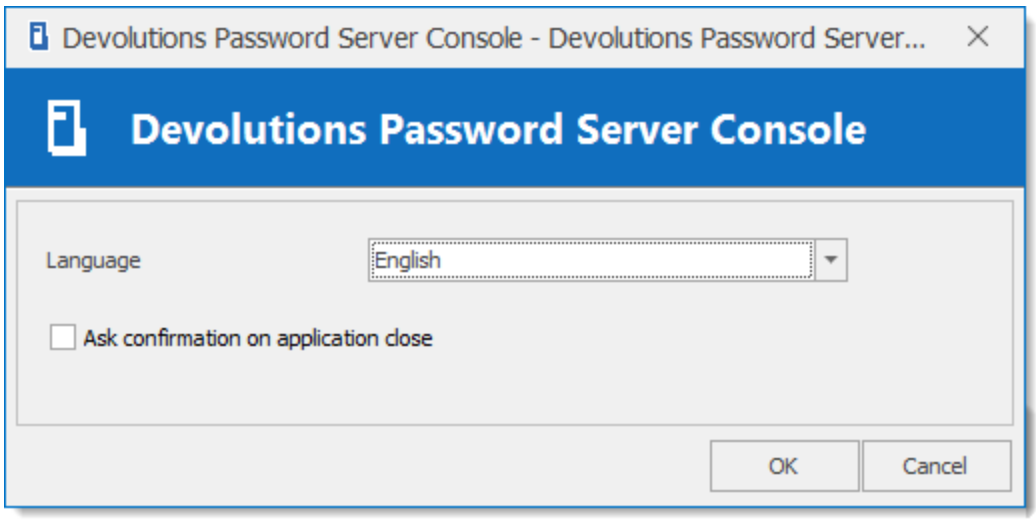


Analyze/Optimize - Pack Data Source Dialog

4.1.2.6 Options

DESCRIPTION

The Options command allows to modify the language of the Devolutions Password Server Console.



Options Dialog

SETTINGS

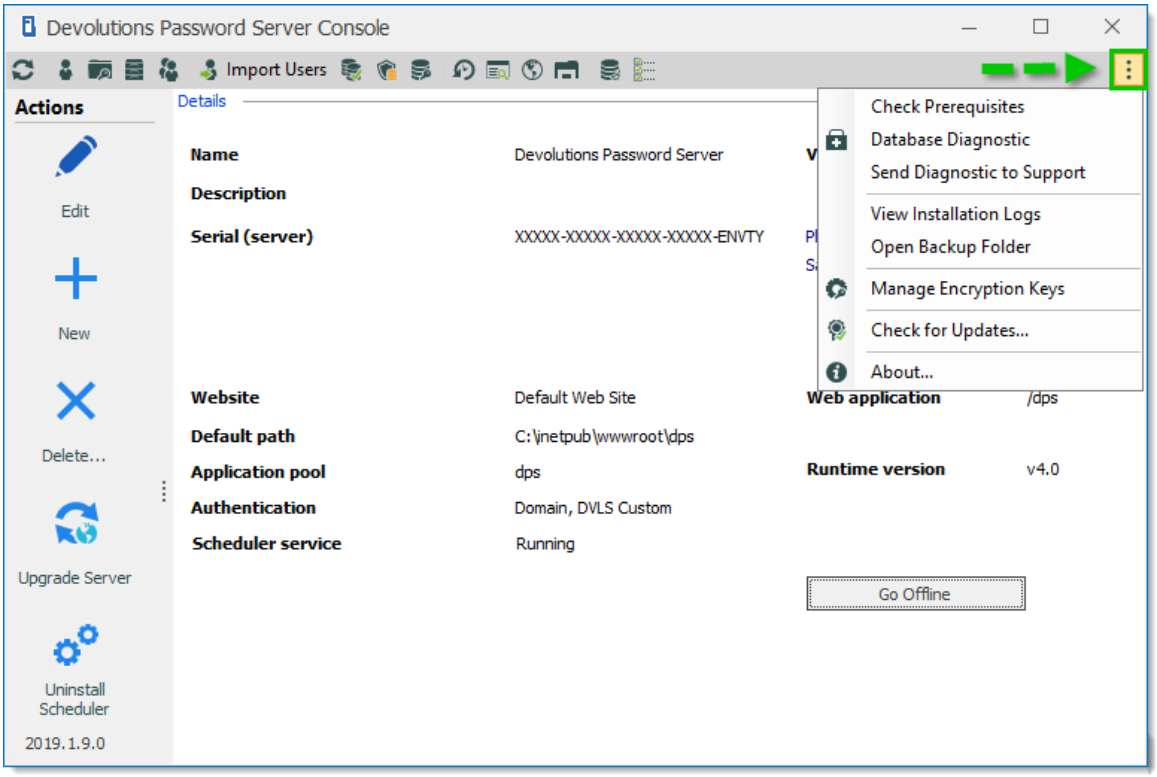
OPTION	DESCRIPTION
Language	Select the language of the Devolutions Password Server Console. Language available : • English • Chinese (Simplified) Legacy • Chinese (Traditional, Taiwan) • Dutch • French

OPTION	DESCRIPTION
	• German • Italian • Polish (Poland) • Russian • Swedish (Sweden) • Ukrainian (Ukraine)
Ask confirmation on application close	Select on which Vault the Analyze or Optimize will be performed.

4.1.3 Advanced

DESCRIPTION

The **Advanced** menu offers tools available with Devolutions Password Server.



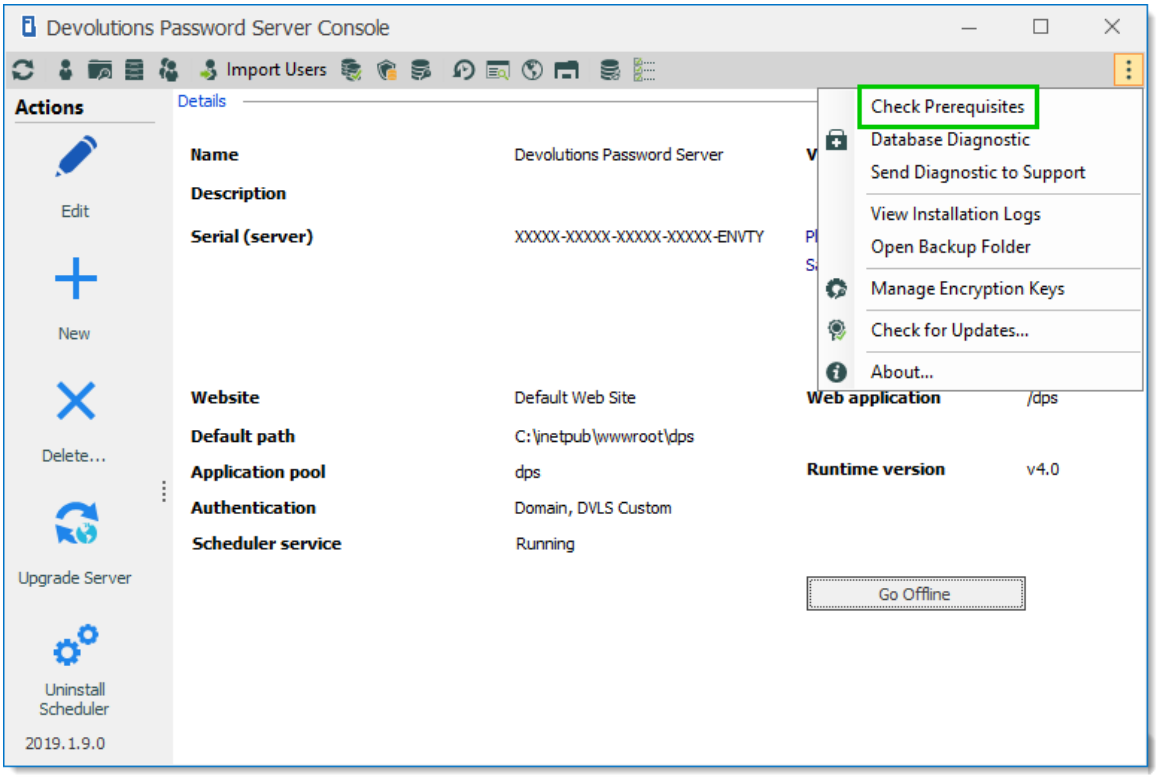
Advanced Menu

4.1.3.1 Check Prerequisites

DESCRIPTION

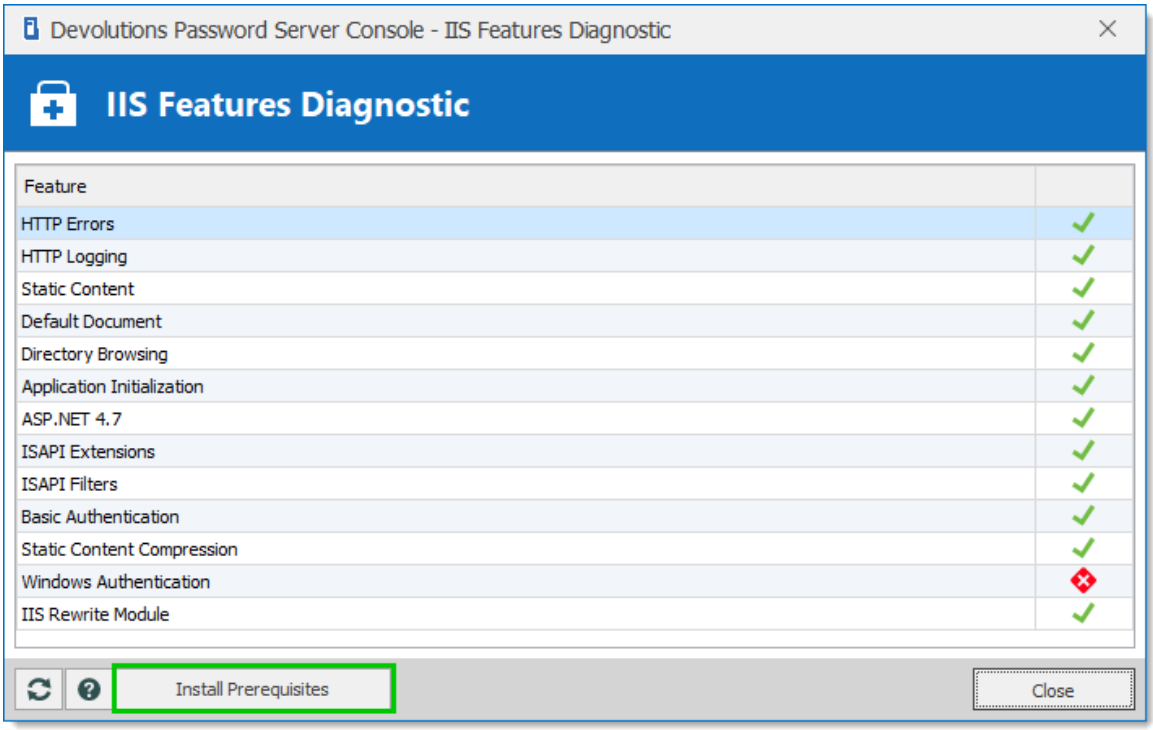
The **Check Prerequisites** validates if all the necessary IIS features are enabled to run Devolutions Password Server properly.

SETTINGS



Options Menu

This diagnostic will verify if all the IIS features are installed properly.



IIS Features Diagnostic

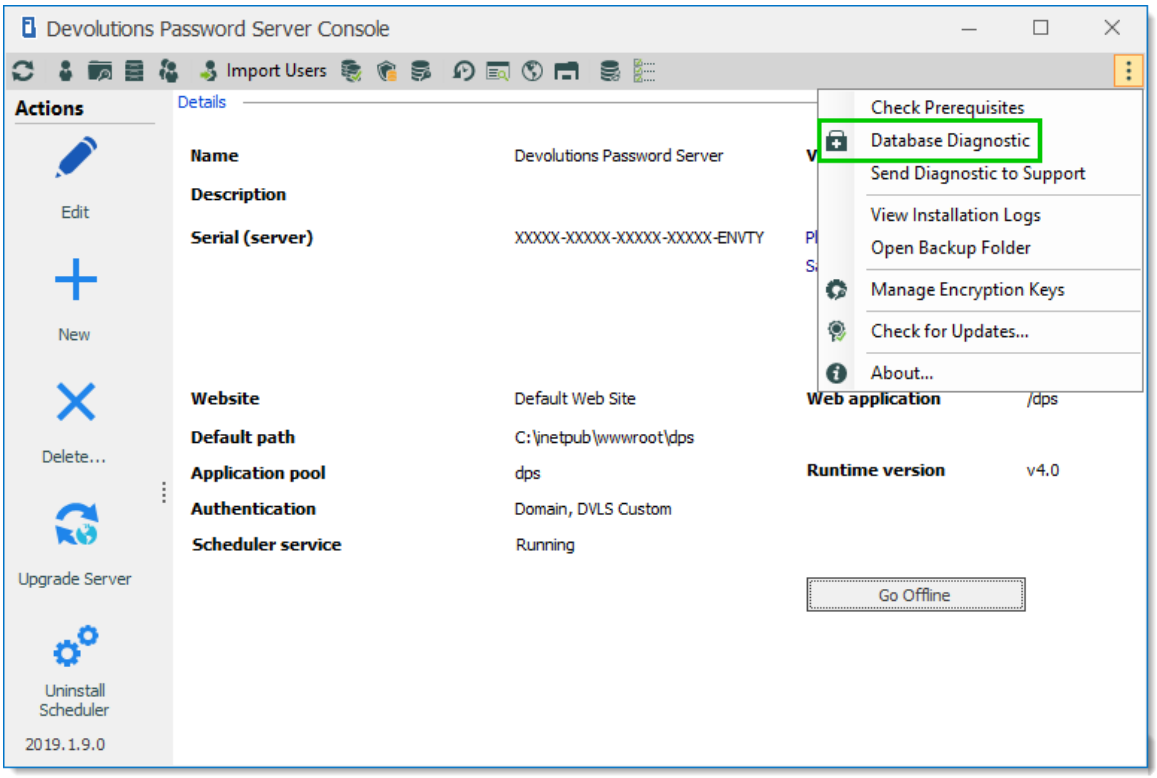
The **Install Prerequisites** button will run a PowerShell script to install the missing prerequisites. Please see Installing Web Roles prerequisites.

4.1.3.2 Database Diagnostic

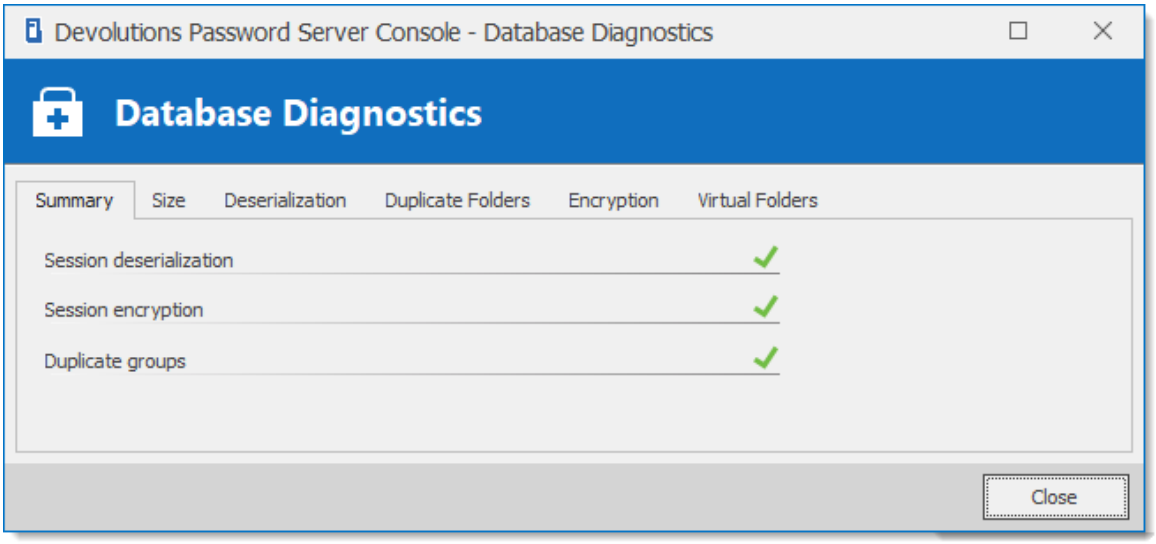
DESCRIPTION

The **Database Diagnostics** will display information of the database health. Please contact the support team at ticket@devolutions.net for more information about this report.

From the Devolutions Password Server Console, click on the ellipsis button on the right corner and select **Database Diagnostic**.



Advanced Menu



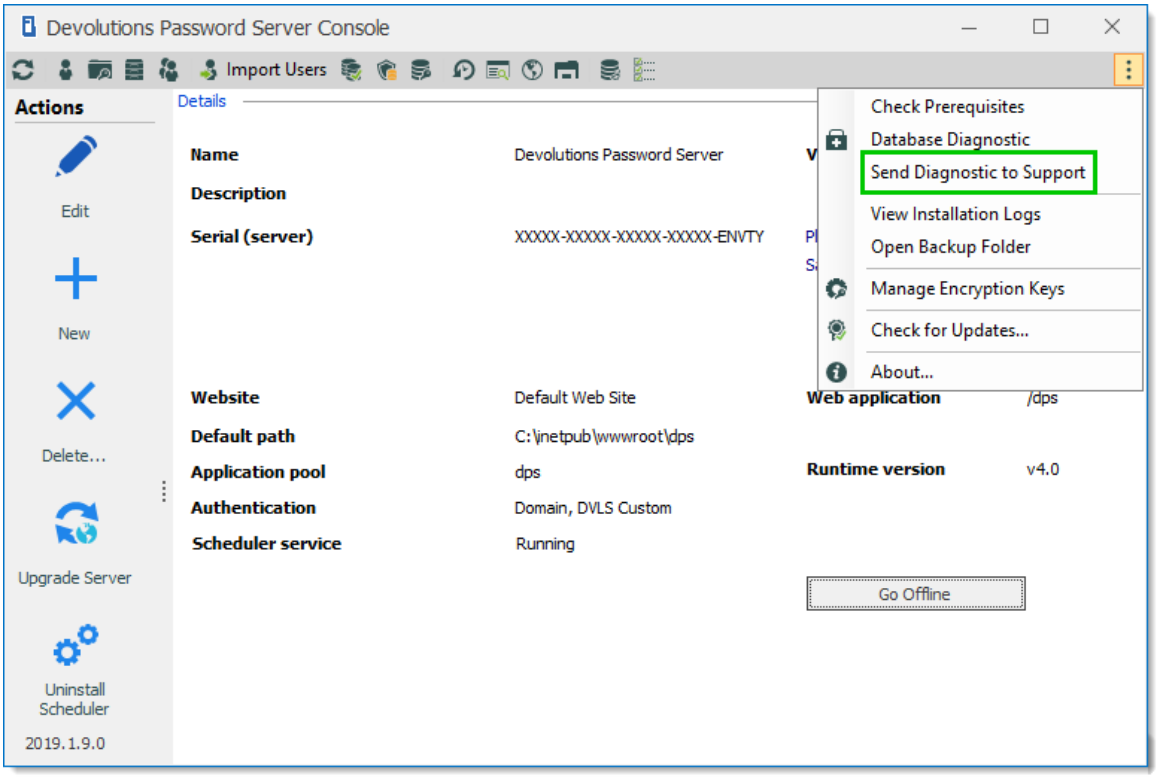
Database Diagnostic Dialog

4.1.3.3 Send Diagnostic to Support

DESCRIPTION

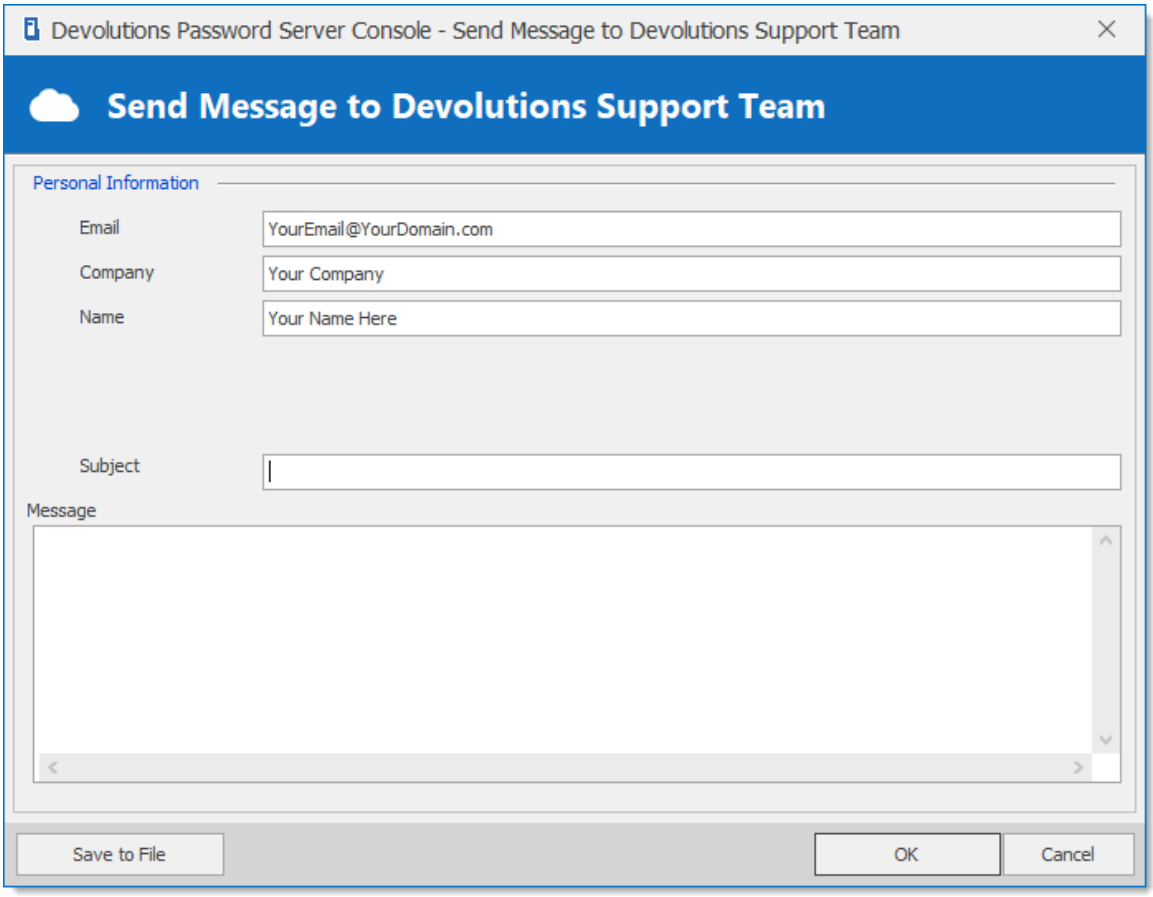
The **Send Diagnostic to Support** feature sends a diagnostic report that contains the configuration of the Devolutions Password Server to our support team.

From the Devolutions Password Server Console, click on the ellipsis button on the right corner and select **Send Diagnostic to Support**.



Advanced Menu

Fill in the field and click on the **OK** button.



Send Diagnostic Report Dialog

SETTINGS

OPTION	DESCRIPTION
Email	Write in your email address.
Company	Write in your company name.
Name	Write in your full name.
Subject	Write in a subject line for the report.
Message	Add any further details in the message box.

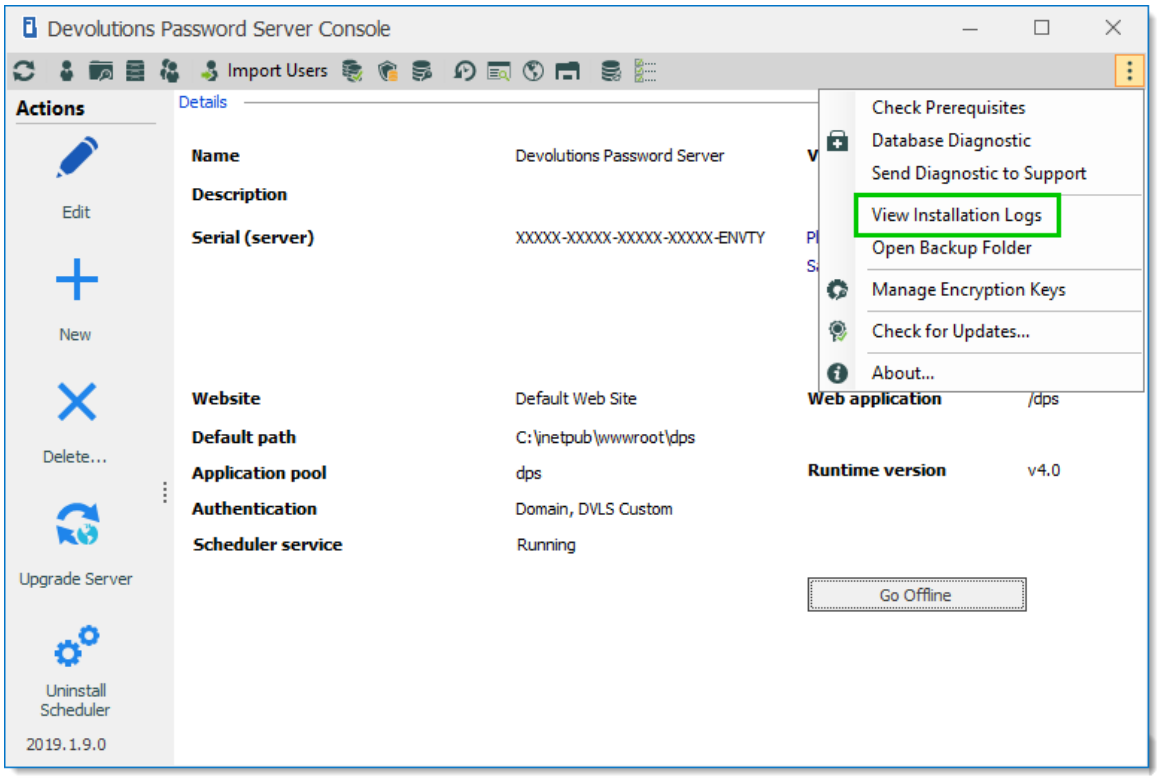
OPTION	DESCRIPTION
Save to File	Save the diagnostic report in a text file. Useful when the computer doesn't have internet access.

4.1.3.4 View Installation Logs

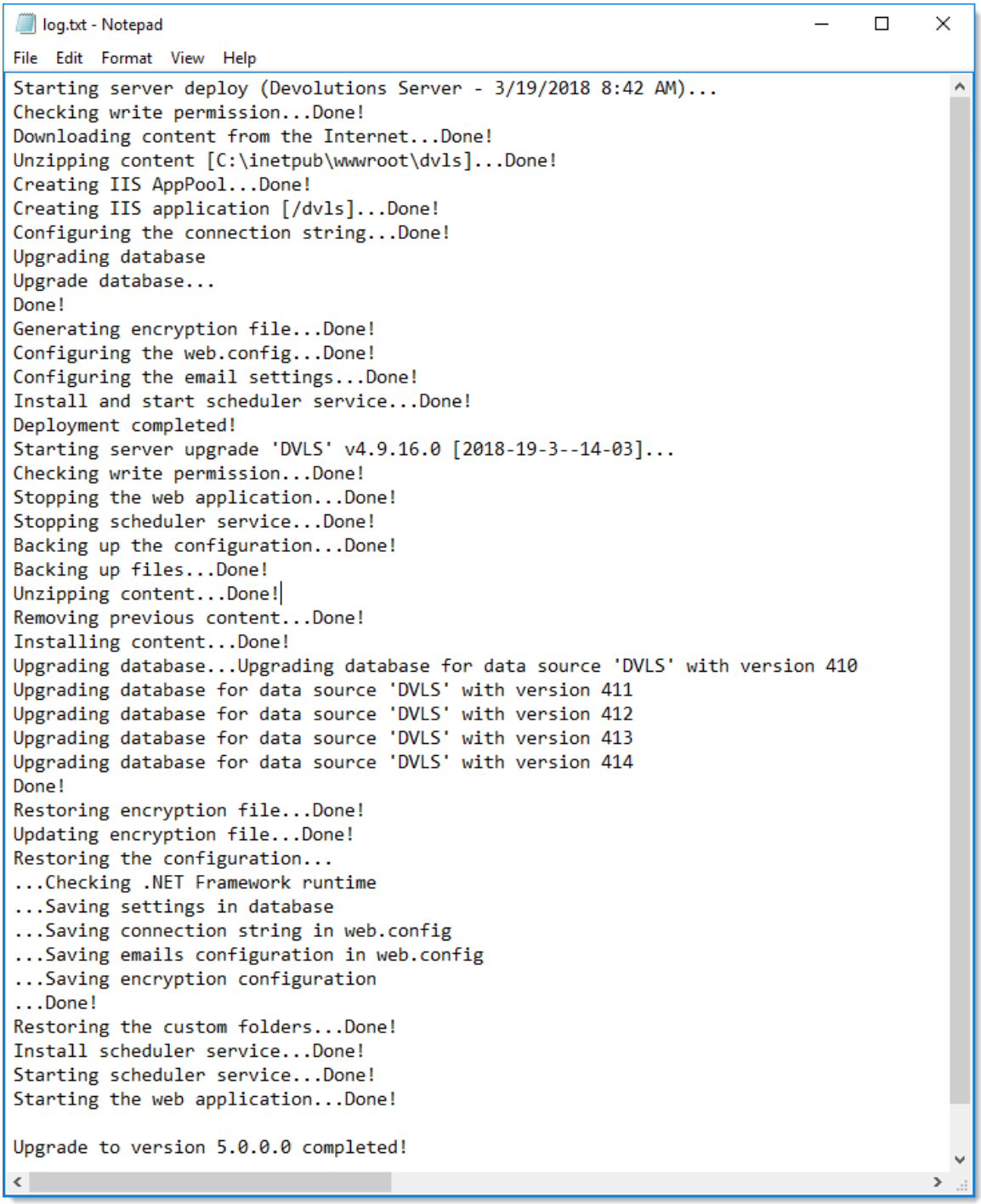
DESCRIPTION

This will open the **log.txt** file that includes the steps of the installation/upgrade process.This file will grow along the different upgrades of the Devolutions Password Server instance.

From the Devolutions Password Server Console, click on the ellipsis button on the right corner and select **View Installation Logs**.



Advanced Menu



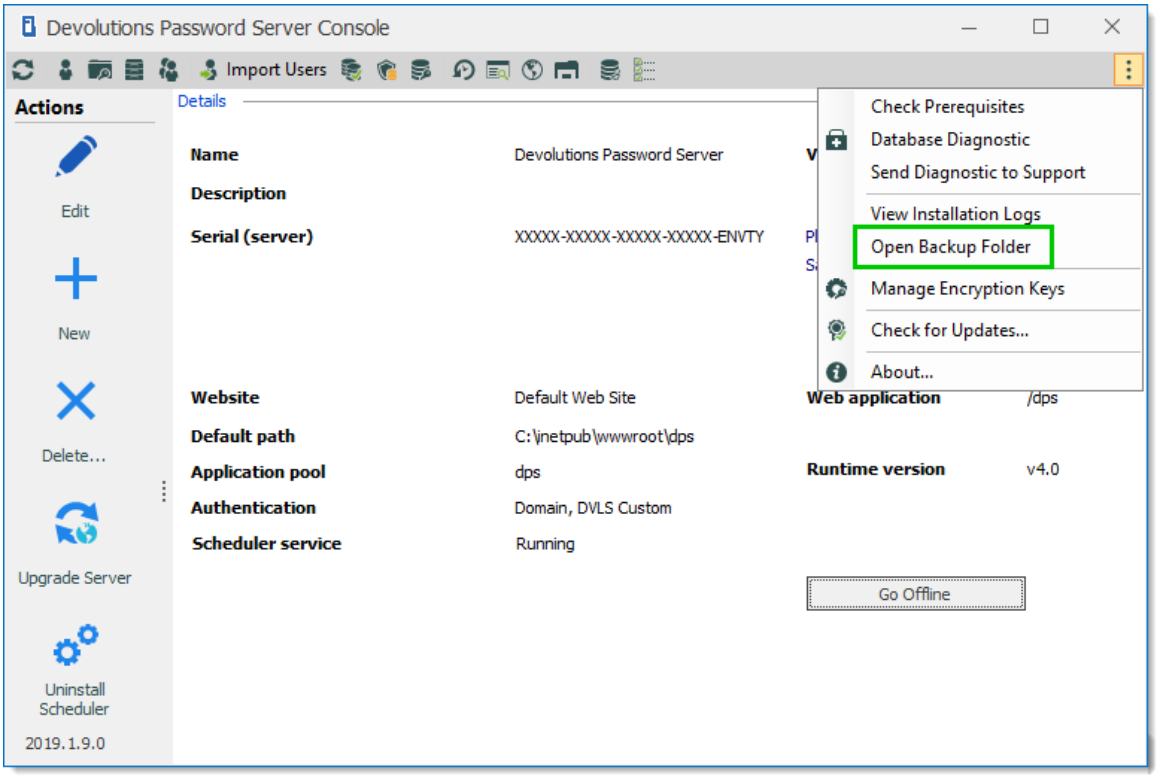
Installation/Upgrade Logs File

4.1.3.5 Open Backup Folder

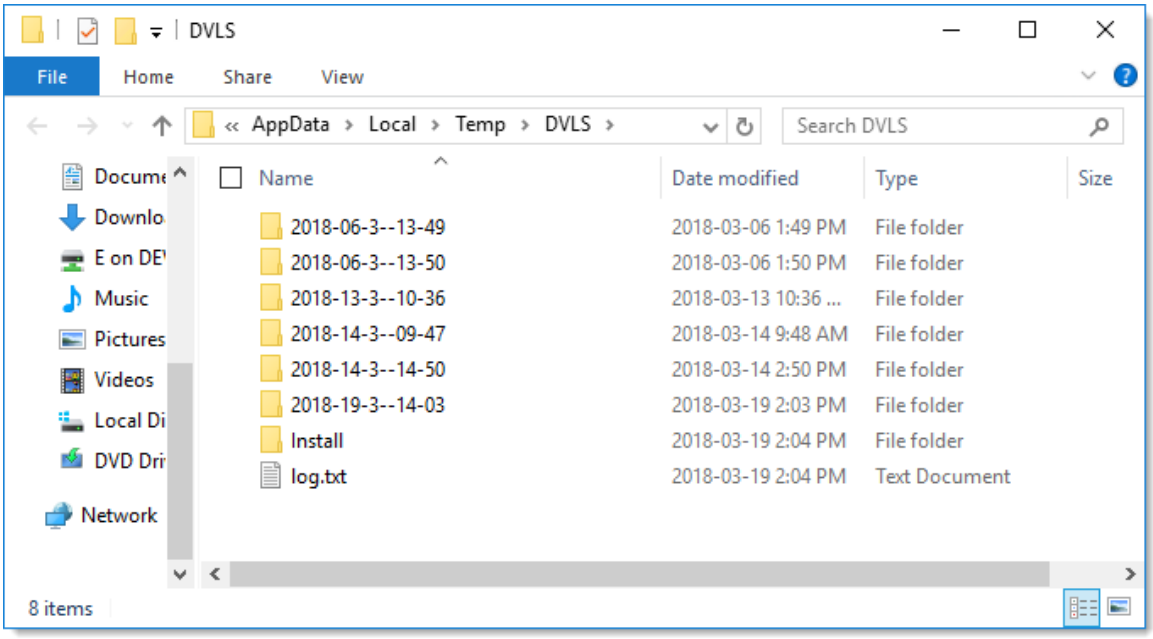
DESCRIPTION

It will open the Windows File Explorer in the folder where the backup of the Devolutions Password Server instance was saved during the upgrade process. The DVLS folder is normally located in ***%LOCALAPPDATA%\Temp***.

From the Devolutions Password Server Console, click on the ellipsis button on the right corner and select **Open Backup Folder**.



Advanced Menu

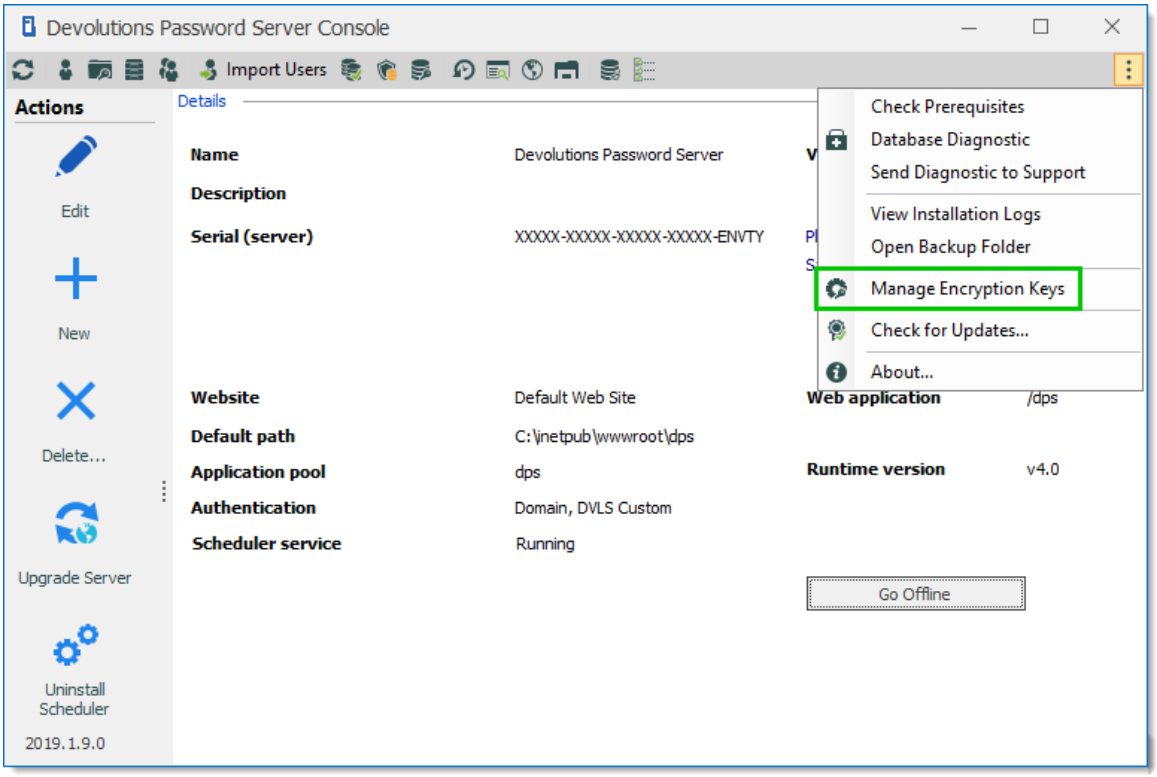


Backup Folder

4.1.3.6 Manage Encryption Keys

DESCRIPTION

From this dialog, it is possible to manage the different encryption keys used by Devolutions Password Server.



Advanced Menu

Manage Encryption Keys Dialog

SETTINGS

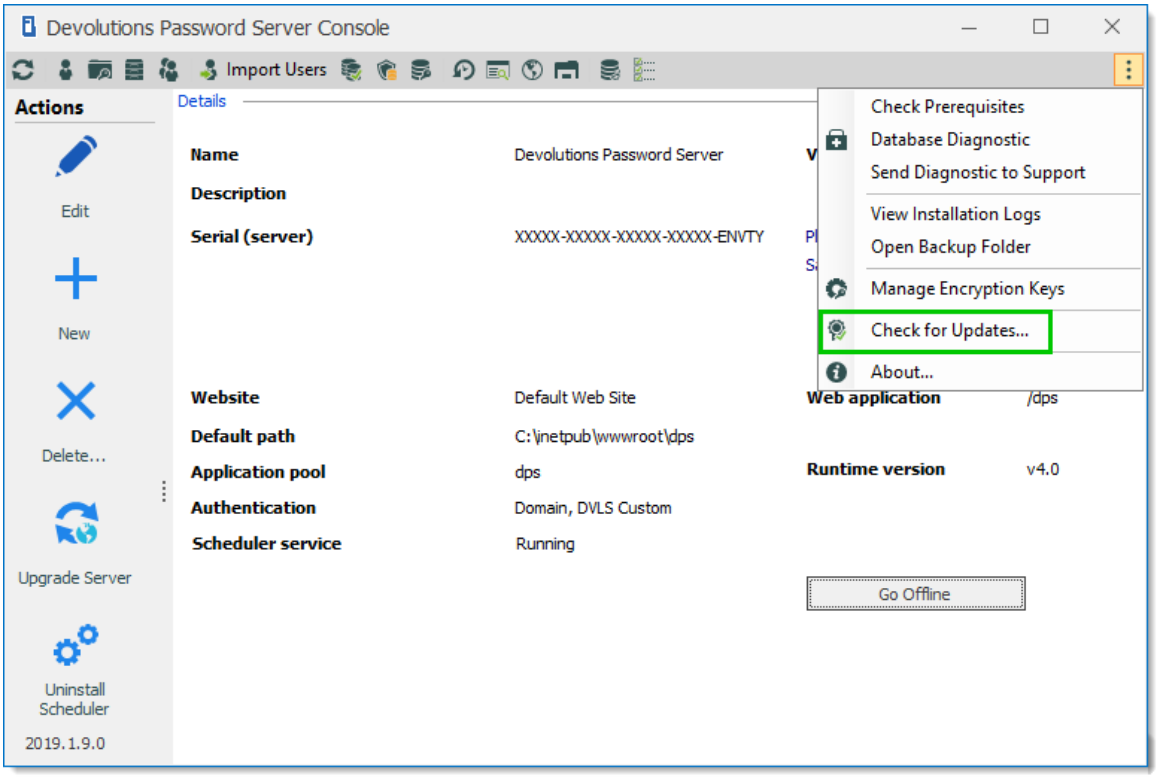
Importing or regenerate will encrypt the data in the SQL database. Be sure to backup the SQL database before. If the Devolutions Password Server is deployed in a High Availability or Load Balancing topology, the encryption keys must be the same on all Devolutions Password Server instances connected on the same SQL database.

OPTION	DESCRIPTION
Operation	• Export : Allows to export the encryption keys in a .bin file. • Import : Allows to import the encryption keys from a .bin file. • Regenerate : Allows to regenerate the encryption keys.
Login Key	The encrypted key used by Devolutions Password Server for logins.
Token Storage Key	The encrypted key used by Devolutions Password Server for the token.
Security provider configuration	The encrypted key used by Devolutions Password Server for the Security Provider configuration.
Password	The password required to export the encryption keys into a file or import them from a file.

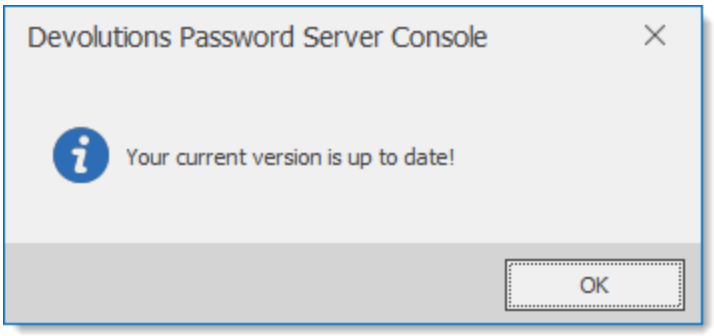
4.1.3.7 Check for Updates

DESCRIPTION

Will check if the Devolutions Password Server Console version is up to date.



Advanced Menu

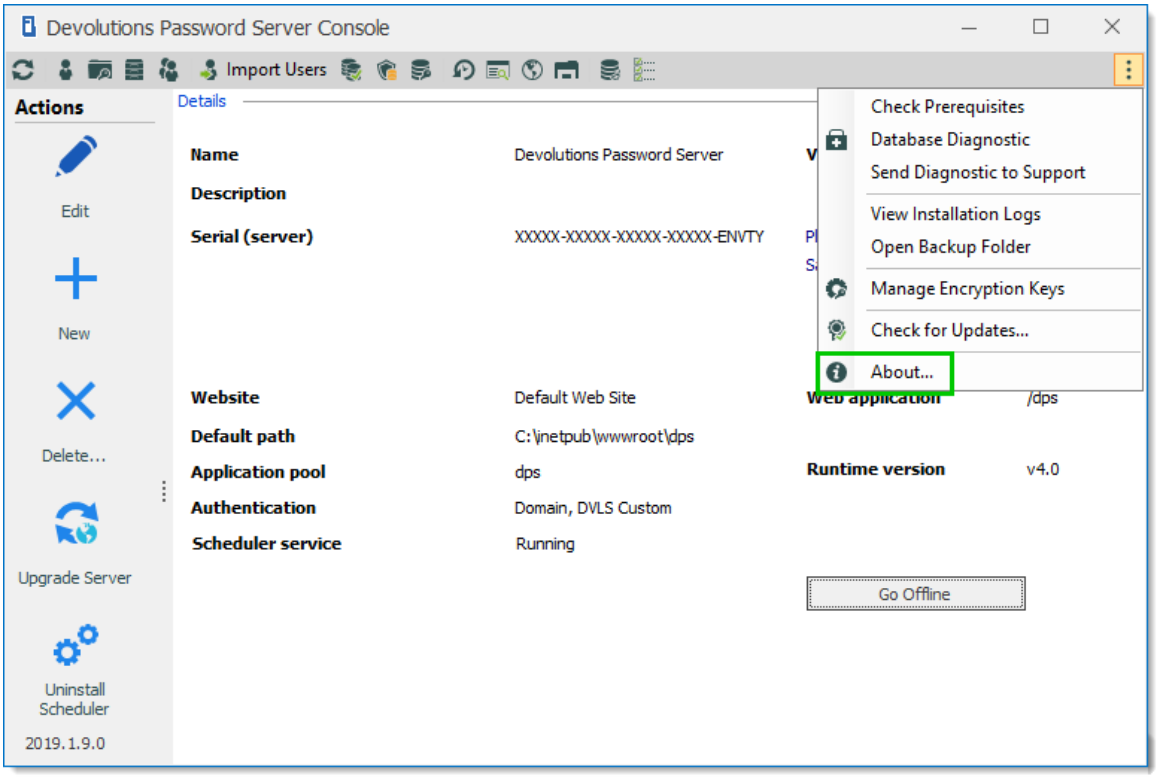


Check for Updates Dialog

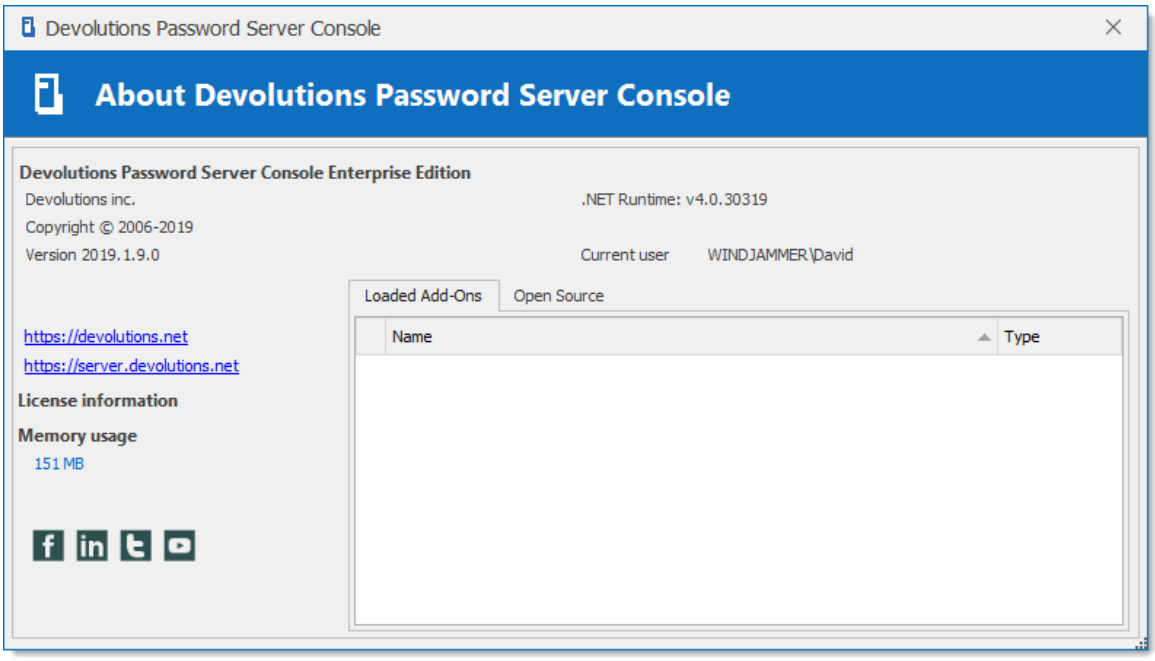
4.1.3.8 About

DESCRIPTION

Will display the current **About** dialog that contains the Devolutions Password Server Console version and some other information about the current machine.



Advanced Menu

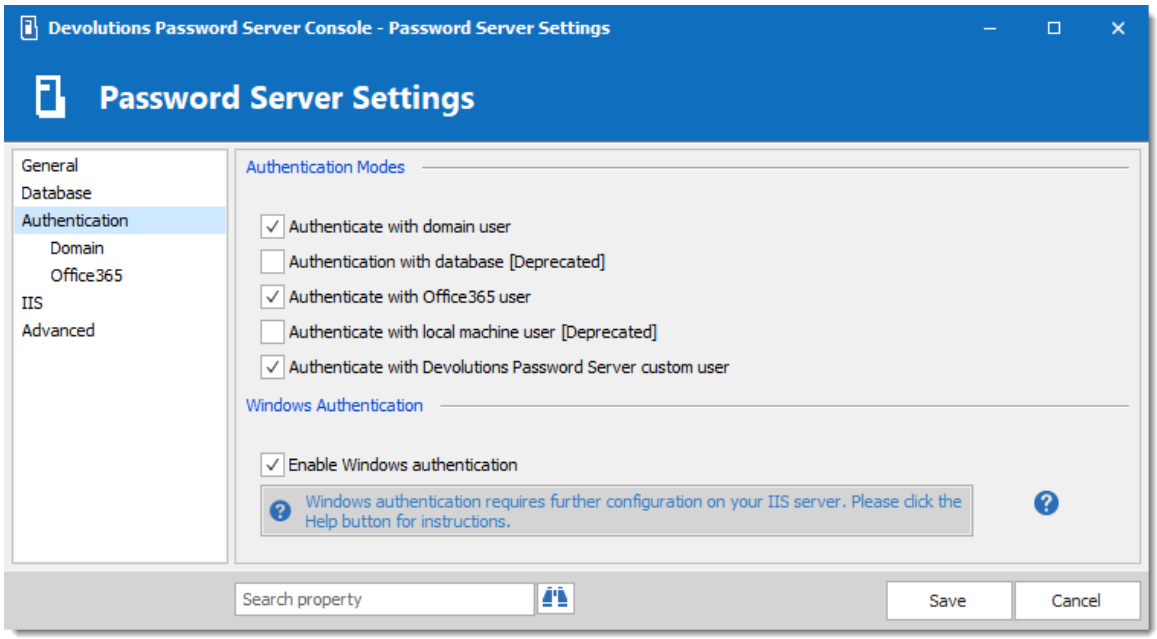


About Dialog

4.2 Authentication

DESCRIPTION

Devolutions Password Server supports multiple authentication modes.



Authentication Tab

SETTINGS

AUTHENTICATION MODES

OPTION	DESCRIPTION
Authenticate with domain user	The domain is used to authenticate the user.
Authenticate with database user	The database is used to authenticate the user. This authentication method is now identified as deprecated.
Authenticate with Office365 user	AzureAD is used to authenticate the user.

OPTION	DESCRIPTION
Authenticate with local machine user	The application allows a local user to be authenticated on the server. This authentication method is now identified as deprecated.
Authenticate with Devolutions Password Server custom user	The Devolutions Password Server is used to authenticate the user. You must create the initial user through the console.

WINDOWS AUTHENTICATION

OPTION	DESCRIPTION
Enable Windows Authentication	The application will use the current Windows authenticated user to authenticate to the Devolutions Password Server instance.

AUTOMATIC USER ACCOUNT CREATION

When using authentication modes other then **Active Directory**, user accounts must be created beforehand in order to grant access to the system.

When you are using **Active Directory** authentication, two choices are offered to you:

1. Create the user accounts manually, just as with the other authentication modes

   or

2. Enable **Automatic Account Creation**, and let Devolutions Password Server create user accounts as soon as they are authenticated by the domain the instance is linked to.

After the account is created, rights and permissions are assigned either manually to the user account, or through membership in AD groups for which you have created a role mapping.

User accounts created by the server have no rights other then logging on the system. They will be able to see and edit the resources that have **no security** defined. You must ensure that all entries are protected. This is achieved easily by setting all permissions of the Root Settings to **Never**.

Depending on the authentication mode used, the username may be prefixed by the domain name, and the exact naming convention is controlled by the domain. For instance, for a **WINDJAMMER** domain that is registered as **windjammer.loc**, we have no way of knowing beforehand what form will be reported by the AD services. It is recommended to always enable both Devolutions Password Server authentication initially and create an Administrator account for the initial phase of implementation.

4.3 Security

DESCRIPTION

The **Security** section of the Devolutions Password Server Console allows you to manage your instance. These management features are exactly the same as the one offered under the **Administration** tab of the various Desktop Clients (such as Remote Desktop Manager), **when they are connected to that instance through a Data source**.

Since the latter is the one you will spend most of your time using, whenever a new instance is created, we recommend creating an administrative user, then register the instance as a data source in your Desktop Client of choice. This will bring you in a more familiar territory and will help you get around more quickly.

If you are indeed using full AD integration, whereas the assignment of permissions comes mostly from AD Group membership, then the roles are the mechanism that make this work.

The sections below are to cover the basic management features if you cannot use a desktop client.

- User Management
- Role Management

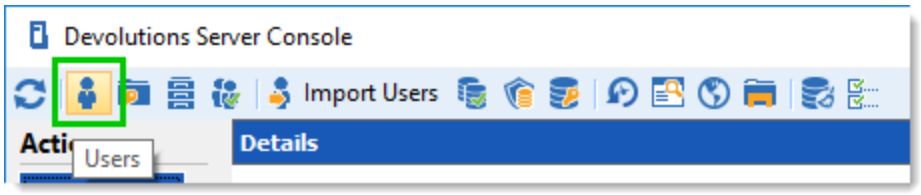
- Vault Management

4.3.1 User Management

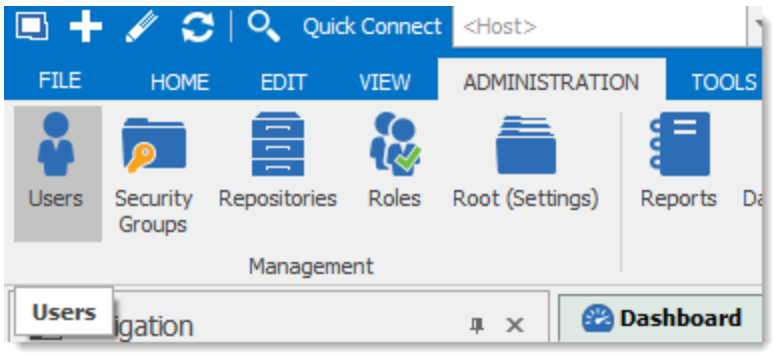
DESCRIPTION

In order to create users and assign rights, you must be administrator of not only Devolutions Password Server, but also of the underlying database.

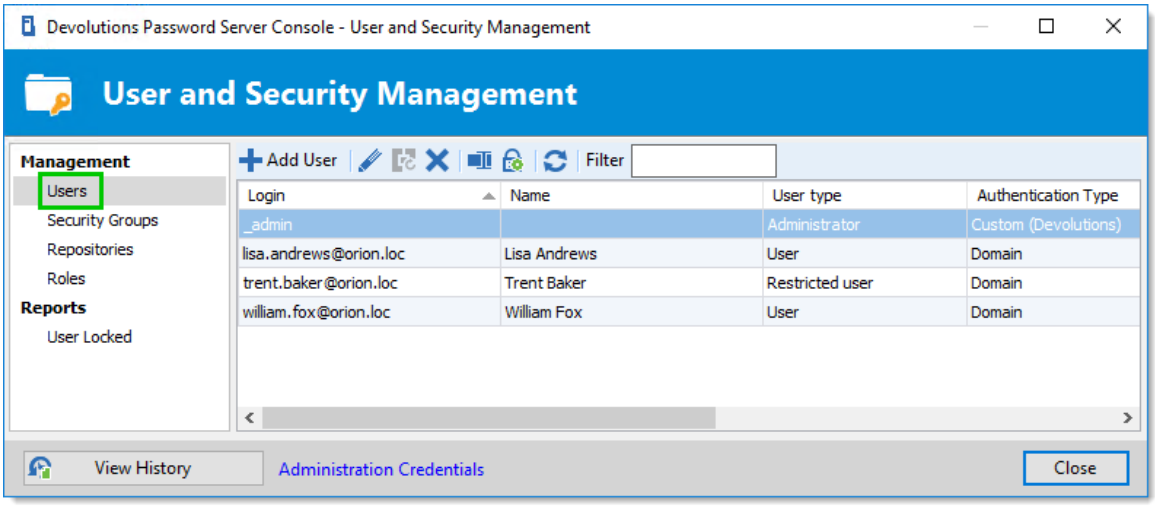
The **User Management** is available from ***Administration - Users*** within Remote Desktop Manager or on the toolbar of the Devolutions Password Server Console. **User Management** allows you to create and manage users and their permissions. Devolutions Password Server offers advanced user rights management that allows for restricting access to entries. Please note that some features availability depends on the active data source.



Manage Users in Devolutions Password Server Console



Manage Users in Remote Desktop Manager

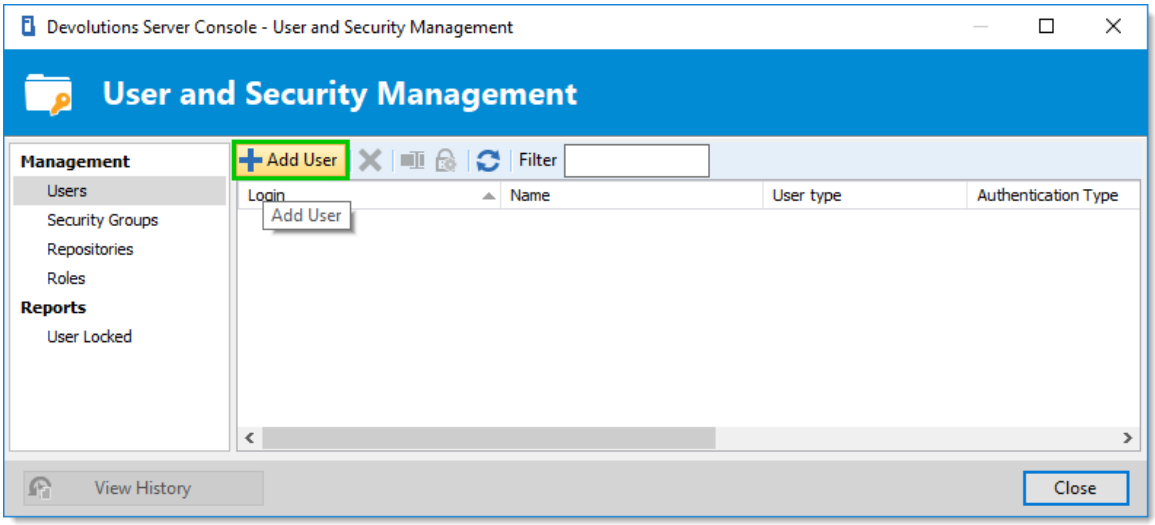


Users Management Dialog

SETTINGS

CREATE USERS

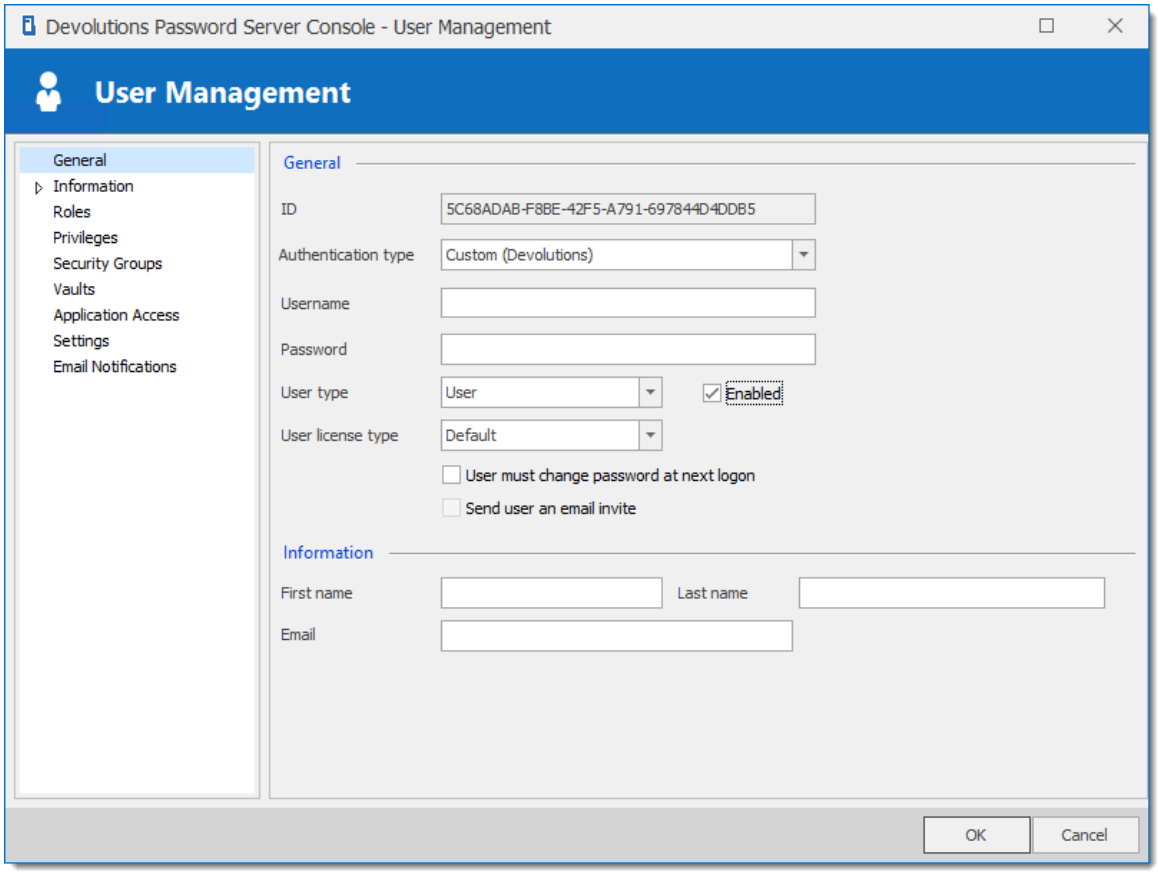
To create a new user in your data source click on **Add User**.



User Management - Add User

USER MANAGEMENT SETTINGS

GENERAL



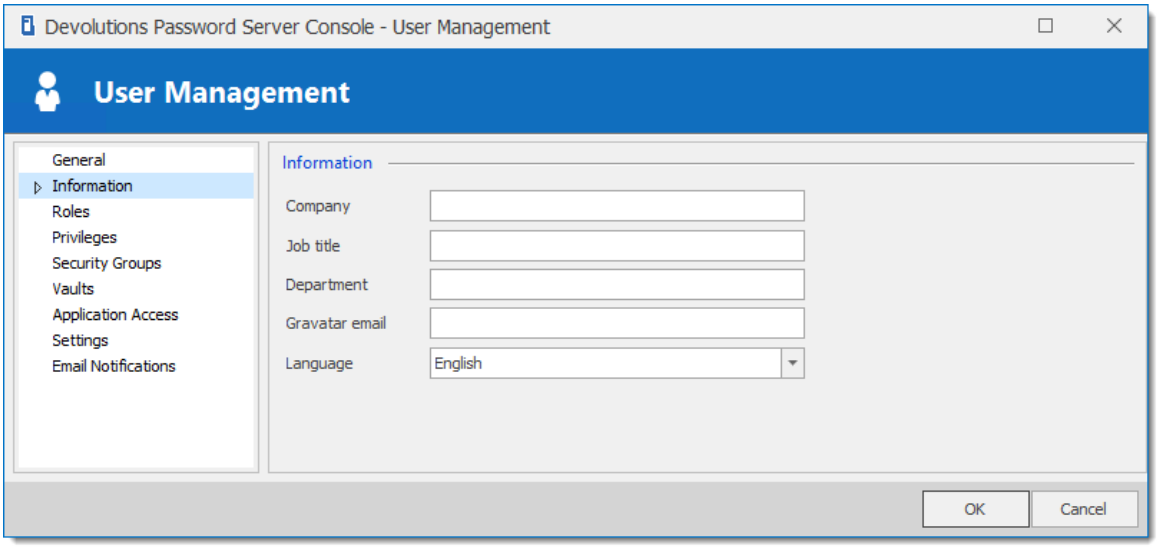
User Management - General

OPTION	DESCRIPTION
Authentication type	Select the user's authentication type: • **Custom (Devolutions)**: create a user specific to Devolutions Password Server without creating an SQL login. • **Domain** : authenticate using the Active Directory user account. • **Database (SQL Server)**: authenticate using the SQL login from your SQL Server.

OPTION	DESCRIPTION
Username	Enter the login name for the user.
Password	Enter the user's Password. This field is only enable using Custom (Devolutions).
User type	Select the type of user to create: Select between: • **Administrator:** grant full administrative rights to the user. • **Read only user:** grant only the **View** access to the user. • **Restricted user:** select which rights to grant to the user. • **User:** grant all basic rights to the user (Add, Edit, Delete).
First and Last name	Displays the **First name** and **Last name** of the **Information** tab.
Email	Insert the user's email address.

INFORMATION

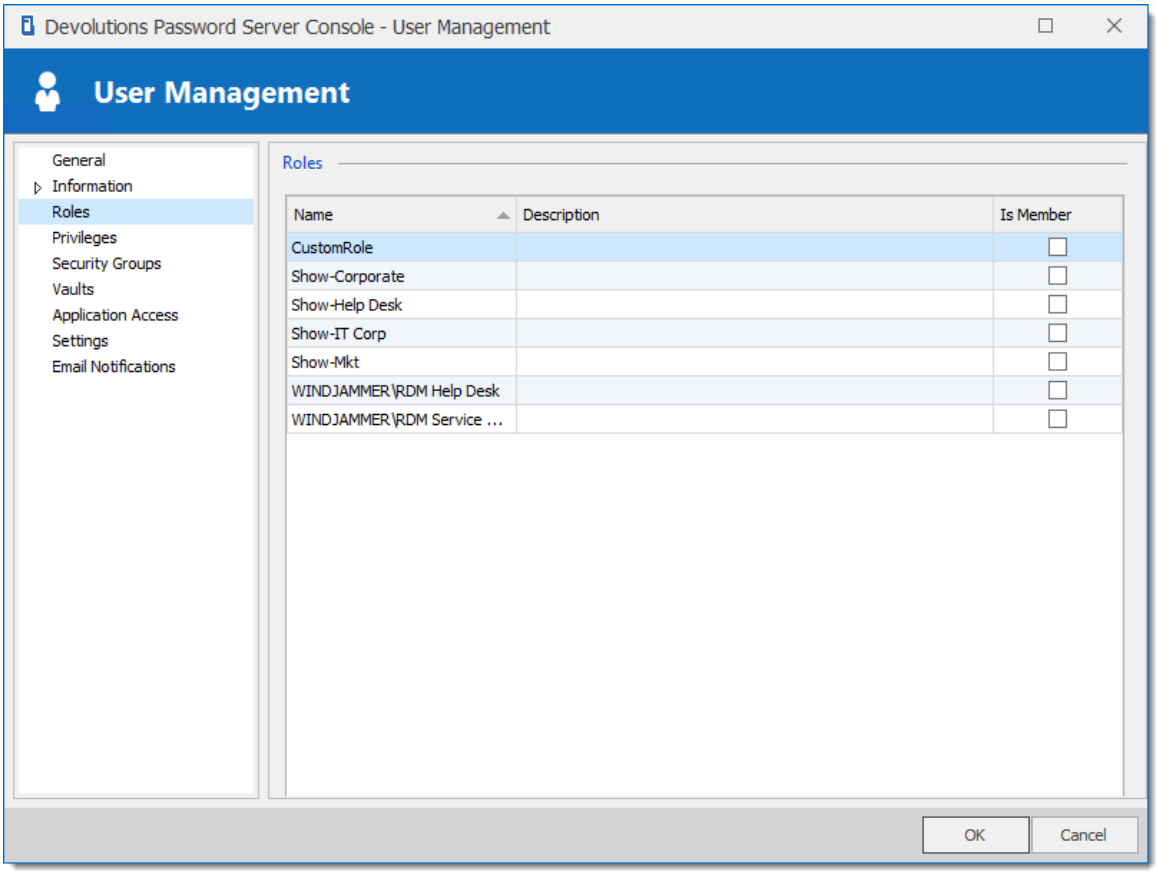
The **Information** section allows for storing information regarding the users, such as their name, address, and more. The Information section is divided in three sub-sections: **Details, Address, Phone**.



User Management - Information

ROLES

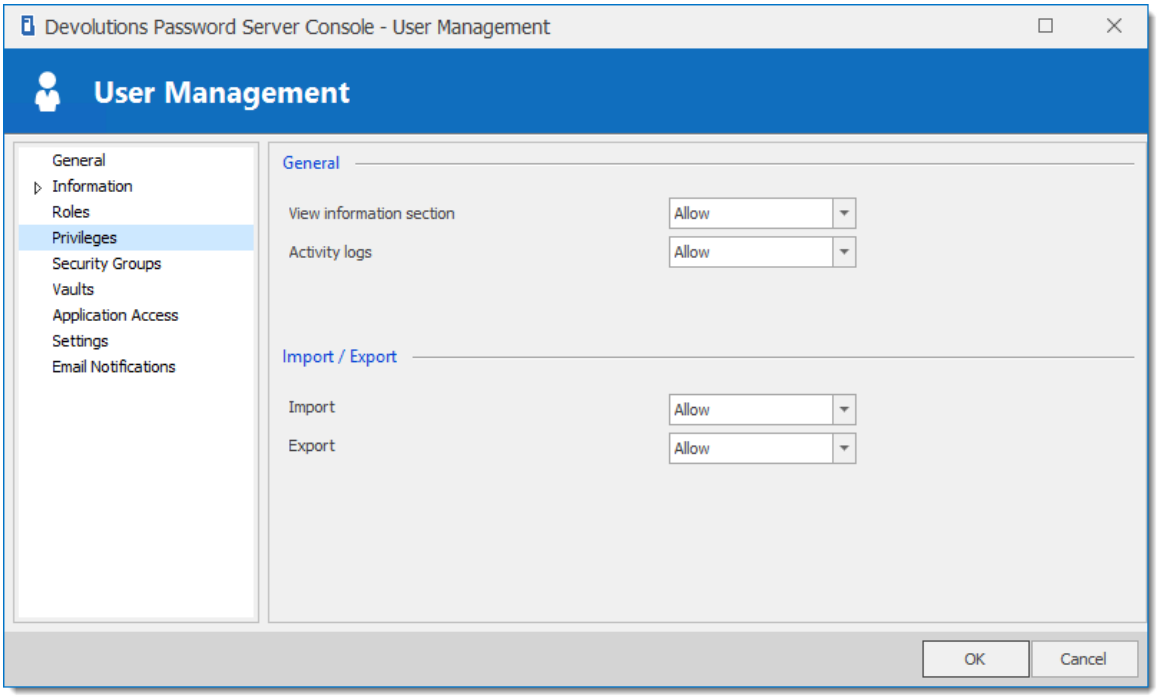
Select roles to assign to the user.



User Management - Roles

OPTION	DESCRIPTION
Roles	Check the **Is Member** box to assign the role to the user. Consult Role Management topic for more information.

PRIVILEGES



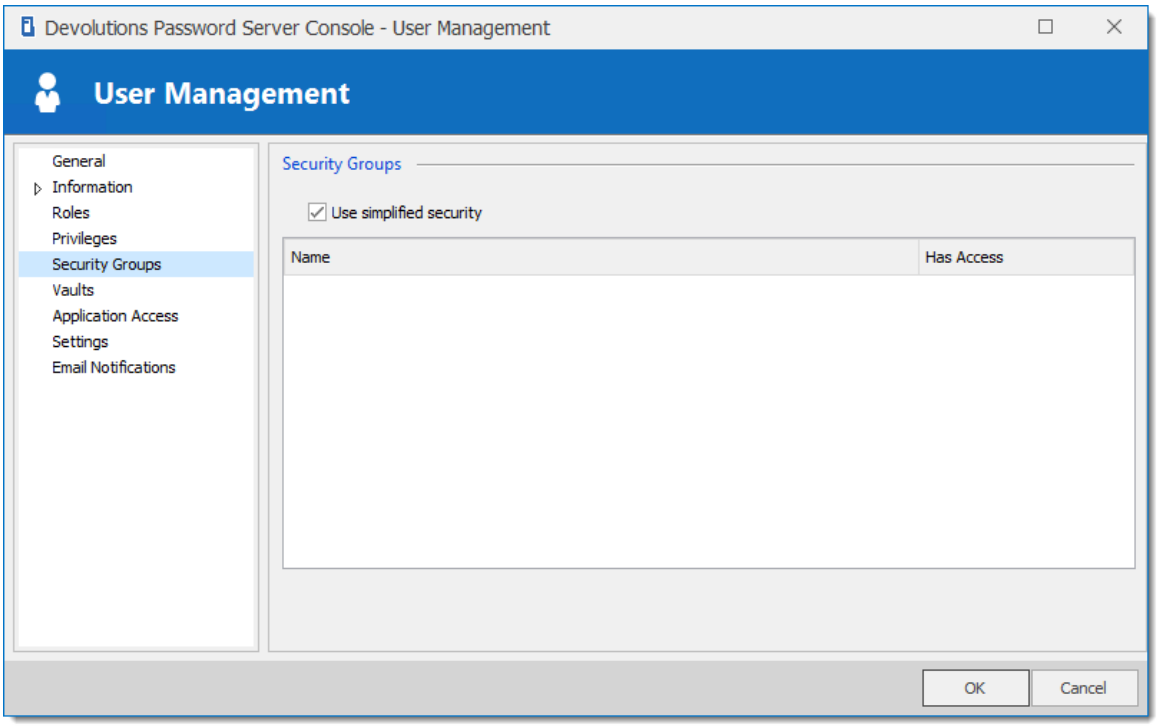
User Management - Privileges

OPTION	DESCRIPTION
View information section	Allows the user to see the content of the Information tab for all sessions.
Activity logs	Allows the user to see the content of the Logs that applies to a session.
Import	Allows the user to Import sessions (Clipboard - **Paste** as well). The import menu (***File - Import***) and the import feature in the context menu will be grayed out if the option is not active.
Export	Allows the user to Export sessions (Clipboard - **Copy** as well). The export menu (***File - Export***) and the export feature in the context menu will be grayed out if the option is not active.

SECURITY GROUPS (LEGACY)

The **Security Groups** section manages permissions with **Security Groups**.

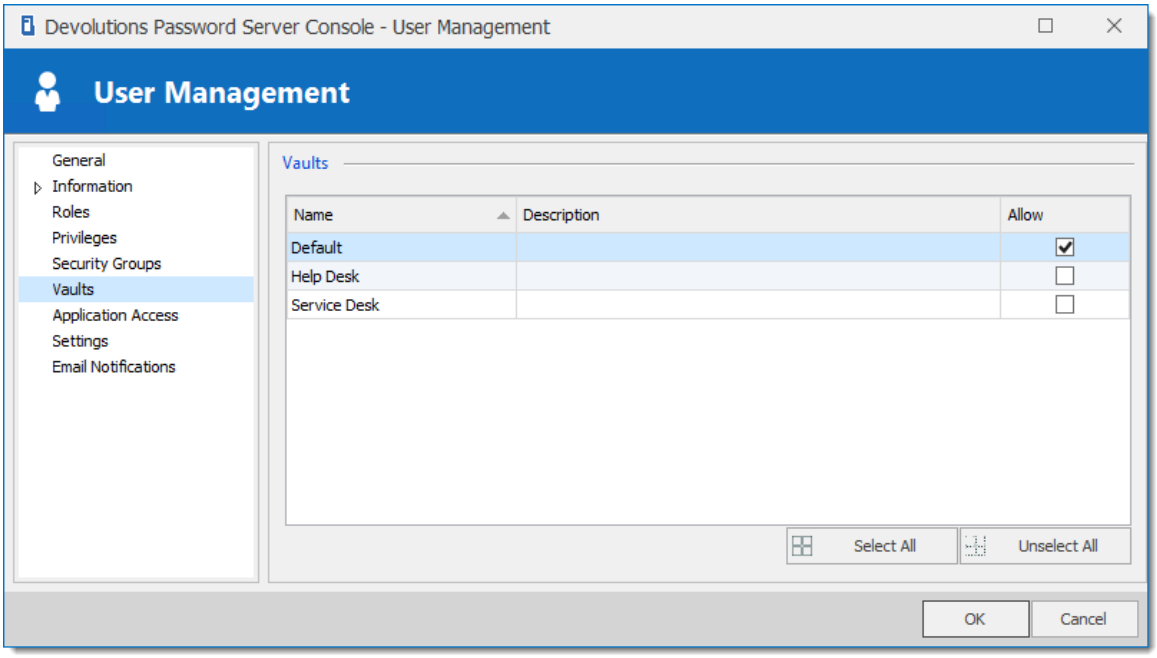
We do not recommend using this method, it is now considered a Legacy setting and is best replaced by the Role Management.



User Management - Security Groups

VAULTS

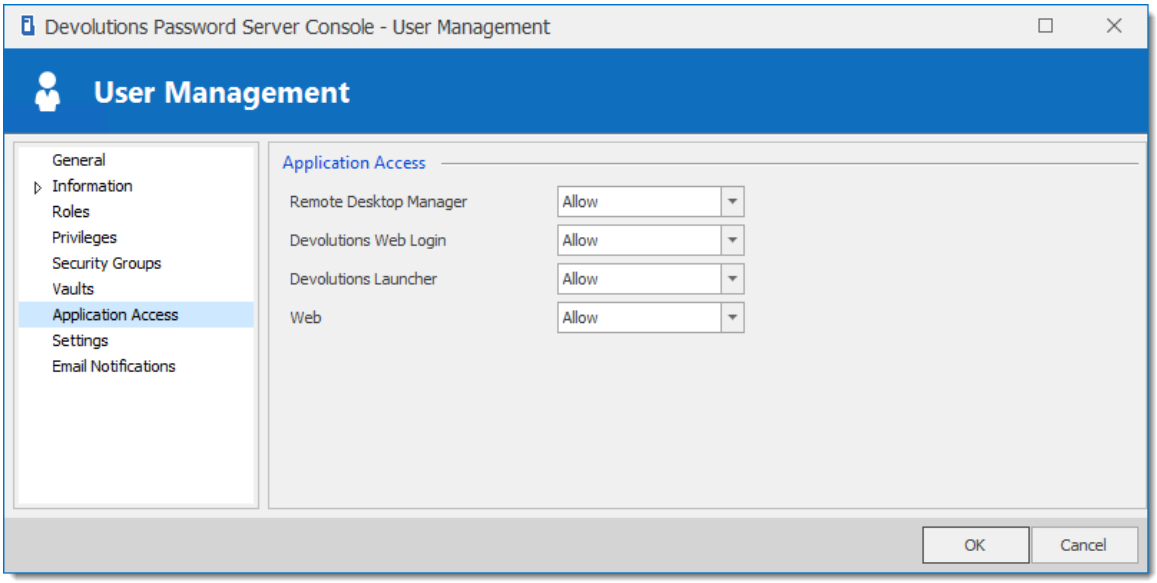
Select which **Vaults** the user has access to.



User Management - Vaults

APPLICATION ACCESS

Select which application the user will be allowed to use.

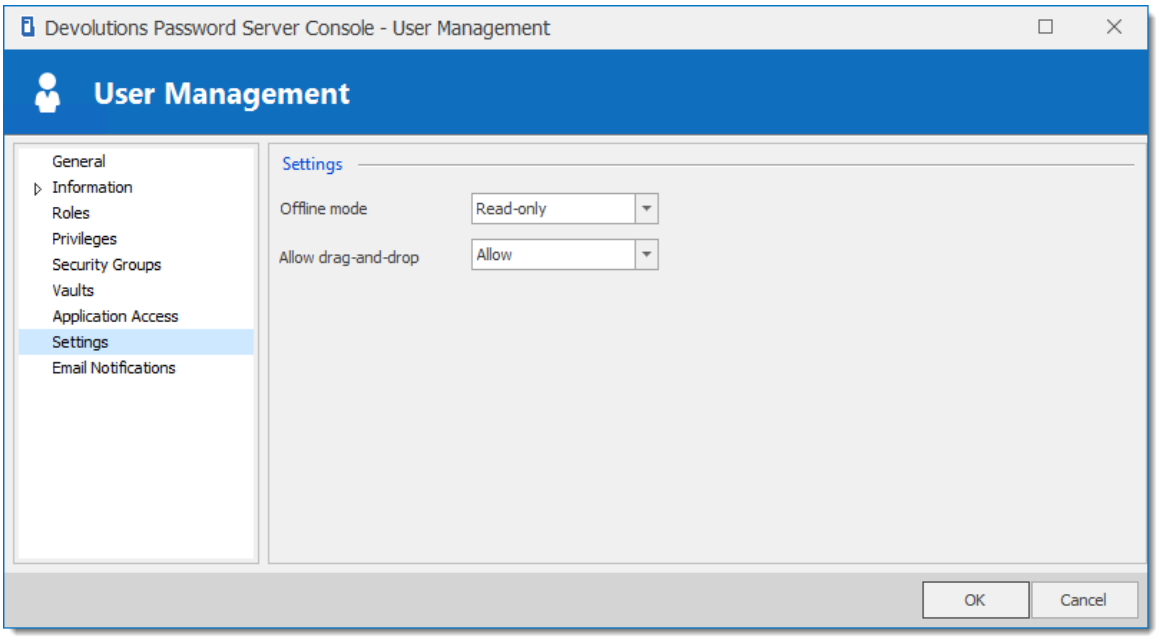


User Management - Application Access

OPTION	DESCRIPTION
Remote Desktop Manager	Allows the user to connect to Devolutions Password Server instance using Remote Desktop Manager application.
Devolutions Web Login	Allows the user to connect to Devolutions Password Server instance usingDevolutions Web Login browser extension.
Devolutions Launcher	Allows the user to connect to Devolutions Password Server instance using Devolutions Launcher.
Web	Allows the user to connect to the Web Interface of Devolutions Password Server.

SETTINGS

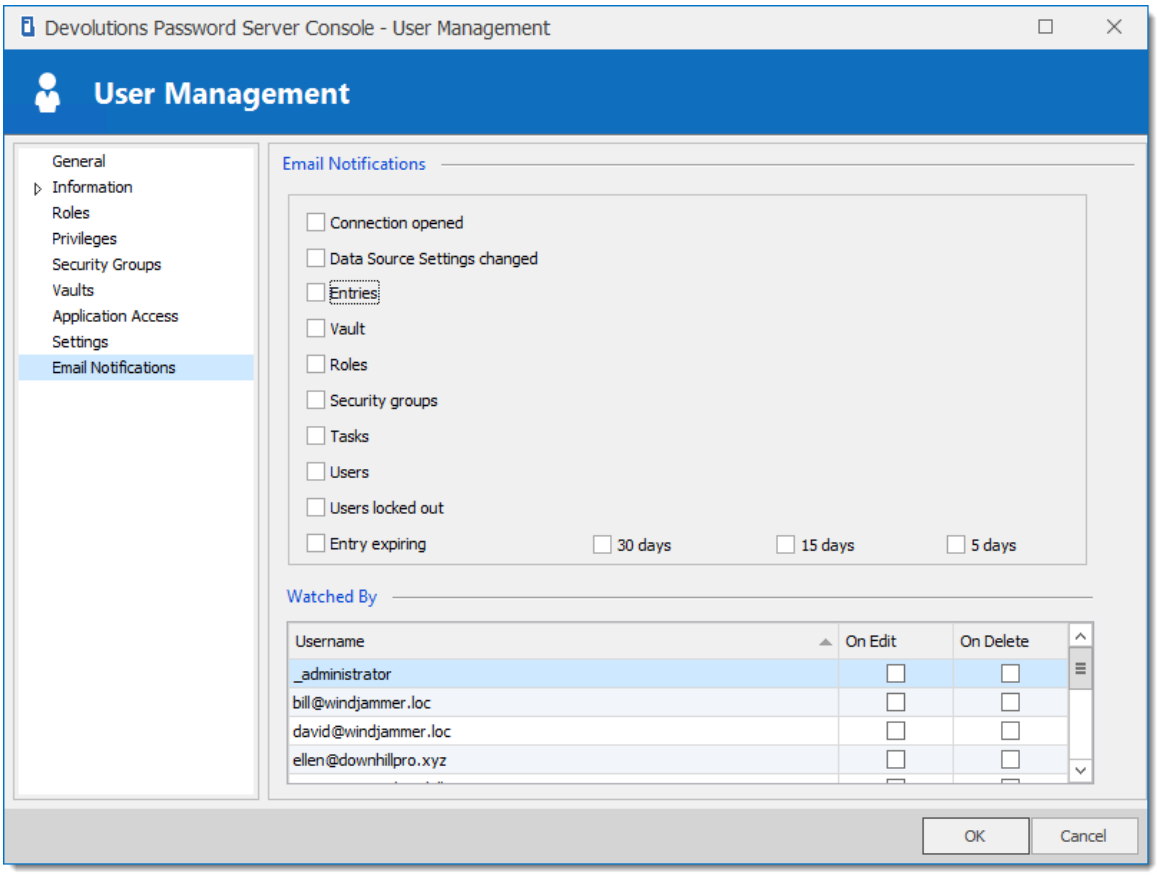
Allow the user to enable the Offline Mode and whether or not they can use the Drag-n-Drop feature.



User Management - Settings

EMAIL NOTIFICATIONS

Email Notifications are used to send email notifications to specific users. These notifications include any activities on sessions, security groups, roles, users, etc. The notifications will be sent whenever the selected event occurs.



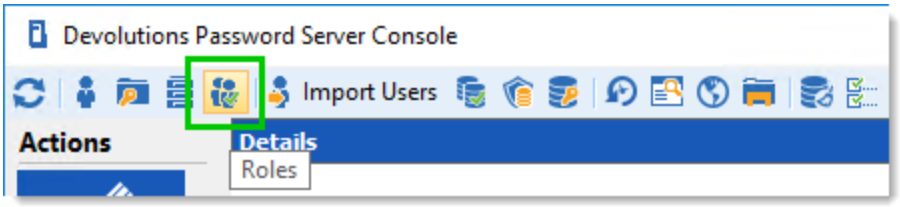
User Management - Email Notifications

4.3.2 Role Management

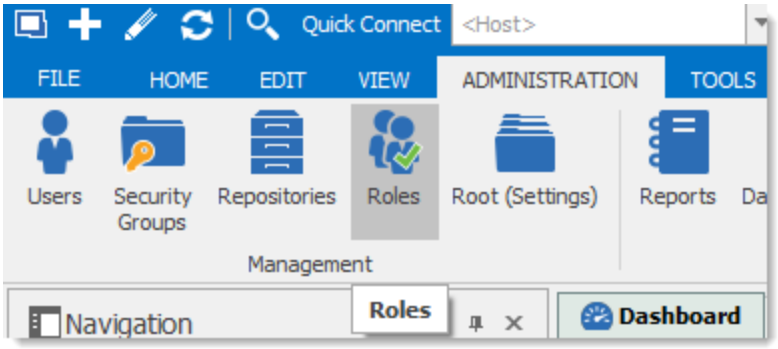
DESCRIPTION

Active Directory groups must be created before creating Roles.

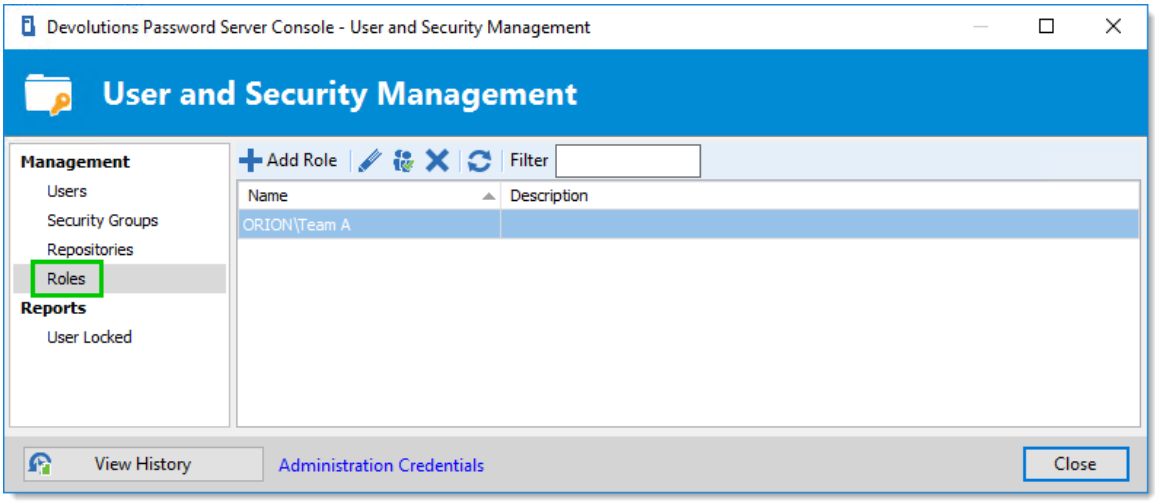
Roles in Devolutions Password Server are mainly used to reduce the time taken to manage users. The management of permissions granted to roles are quite similar to the corresponding notions for users, but instead of a single user, they apply to all users to which you've assigned the role. This allows the server to link an Active Directory (AD) group to a role in Devolutions Password Server. Once a domain user logs in the Devolutions Password Server data source, their user account will be created if needed and users rights will be controlled by the defined groups.



Manage Roles in Devolutions Password Server Console



Manage Roles in Remote Desktop Manager

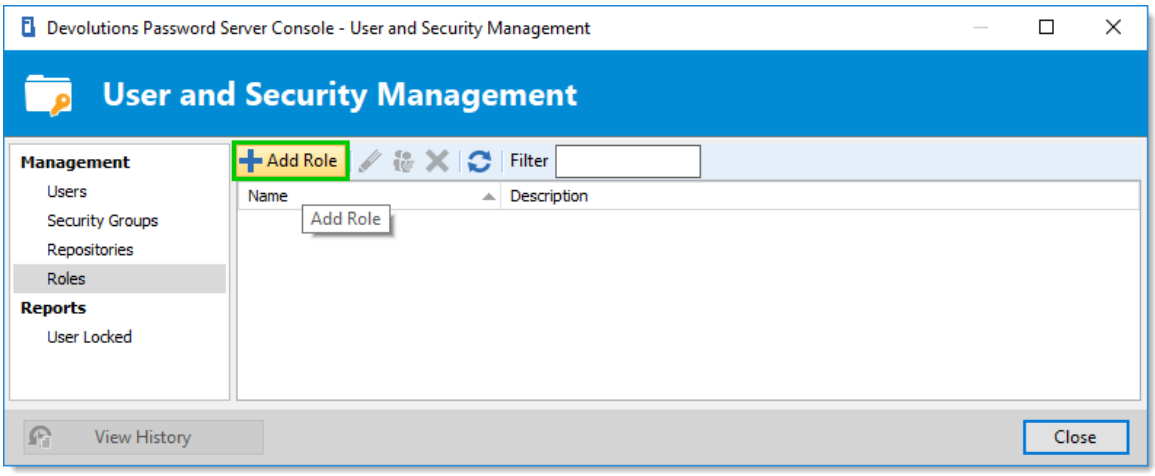


Roles Management Dialog

SETTINGS

CREATE ROLES

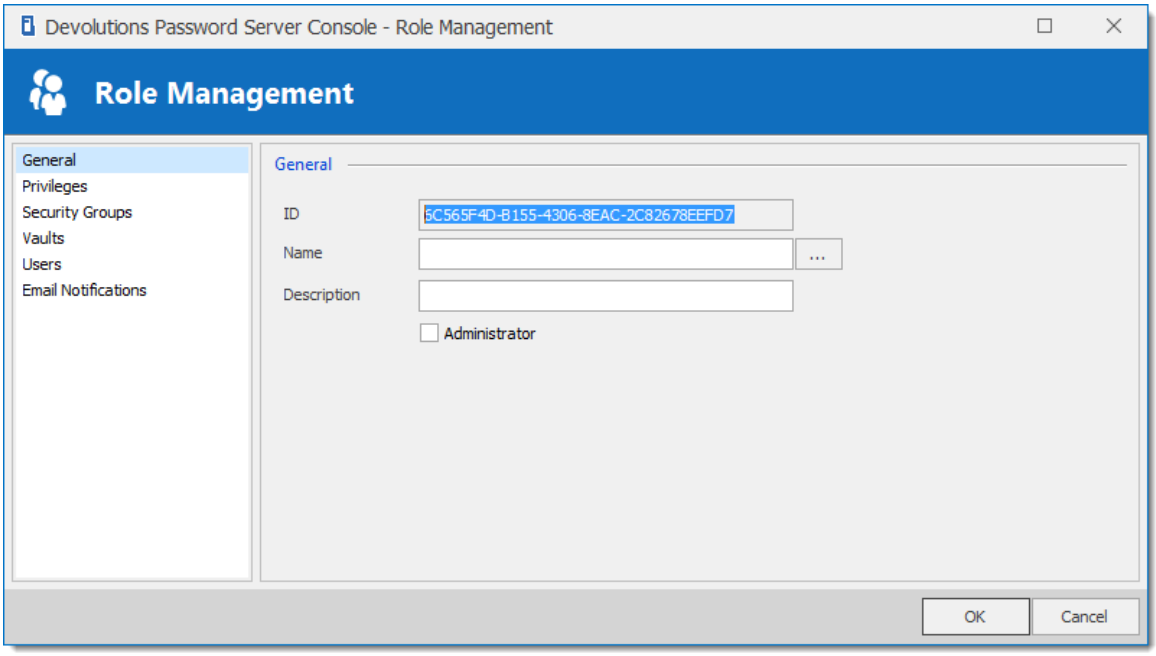
To create a new role in your data source click on **Add Role**.



Role Management - Add Role

ROLE MANAGEMENT SETTTINGS

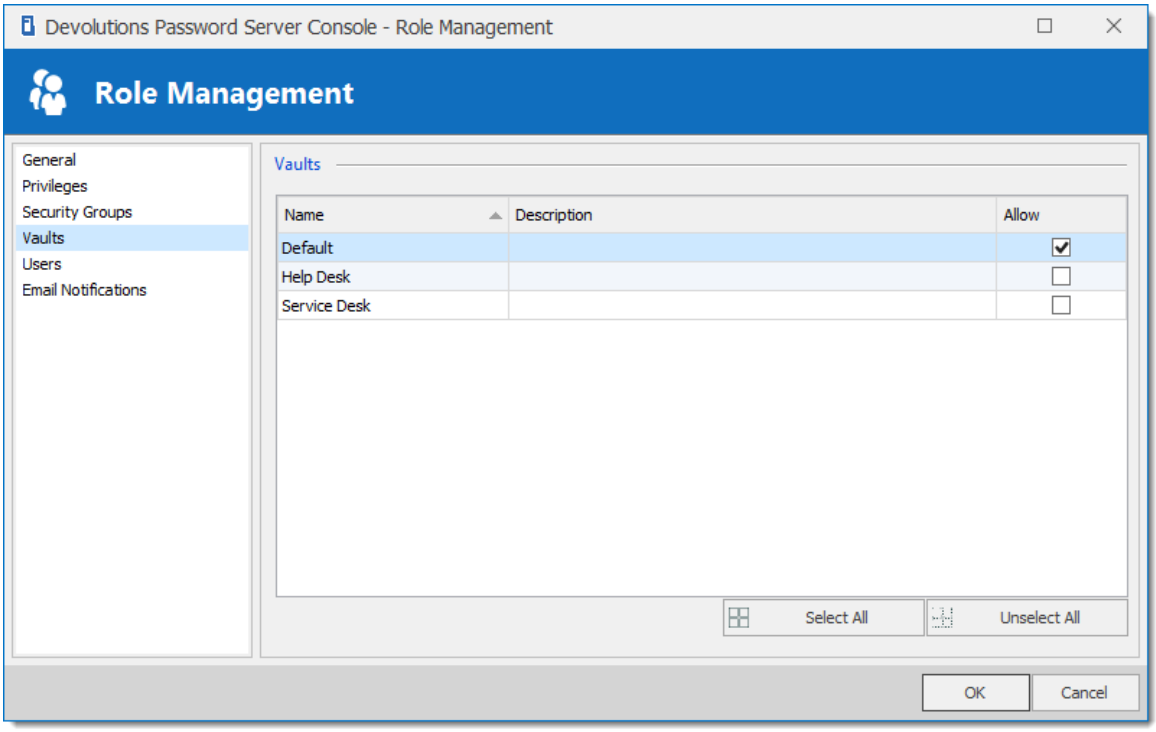
GENERAL



Role Management - General

OPTION	DESCRIPTION
Name	Enter a name for your new Role. The ellipsis button on the right allows to browse the Active Directory structure to select an Active Directory Group as the name of the new Role.
Description	Enter a short description of your new Role.
Administrator	If enabled, the Role is set with Administrator privileges and all users bind to this role will inherit Administrator privileges in Devolutions Password Server.

VAULTS

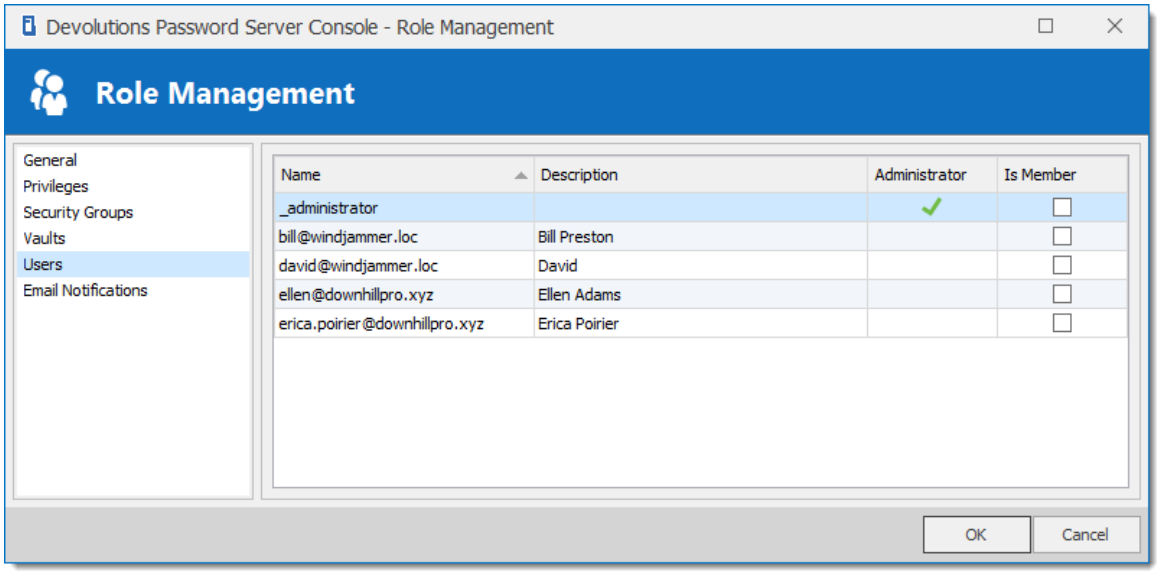


Role Management - Vaults

OPTION	DESCRIPTION
Vaults	Consult the Vaults topic for more information.

USERS

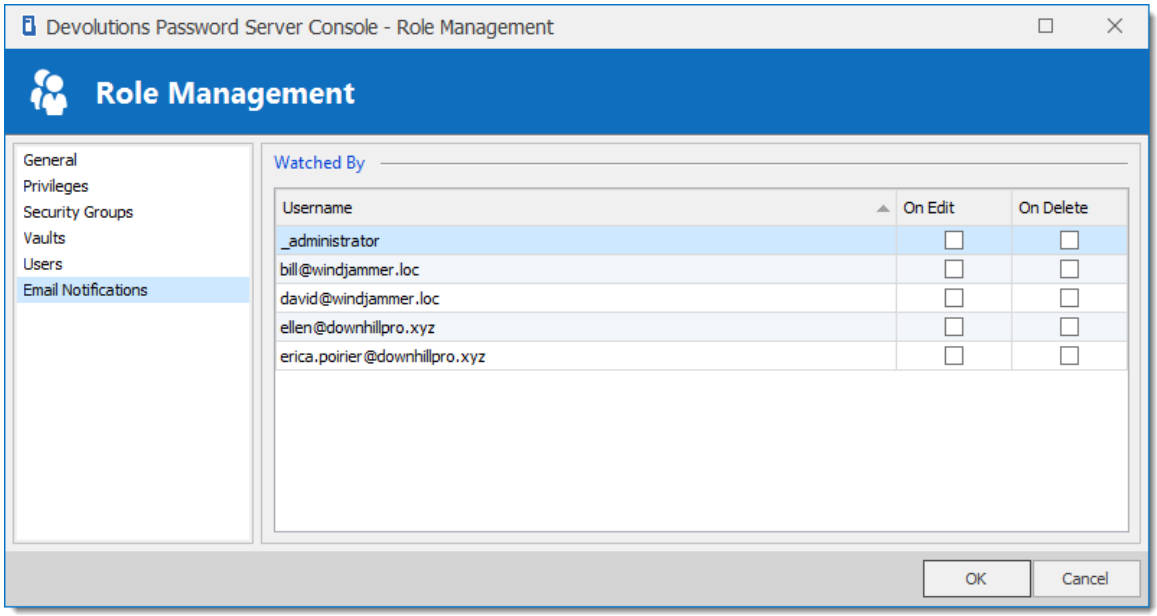
Here you can assign users the current role. You can also reassign them later on.



Role Management - Settings

EMAIL NOTIFICATIONS

Email Notifications are used to send email notifications to specific users.



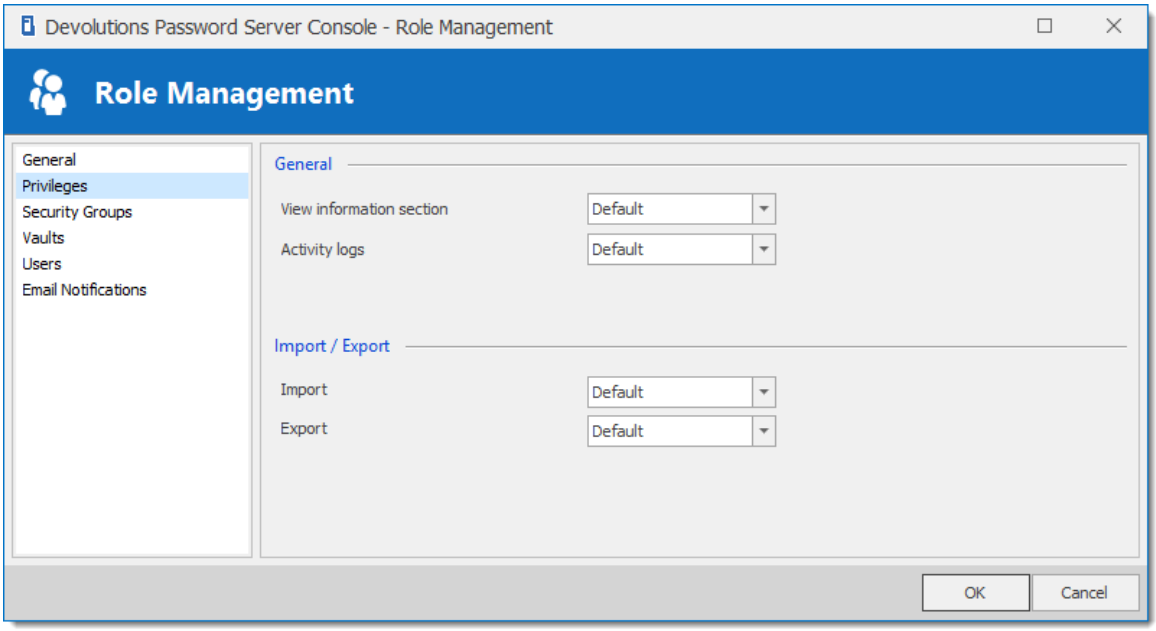
Role Management - Email Notifications

OPTION	DESCRIPTION
Username	If enabled, will send notification to the user about modifications on this role. It could be set on specific operation (Edit and/or Delete).

4.3.2.1 Legacy properties

DESCRIPTION

PRIVILEGES

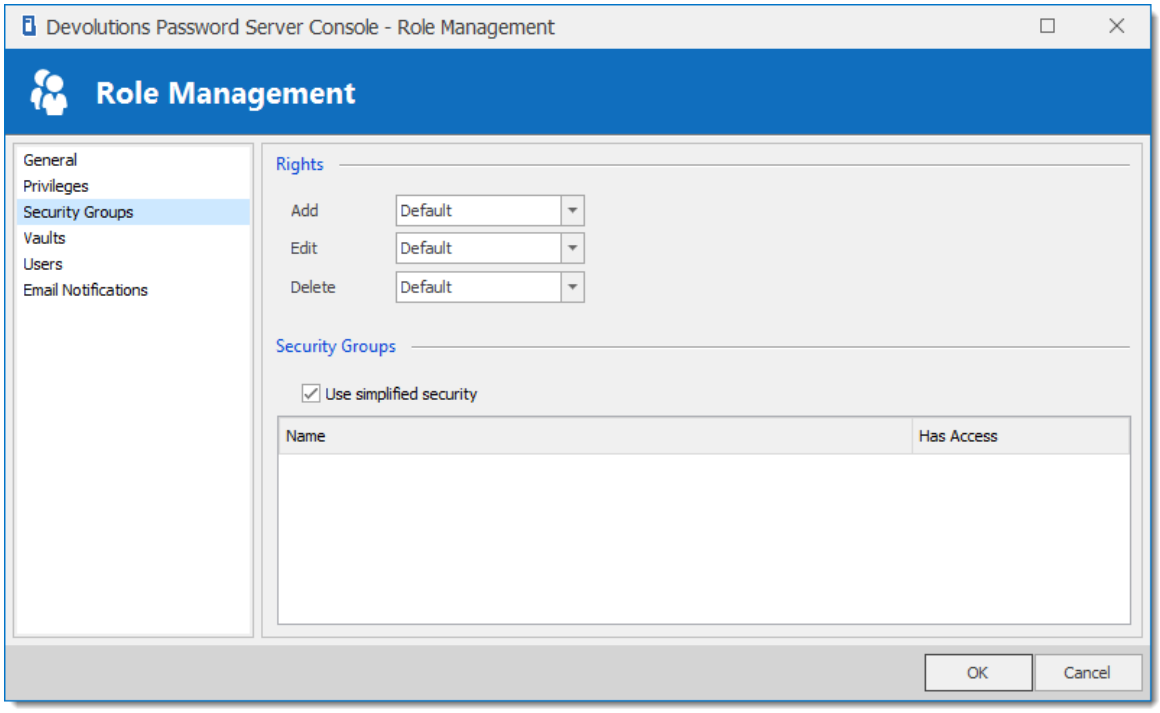


Role Management - Privileges

OPTION	DESCRIPTION
View information section	Allows the user to see the content of the Information tab for all sessions.

OPTION	DESCRIPTION
View shared logs	Allows the user to see the content of the Logs that applies to a session.
Import	Allows the user to Import sessions (Clipboard - **Paste** as well). The import menu (***File - Import***) and the import feature in the context menu will be grayed out if the option is not active.
Export	Allows the user to Export sessions (Clipboard - **Copy** as well). The export menu (***File - Export***) and the export feature in the context menu will be grayed out if the option is not active.

SECURITY GROUPS



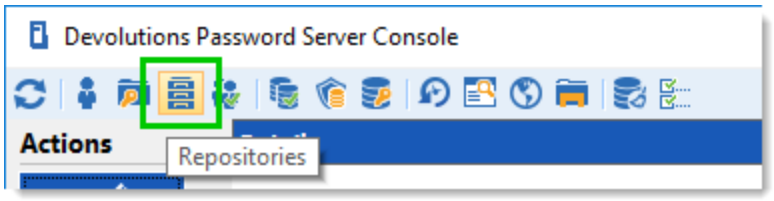
OPTION	DESCRIPTION
Rights	Allows Add, Edit and/or Delete rights or blocks Add in root right.
Security Groups	To learn more about Permissions please see the System Permissions topic.

4.3.3 Vault Management

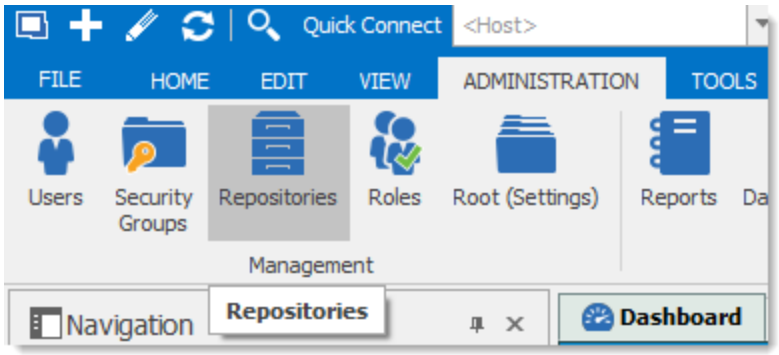
DESCRIPTION

Vaults divide a database in multiple, smaller compartments. Instead of handling the whole database as a single block of data, each **Vault** handles its own subset of entries. As a result, you can manage a massive amount of entries without experiencing reduced performance. All **Vaults** common to a database have the same set of users and roles. Only entries differ from one **Vault** to another.

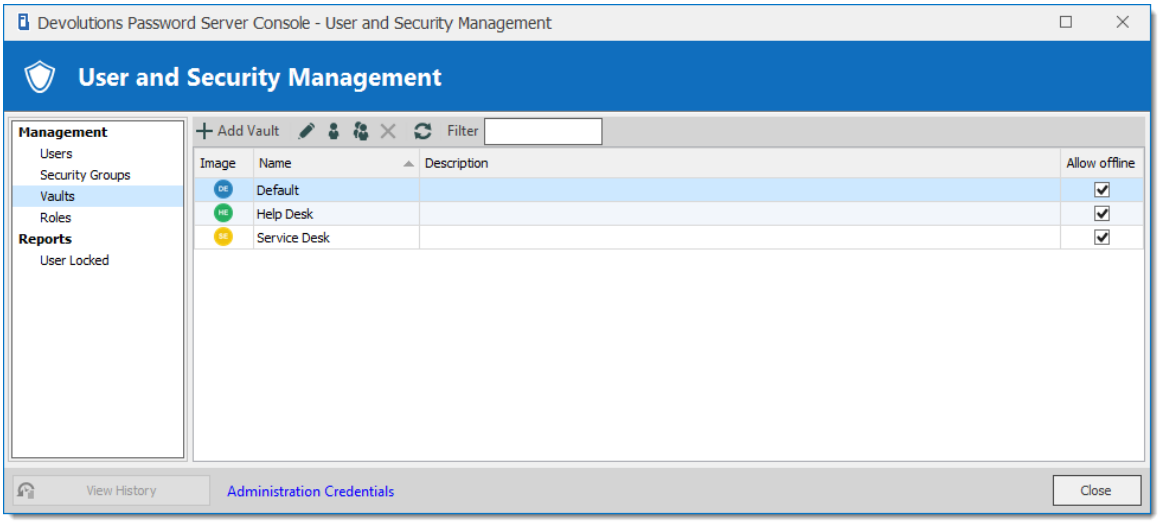
If you have more than 3500 entries stored in your data source and start experiencing performance issues, we strongly recommend to use Vaults to split your entries.



Manage Vaults



Manage Vaults in Remote Desktop Manager

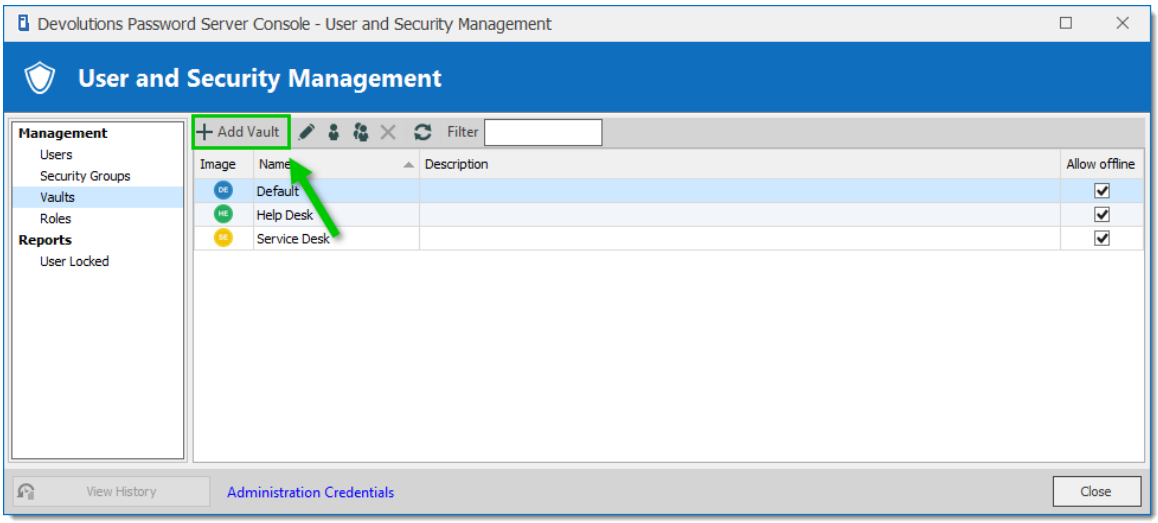


Vaults Management Dialog

SETTINGS

CREATE VAULTS

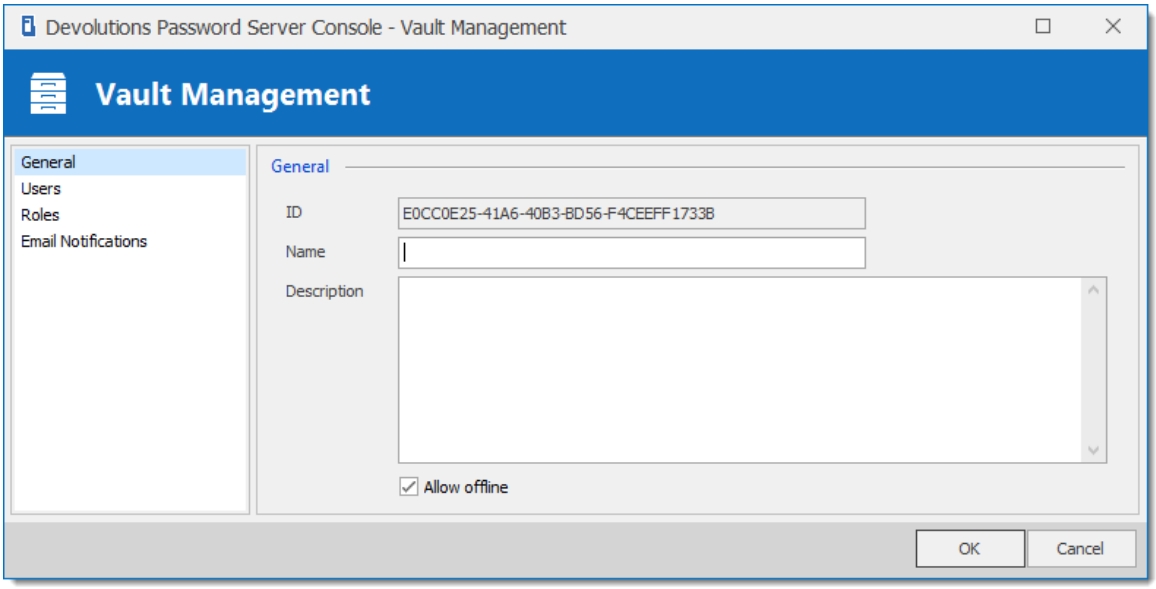
To create a new Vault in your data source click on **Add Vault**.



Vaults Management - Add Vault

VAULT MANAGEMENT SETTINGS

GENERAL

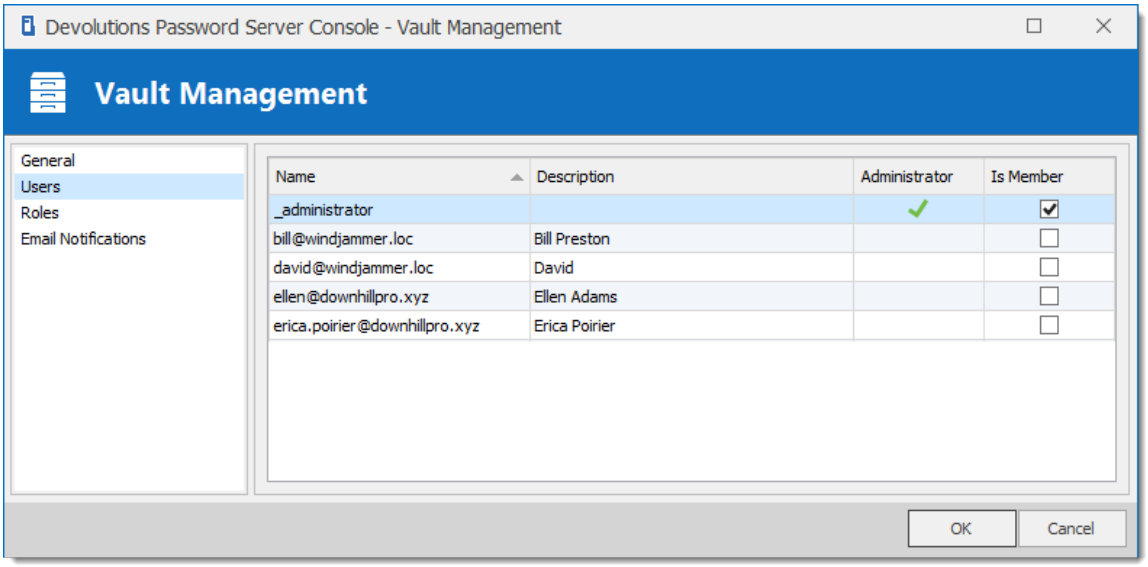


Vault Management - General

OPTION	DESCRIPTION
Name	Enter a name for your new **Vault**.
Description	Enter a short description of your new **Vault**.
Allow Offline	Set if the **Vault** can be used in Offline Mode.

USERS

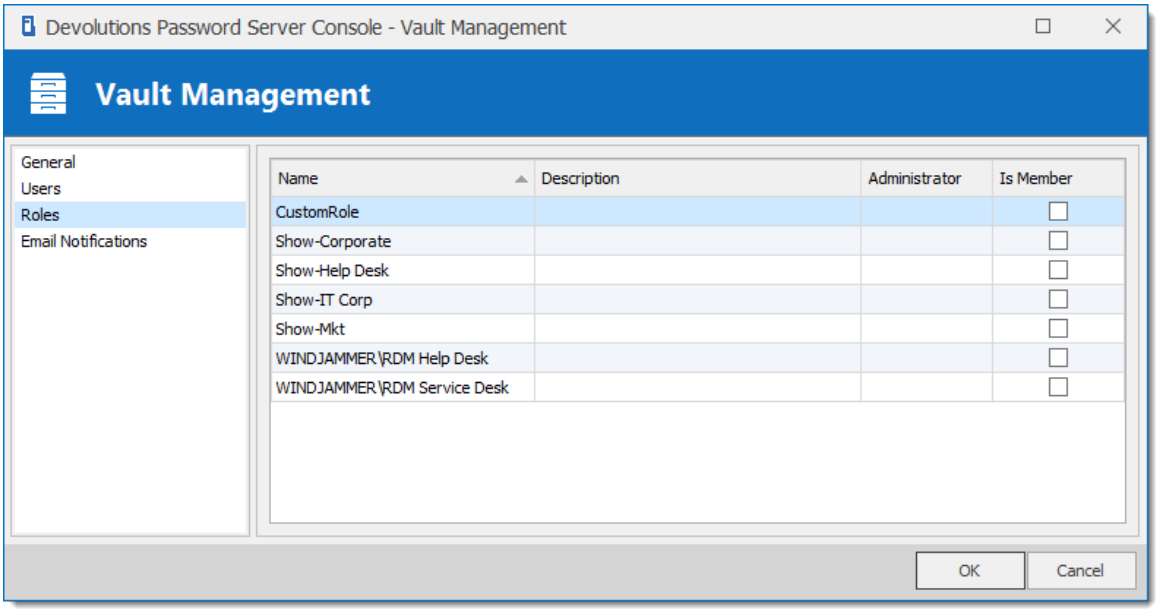
Select which users should have access to the specific **Vault**. These can be reassigned later.



Vault Management - Users

ROLES

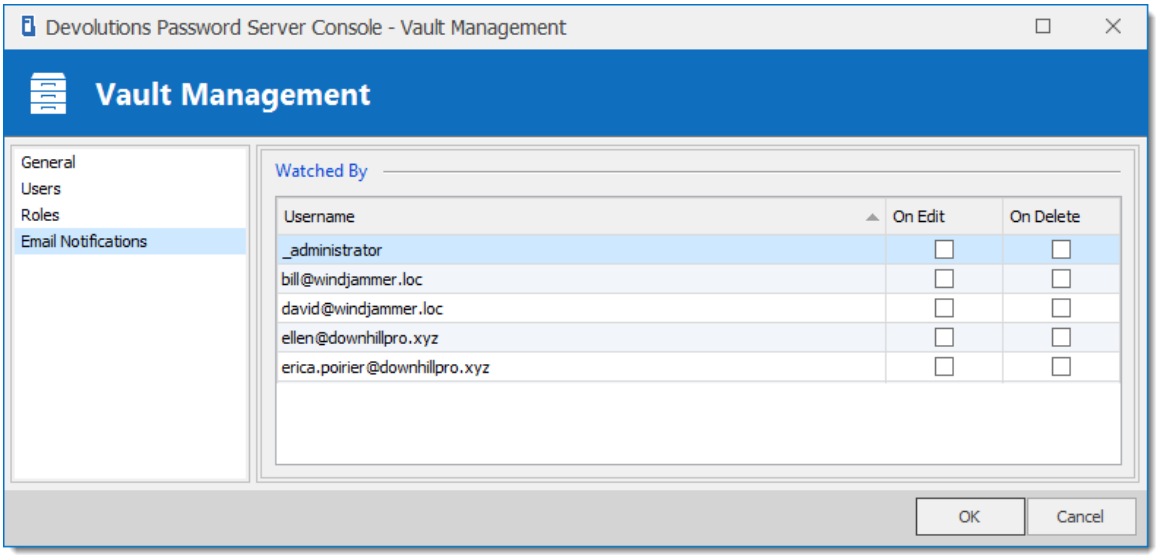
Select which roles should have access to the specific **Vault**. All users whom have been assigned these roles will have access to the **Vault**. These can be reassigned later.



Vault Management - Roles

EMAIL NOTIFICATIONS

Email Notifications are used to send email notifications to specific users.



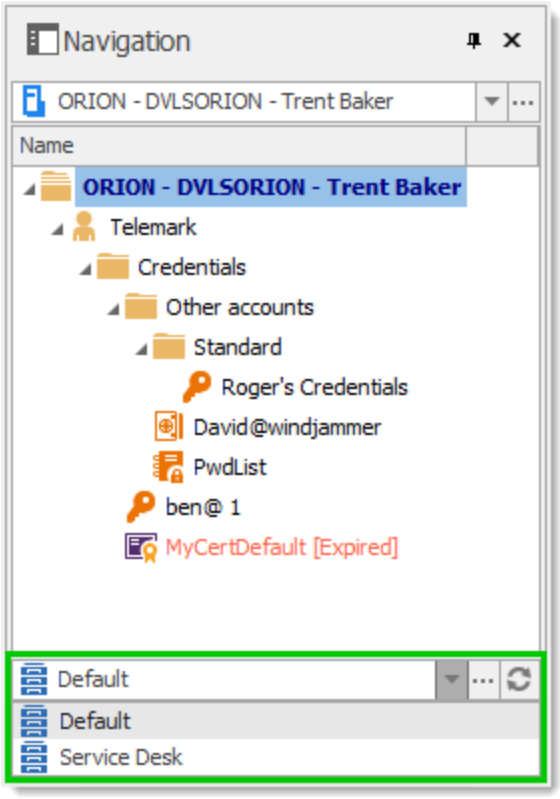
Vault Management - Email Notifications

OPTION	DESCRIPTION
Username	If enabled, will send notification to the user about modifications on this **Vault**. It could be set on specific operation (Edit and/or Delete).

CONNECT TO A VAULT

1. Select the data source that connects to the Devolutions Password Server instance in which the **Vault** has been created.

2. From the **Navigation Pane**, select the desired **Vault**.



Navigation Pane - Vault Selector

Web Interface

Part V

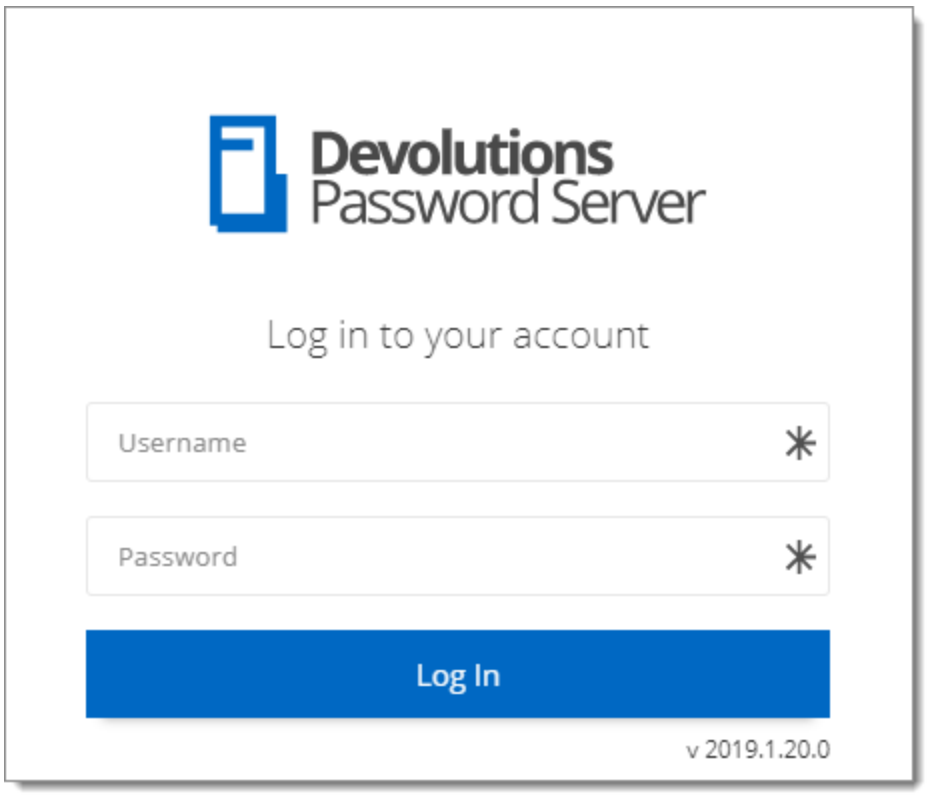
5 Web Interface

DESCRIPTION

The Devolutions Password Server web interface offers a simplified interface for end-users to use and manage passwords from any web browser.

LOGIN PAGE

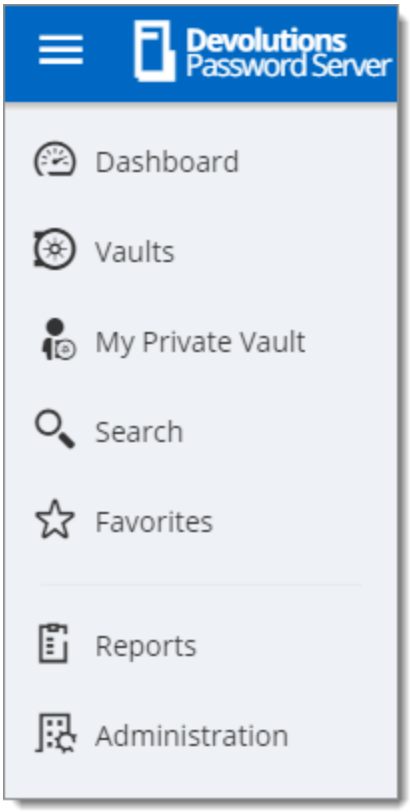
Open a web browser and navigate to the URL of the Devolutions Password Server instance. If the instance has been created with the default URL, it would be available at http://<ServerName>/dps. Simply enter the username and password of a Devolutions Password Server account to connect.



Devolutions Password Server - Login Page

MENU

The **Menu** allows the user to navigate through the different sections. It can be expanded or collapsed to hide the labels by clicking on the Devolutions Password Server icon the the top-left corner.

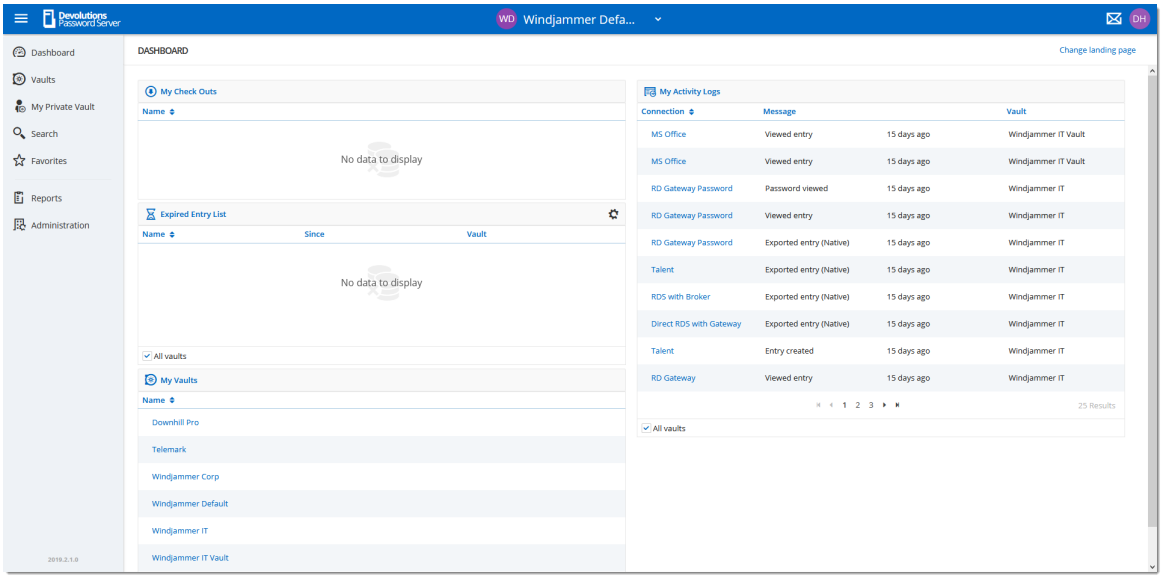


Menu

5.1 Dashboard

DESCRIPTION

The **Dashboard** section provides an overview of the available **My Check Outs**, **Expired Entry List**, **My Vaults** and **My Activity Logs**.



Dashboard

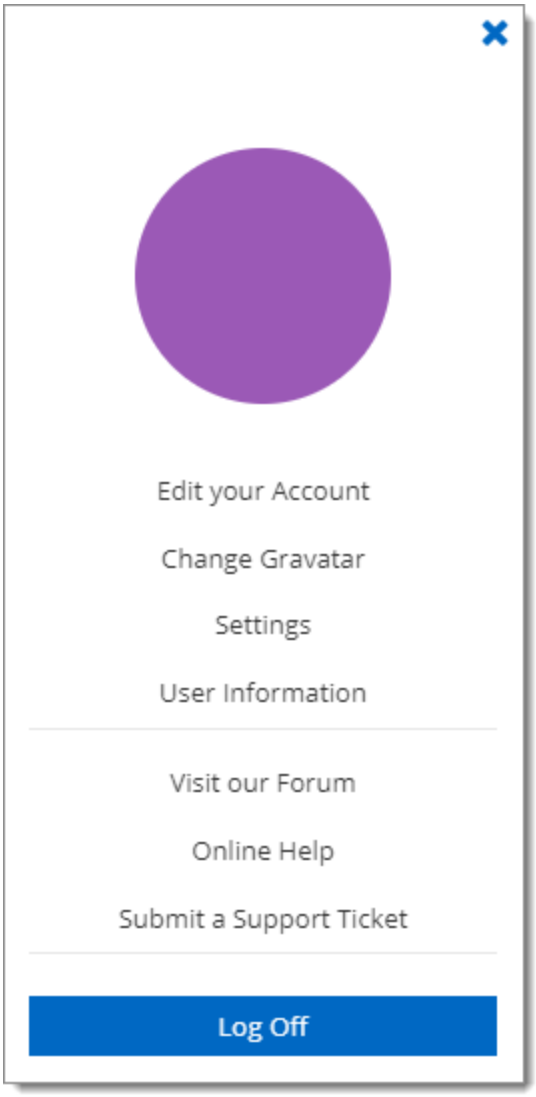
5.2 Account Menu

DESCRIPTION

Users manage their account: language preferences, personal information, Gravatar, as well as limited configuration of the web interface. The menu includes links to Devolutions Online Help and forum. Users log out of Devolutions Password Server from the **Account Menu**.

SETTINGS

Click the Gravatar or initials to access the **Account Menu**.

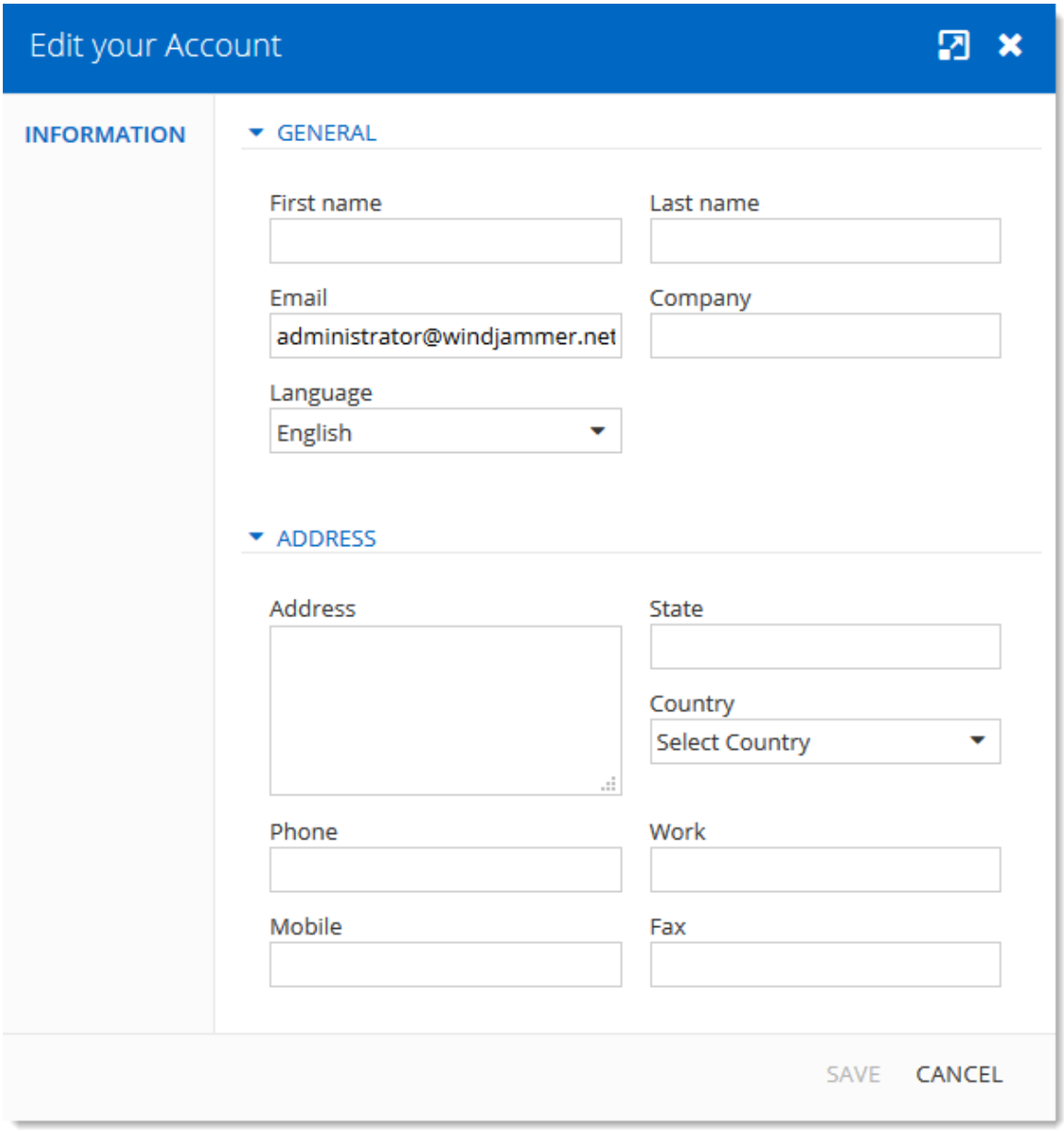


Account Menu

EDIT YOUR ACCOUNT

Set the language of the web interface.

Add or modify personal information.

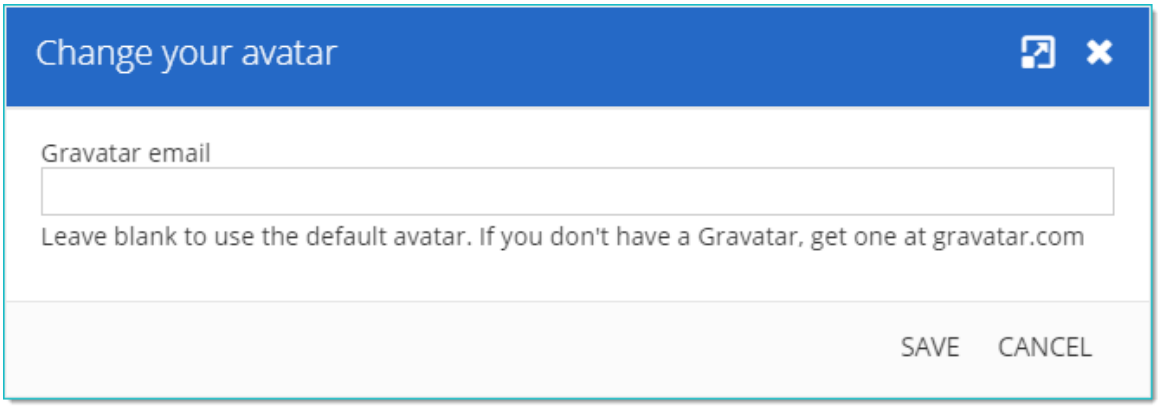


Edit your Account

CHANGE GRAVATAR

The default user avatar is the user initials. Users can use an image uploaded at Gravatar.com.

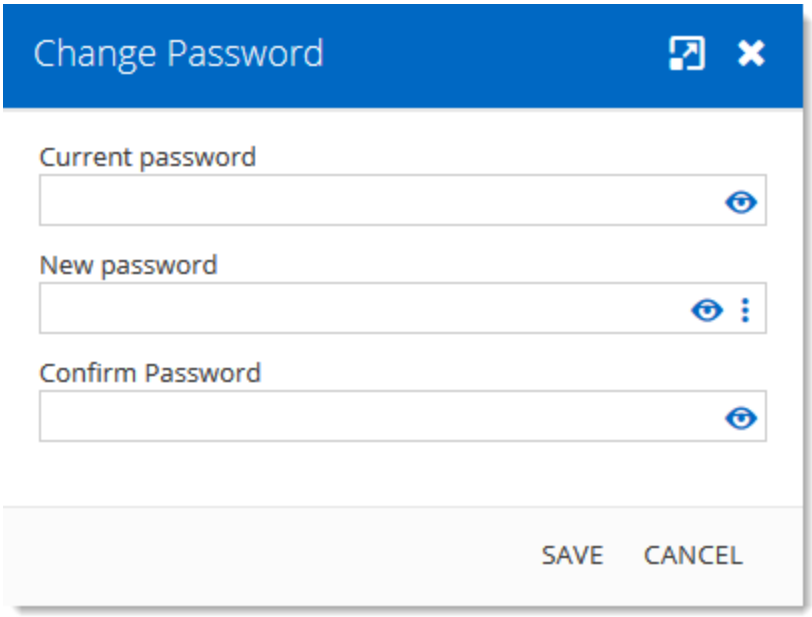
Enter the email associated with your Gravatar account.



Change your Avatar

CHANGE PASSWORD

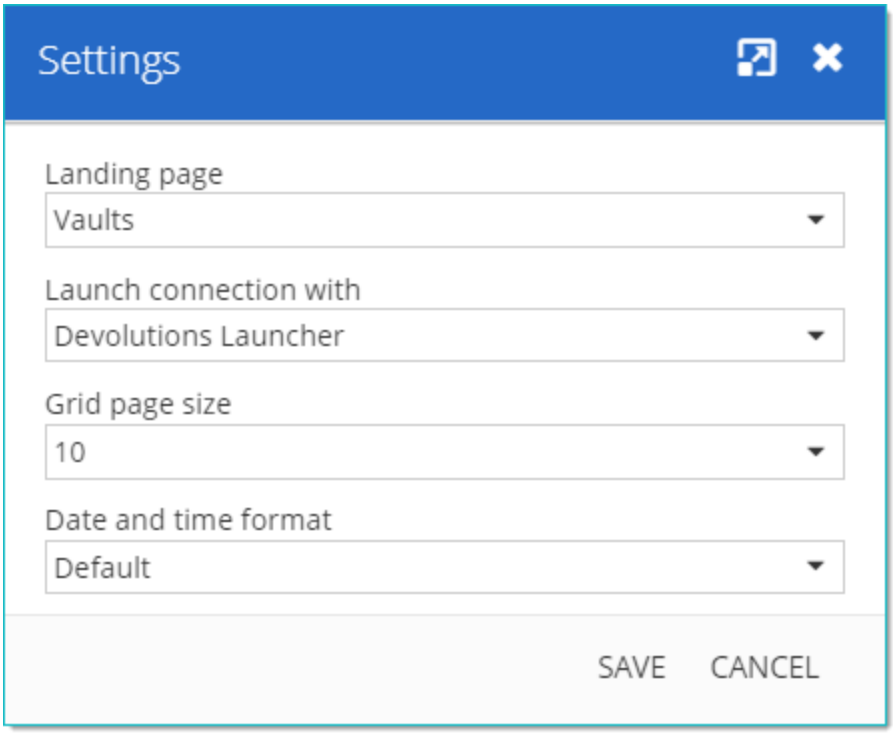
Allow the user to modify his password. Only available for Devolutions Password Server Custom or Database account type. Please see Authentication for more information.



Change Password

SETTINGS

Modify **User Interface** elements.



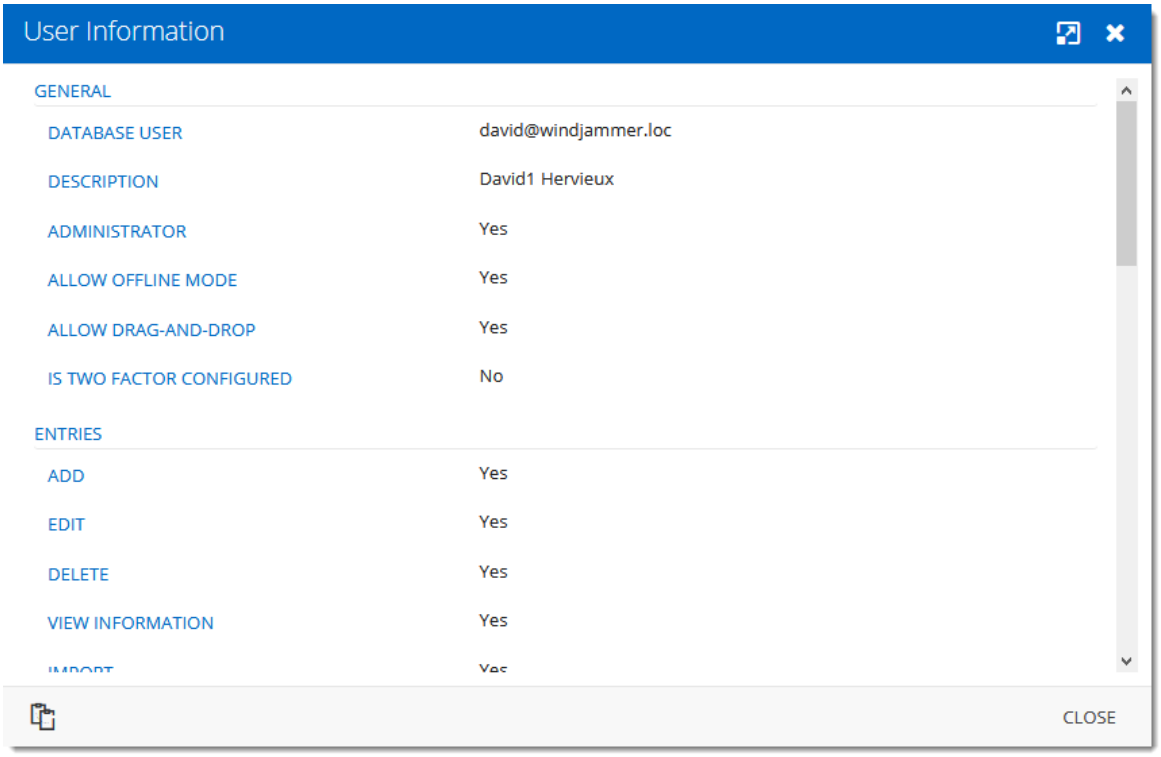
User Interface Settings

OPTION	DESCRIPTION
Landing page	Choose the home page that opens when you sign on: • Dashboard • Vaults • My Private Vault • Reports • Administration
Launch connection with	Choose the application that opens remote connections: • Default: refers to Devolutions Launcher • Remote Desktop Manager • Devolutions Launcher

OPTION	DESCRIPTION
Grid page size	Choose the number of rows displayed in lists (e.g. reports) • 10 • 20 • 30
Date and time	Choose a format: • Default: month/day/year • US • Custom

USER INFORMATION

Display the User Information report that contains the user account configuration.



VISIT OUR FORUM

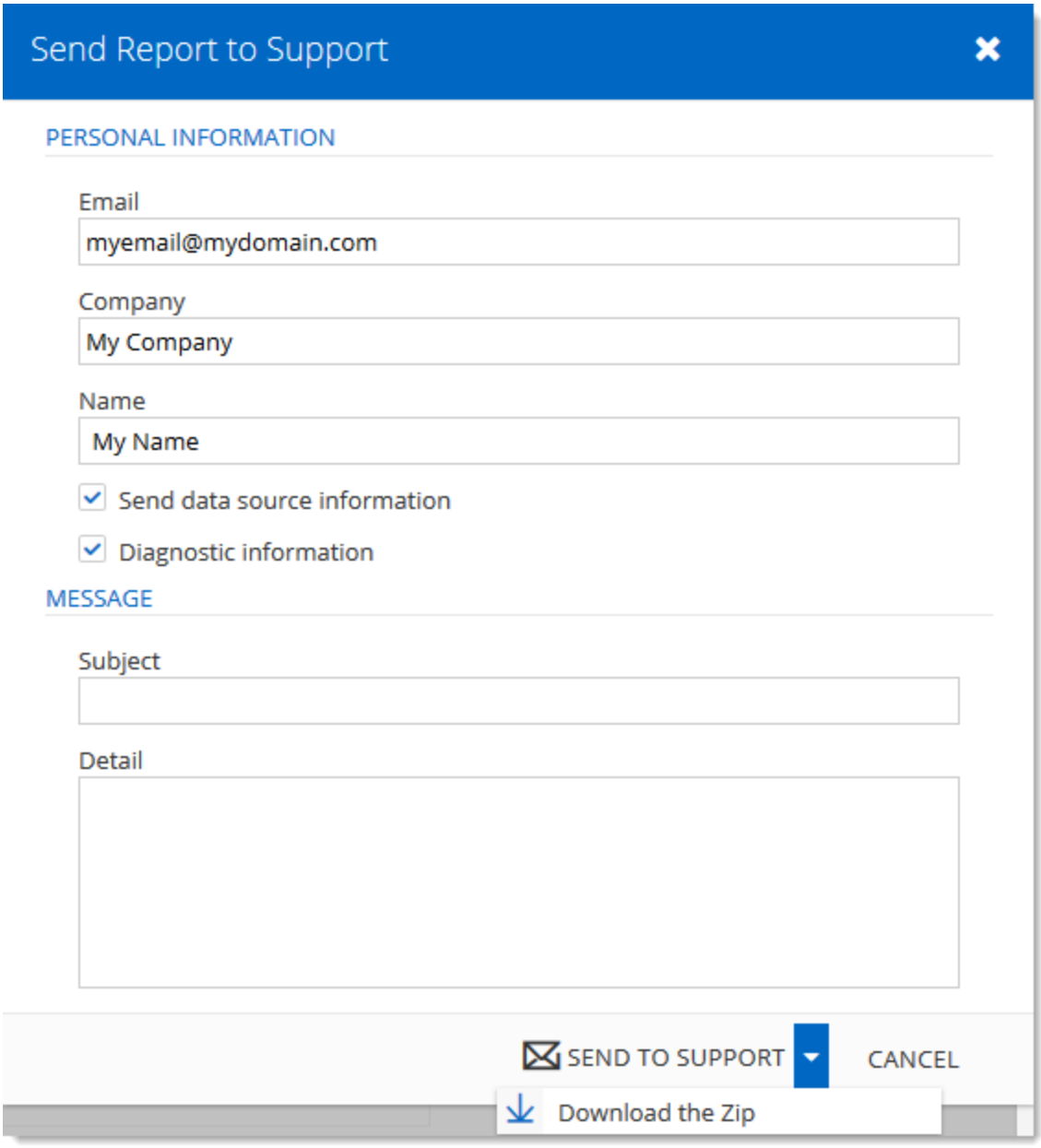
A link to our forum for support and feature requests.

ONLINE HELP

A link to our online user guides.

SUBMIT A SUPPORT TICKET

Submit the **Data Source Information** and **Diagnostic Report** to the Devolutions Support team.



OPTION	DESCRIPTION
Email	Provide your email address.
Company	Provide your company name.
Name	Provide your name.

OPTION	DESCRIPTION
Send data source information	When enabled, the Data Source Information report will be attached to the email.
Diagnostic information	When enabled, the Diagnostic report will be attached to the email.
Subject	Subject of the message.
Detail	Additional information or detail can be enter in the Detail section.
Send to Support	Will send this Report to Devolutions Support team.
Download the Zip	Allows to download the Report into a Zip file that can be saved on your local computer.
Cancel	Cancel the operation.

LOG OFF

Sign off from your account.

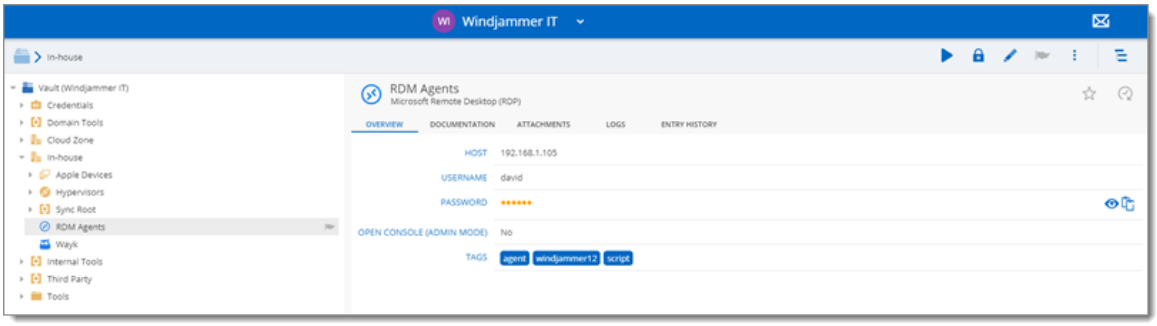
5.3 Vaults

DESCRIPTION

The **Vaults** allows the users to create entries and manage the content of the data source. Vaults are divided in two parts:

- The **Navigation Pane** (left) lists the entries available in the data source (current Vault).

- The **Content Area** (right) displays information regarding the selected entry.

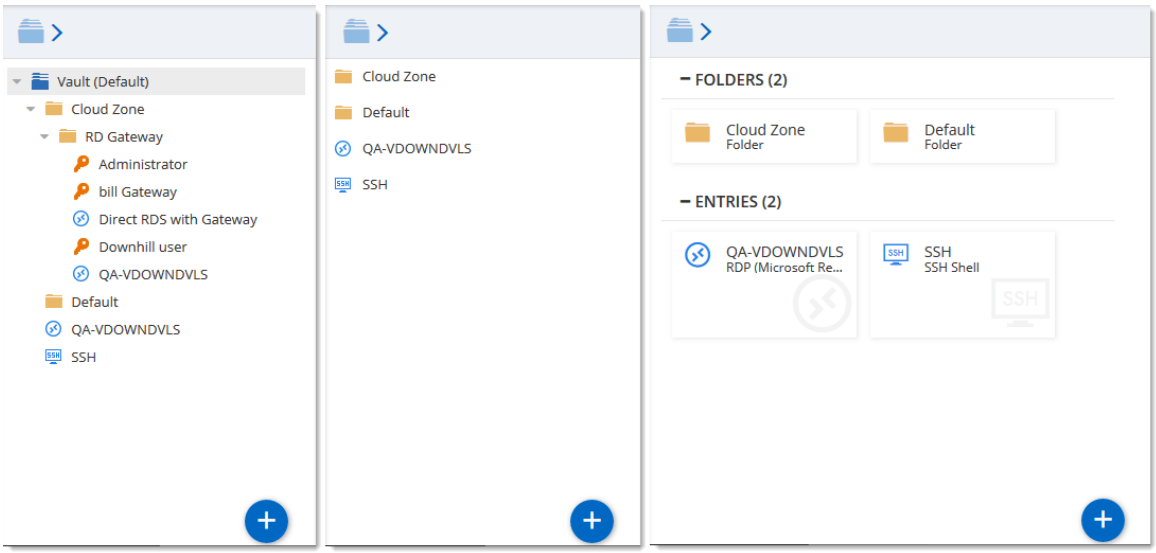


Vaults

NAVIGATION PANE

The **Navigation Pane** displays the entries available to the user. The **Navigation Pane** can display entries in three different manners:

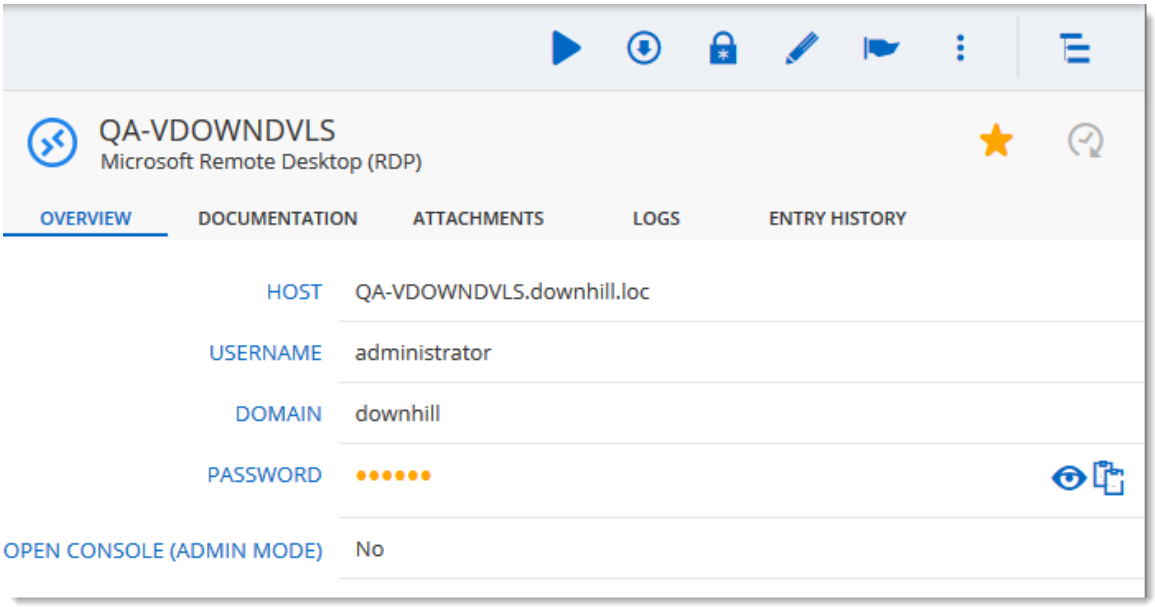
- **Tree View**
- **List View**
- **Grid View**



Navigation Pane - Tree View (left), List View (center) and Grid View (right)

DASHBOARD

The **Content Area** displays various information regarding the selected entry.



Entry Overview

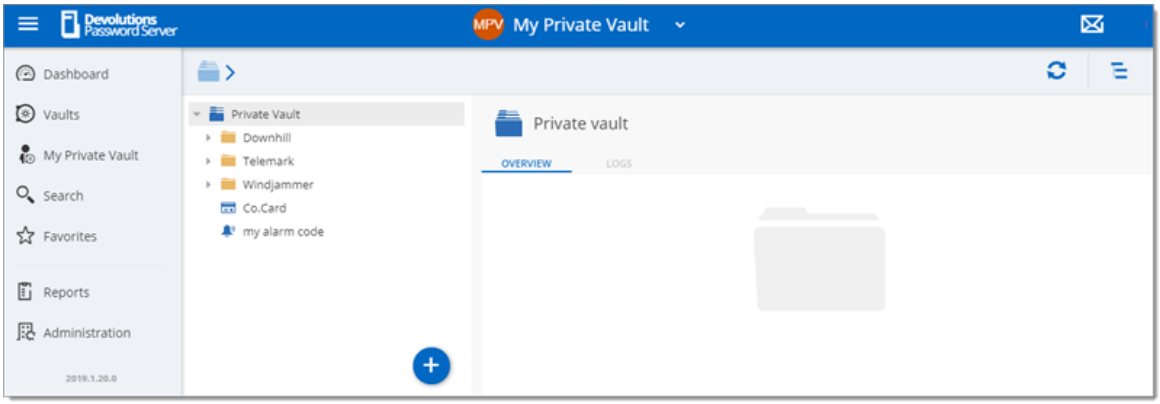
OPTIONS	DESCRIPTION
Open	Open the session **(Devolutions Launcher required)**.
Check Out	Check Out the session.
View Password	View the password of the selected entry.
Properties	Edit the properties of the selected entry.
Status	Edit the status of the selected entry.
More	Display more options for the selected entry. • User Specific Settings • Save as Template • View Password History

OPTIONS	DESCRIPTION
	• Delete
Add to Favorites	Add the selected entry to favorites.
Statistics	Hover the icon to view who has created/modified the entry.
View Password	Display the password of the selected entry.
Copy to clipboard	Copy the field of the selected entry (Usually Username or Password).

5.3.1 My Vault (Private)

DESCRIPTION

The **Private Vault** is a user specific **Vault** used to store private information, credentials and passwords. It allows each user to have their very own private **Vault** that only they can access, not even an administrator could access them. The **Private Vault** prevents users from using a non-secure tool to manage their personal passwords at work.



Private Vault

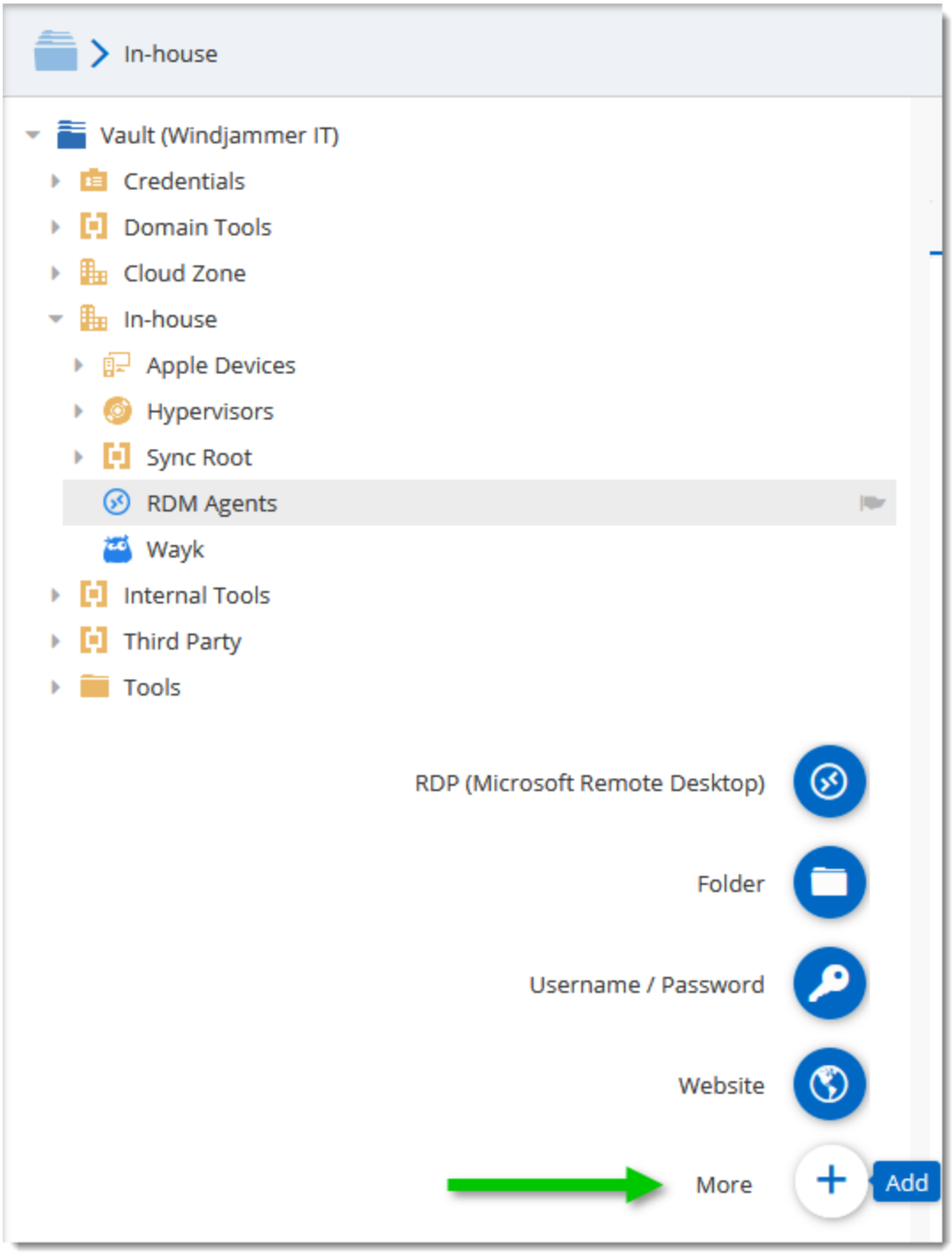
5.3.2 Create a New Entry

DESCRIPTION

Every item you see in your Vault and Private Vault is an **Entry**. There are many type of entries that can be created directly in Devolutions Password Server web interface.

CREATING A NEW ENTRY

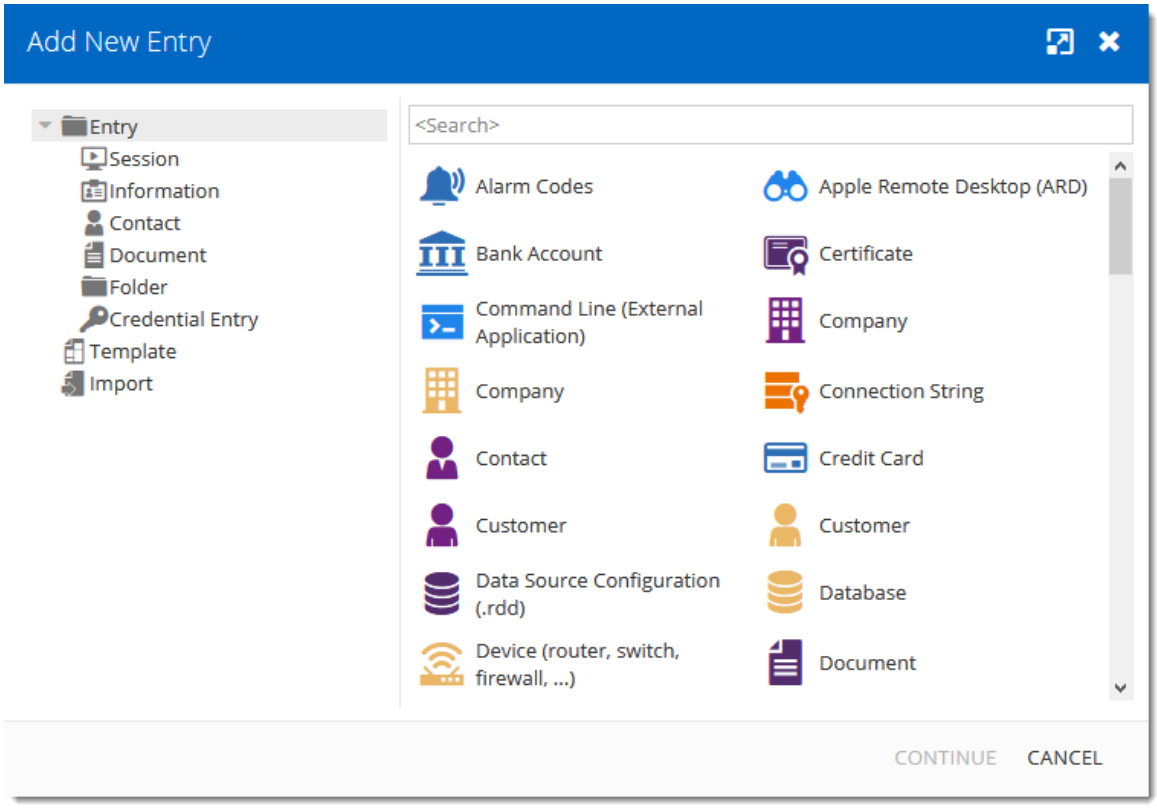
To create a new entry go in the Vaults page or My Vault (Private) page and then click on the **Add** button to create a new entry.



Add a new Entry

Moving the mouse over the **Add** button will display a list of shortcuts for common entries.

Entries come in various types, all serving different purposes for your convenience.



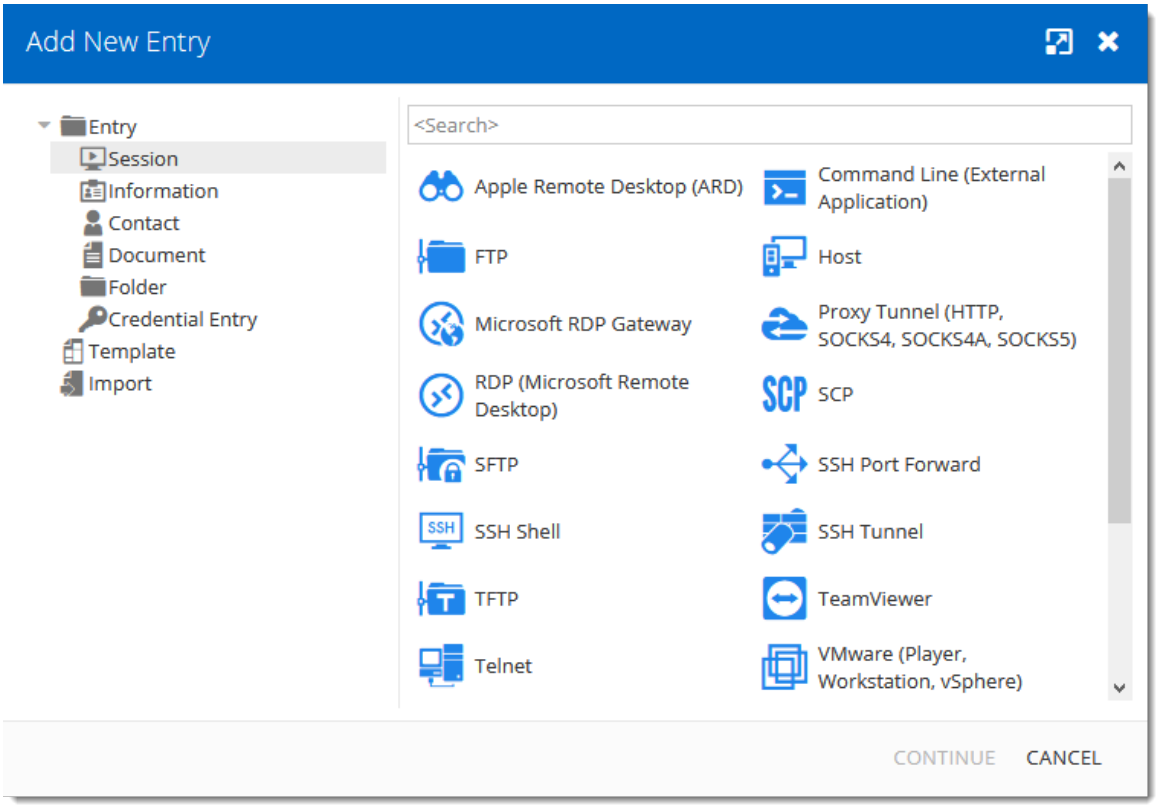
New Entry

OPTIONS	DESCRIPTION
Session	Session type entries are used for connections.
Information	Information type entries are used to store all sorts of data, both sensitive or not.
Contact	Contact type entries are used to store information about particular individuals.
Document	Document type entries are used to store external files.
Folder	Folder entries are used to help you customize and compartmentalize your entries.
Credential Entry	Credential entries are used to store all sorts of credentials.

5.3.2.1 Session

DESCRIPTION

Session entry types are used to establish connections. Entries such as our RDP (Microsoft Remote Desktop) entry can be used to store credentials (or acquire those form credential entries) and can be used in a variety of ways.

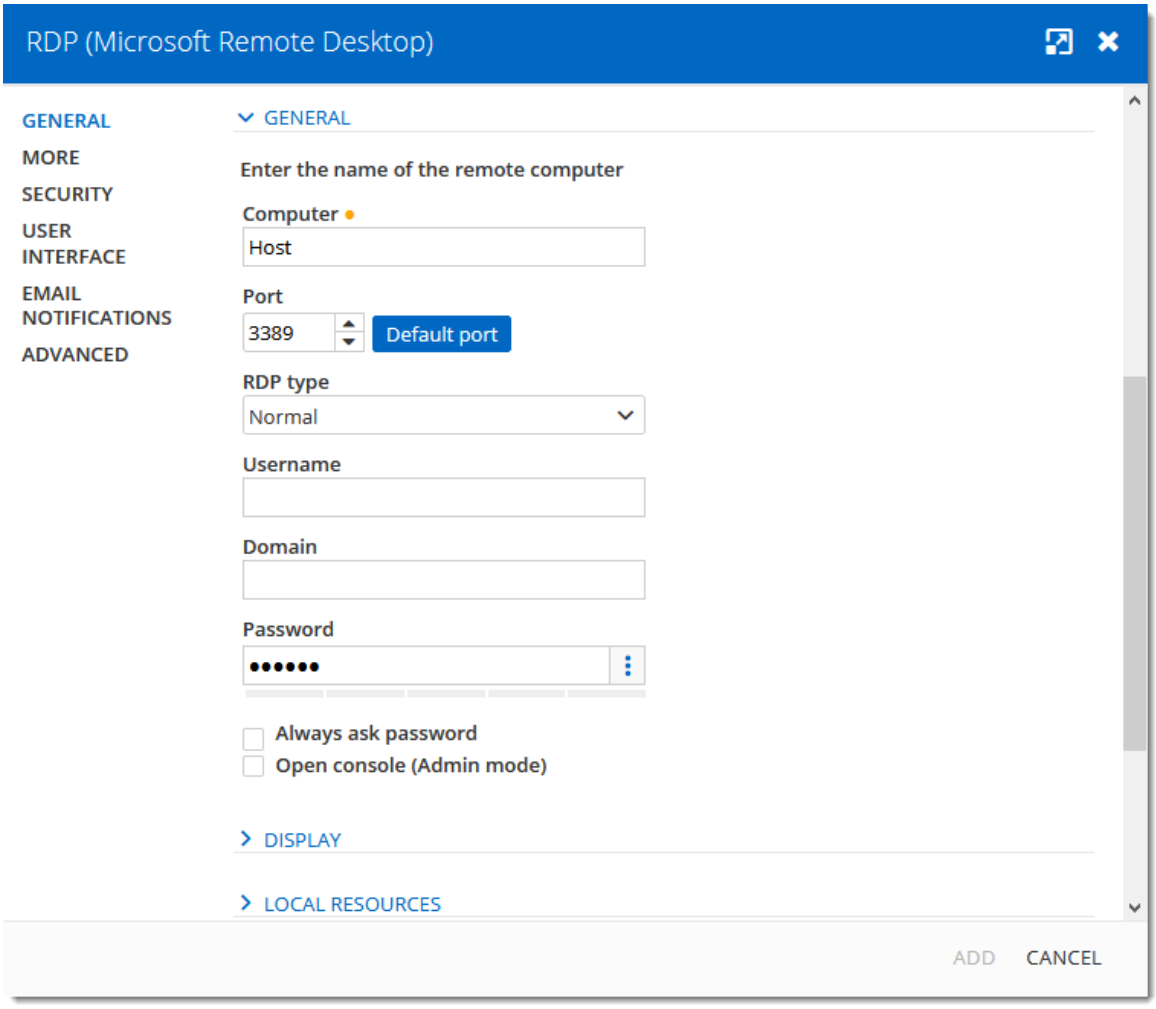


Add a New Session Entry

5.3.2.1.1 RDP (Microsoft Remote Desktop)

DESCRIPTION

GENERAL

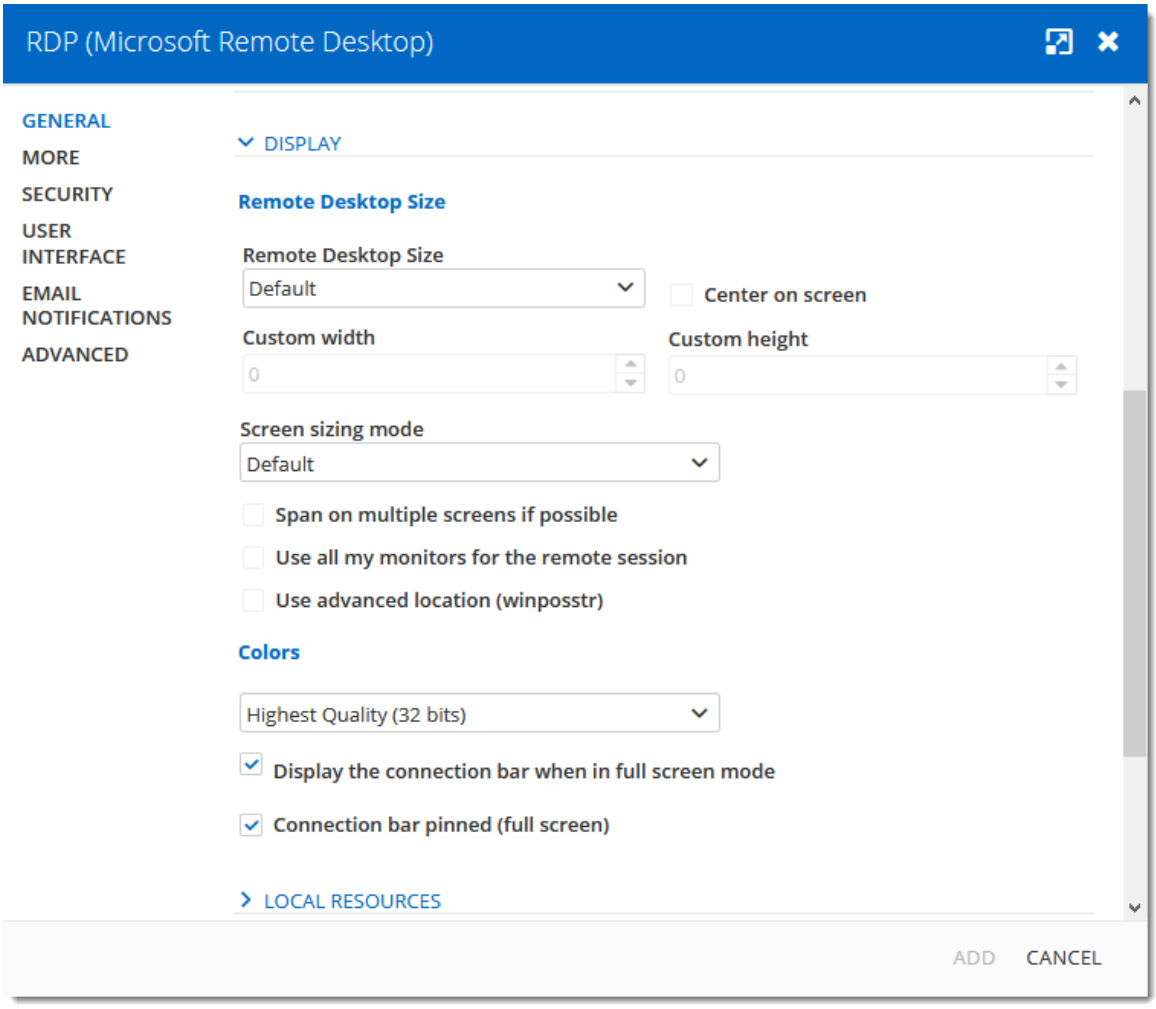


RDP (Microsoft Remote Desktop) - General

OPTION	DESCRIPTION
Host (Computer)	Enter the host name or IP address of the remote computer.
Port	Click on the link to modify the port number. Set the port to 0 to use the default port.
RDP Type	Select the RDP session type. Select between: • **Normal** • **Azure Cloud Services**

OPTION	DESCRIPTION
	• **Hyper-V (embedded only)**
Username	Enter the username to connect to the remote computer.
Domain	Enter the domain to connect to the remote computer.
Password	Enter the password to connect to the remote computer.
Password Analyzer	Indicates the strength of the password.
Always ask password	Always ask password when connecting to the remote computer.
Open console (Admin mode)	Connect to the console session of a server using Remote Desktop for Administration. Normally required for TS Session Hosts only.

DISPLAY

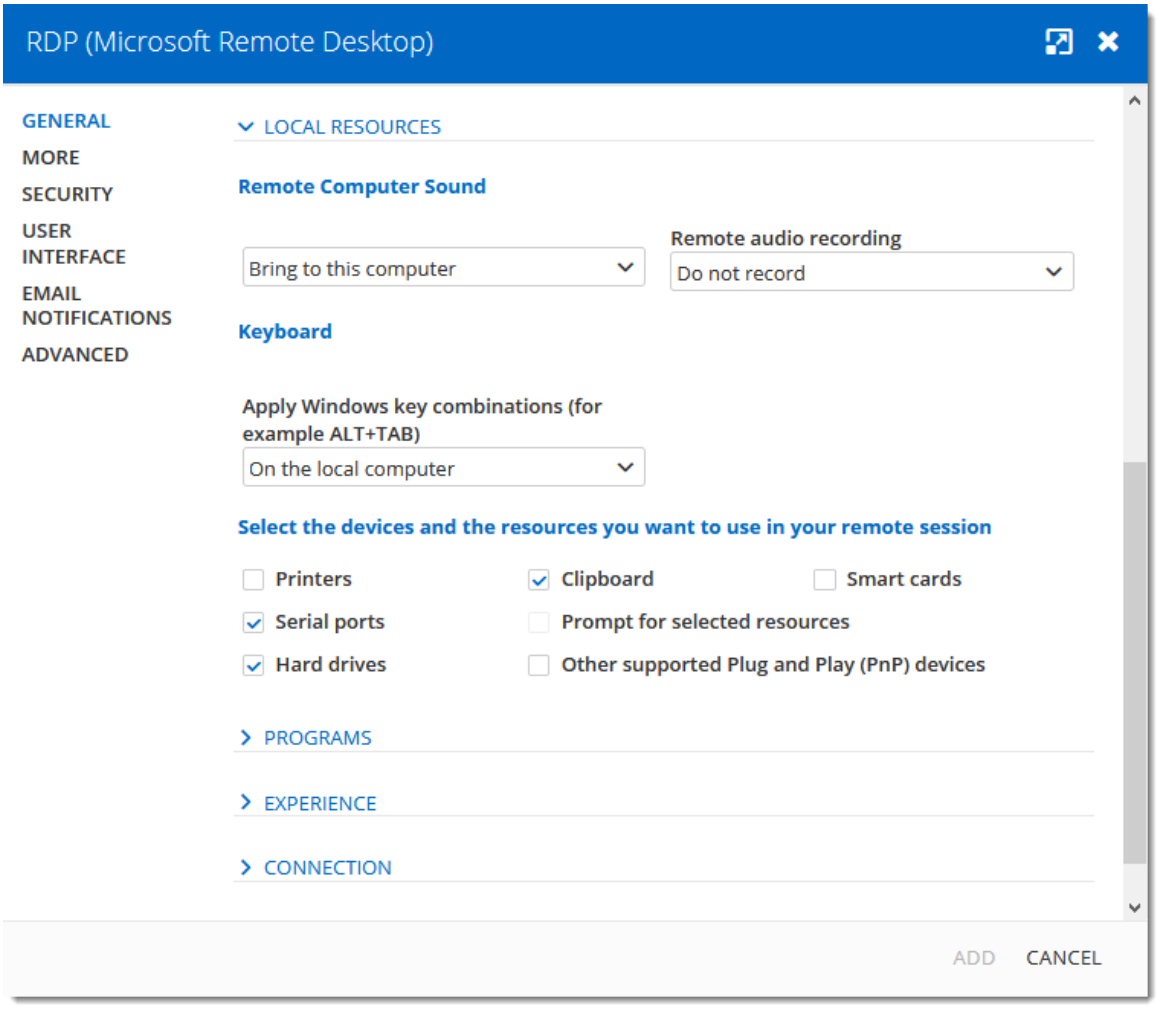


RDP (Microsoft Remote Desktop) - Display

OPTION	DESCRIPTION
Remote Desktop Size	Select the screen size for the remote computer.
Custom width	Specify a custom width number for the screen size.
Custom height	Specify a custom height number for the screen size.

OPTION	DESCRIPTION
Screen sizing mode	Scale the client window display of the desktop when resizing between: • **Scrollbar.** • **Smart reconnect (reconnect the session when the window size changes).** • **Smart sizing (stretch the remote display to fit the window).**
Colors	Select the color quality when connected on the remote computer.
Display the connection bar when in full screen mode	Display the connection bar at the top of your screen in full screen size mode.
Connection bar pinned (full screen)	Fix the connection bar at the top of the screen.

LOCAL RESOURCES

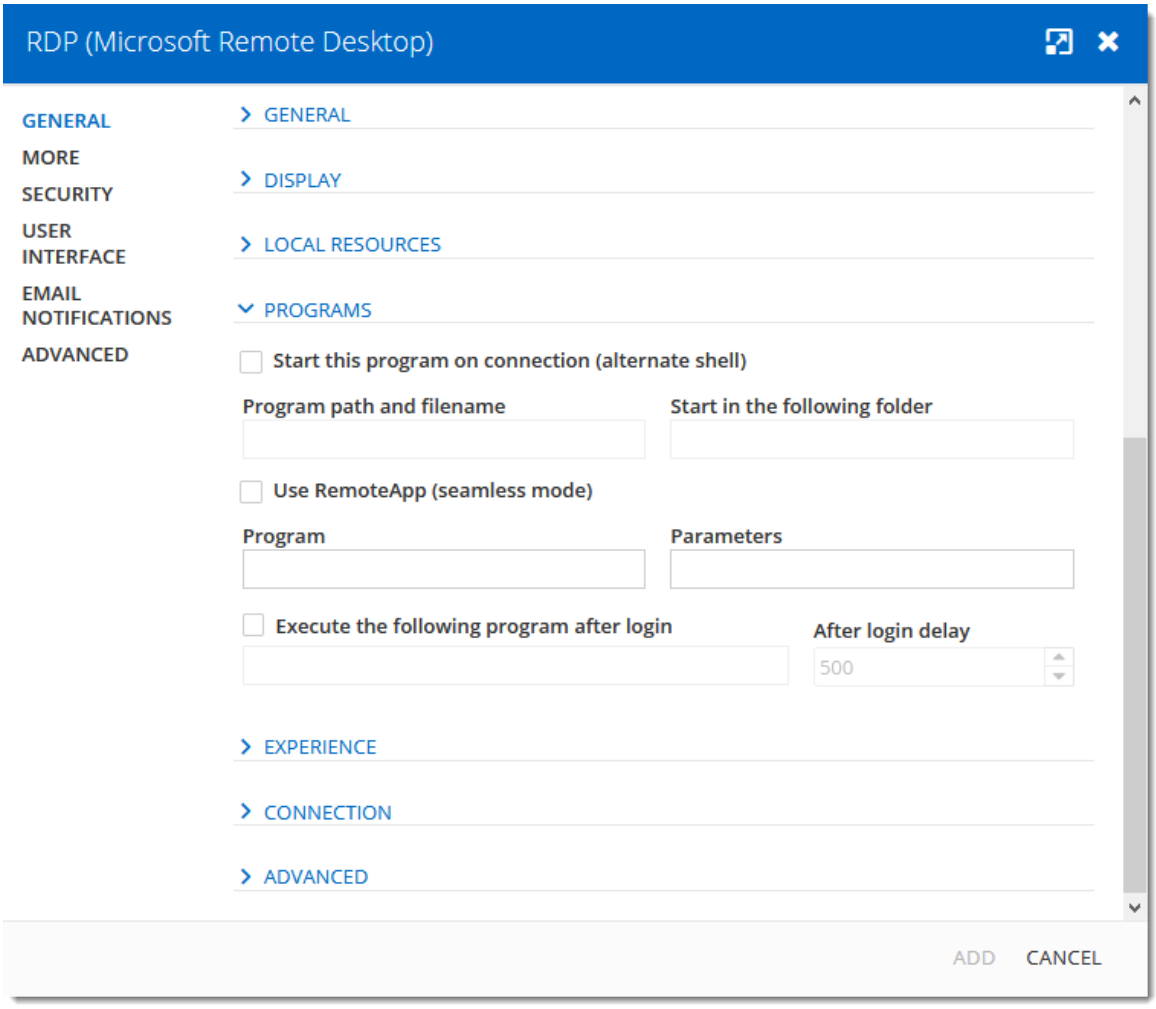


RDP (Microsoft Remote Desktop) - Local Resources

OPTION	DESCRIPTION
Remote computer sound	Indicate what to do with the sound on the remote computer. Select between: • **Bring to this computer** • **Do not play** • **Leave at remote computer**
Remote audio recording	Indicate what to do with the audio recording on the remote computer. Select between:

OPTION	DESCRIPTION
	• **Do not record** • **Record from this computer**
Keyboard	Specify how key combination should be executed. Select between: • **On the local computer** • **On the remote computer** • **In full screen mode only**
Select the devices and the resources you want to use in your remote session	Select the devices and resources that you wish to use on the remote computer. Select between: • **Printers** • **Serial Ports** • **Hard drives** • **Clipboard** • **Prompt for selected resources (Only available in external mode)** • **Other supported Plug and Play (PnP) devices** • **Smart cards**

PROGRAMS

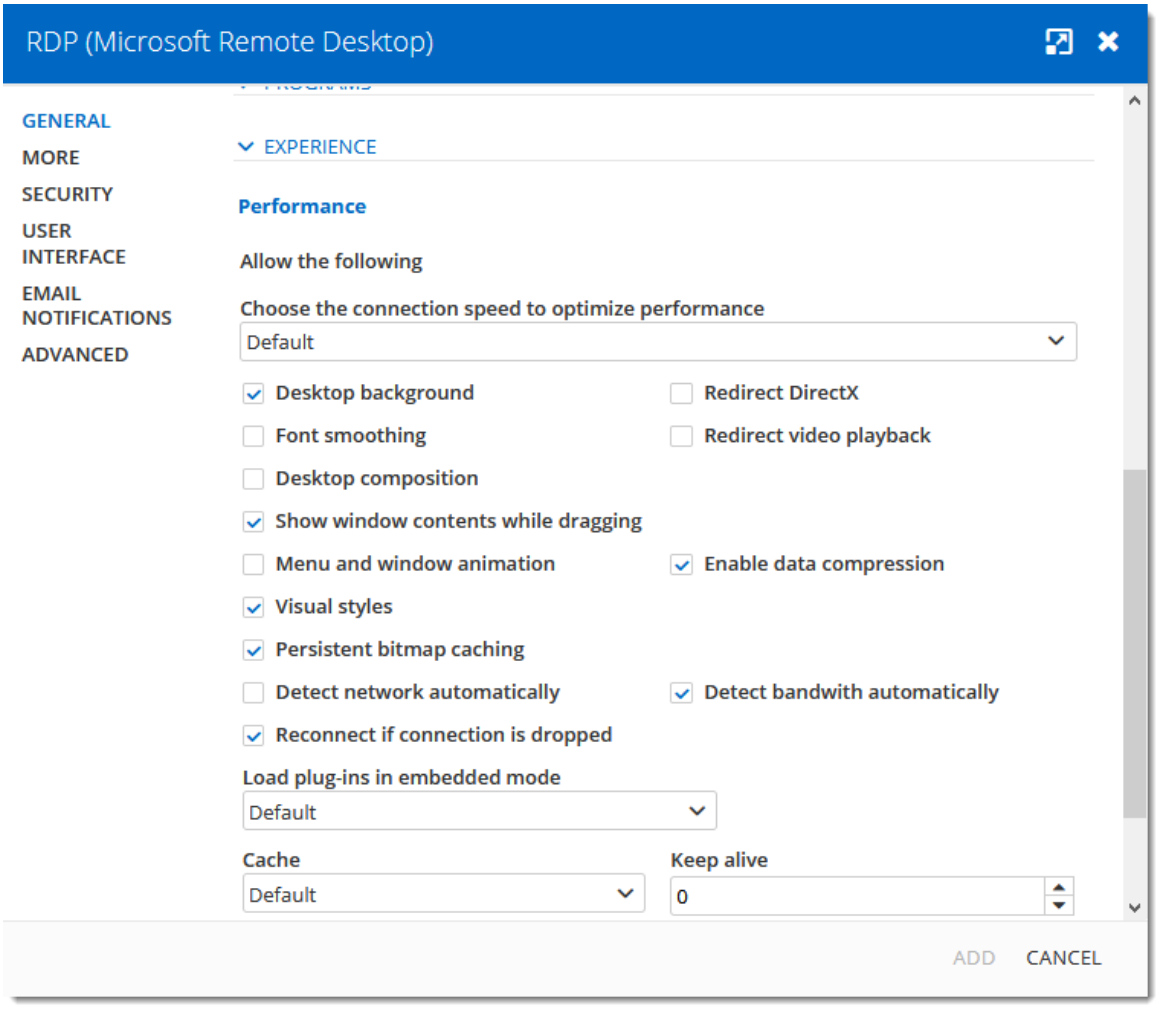


RDP (Microsoft Remote Desktop) - Programs

OPTION	DESCRIPTION
Start the following program on connection (alternate shell)	Enable to specify a program to launch on the remote computer when the connection is established.
Program path and filename	Specify the program path and filename to start when the connection is established.
Start in the following folder	Specify the working folder used by the program in the previous step.

OPTION	DESCRIPTION
Use RemoteApp (seamless mode)	Open an rdp connection, starts a specified program, maximizes the application window and runs without the windows desktop.
Program	Specify the program for the RemoteApp.
Parameters	Specify the parameters for the RemoteApp.
Execute the following program after login	Enable if you wish to automatically run a program immediately after login.

EXPERIENCE



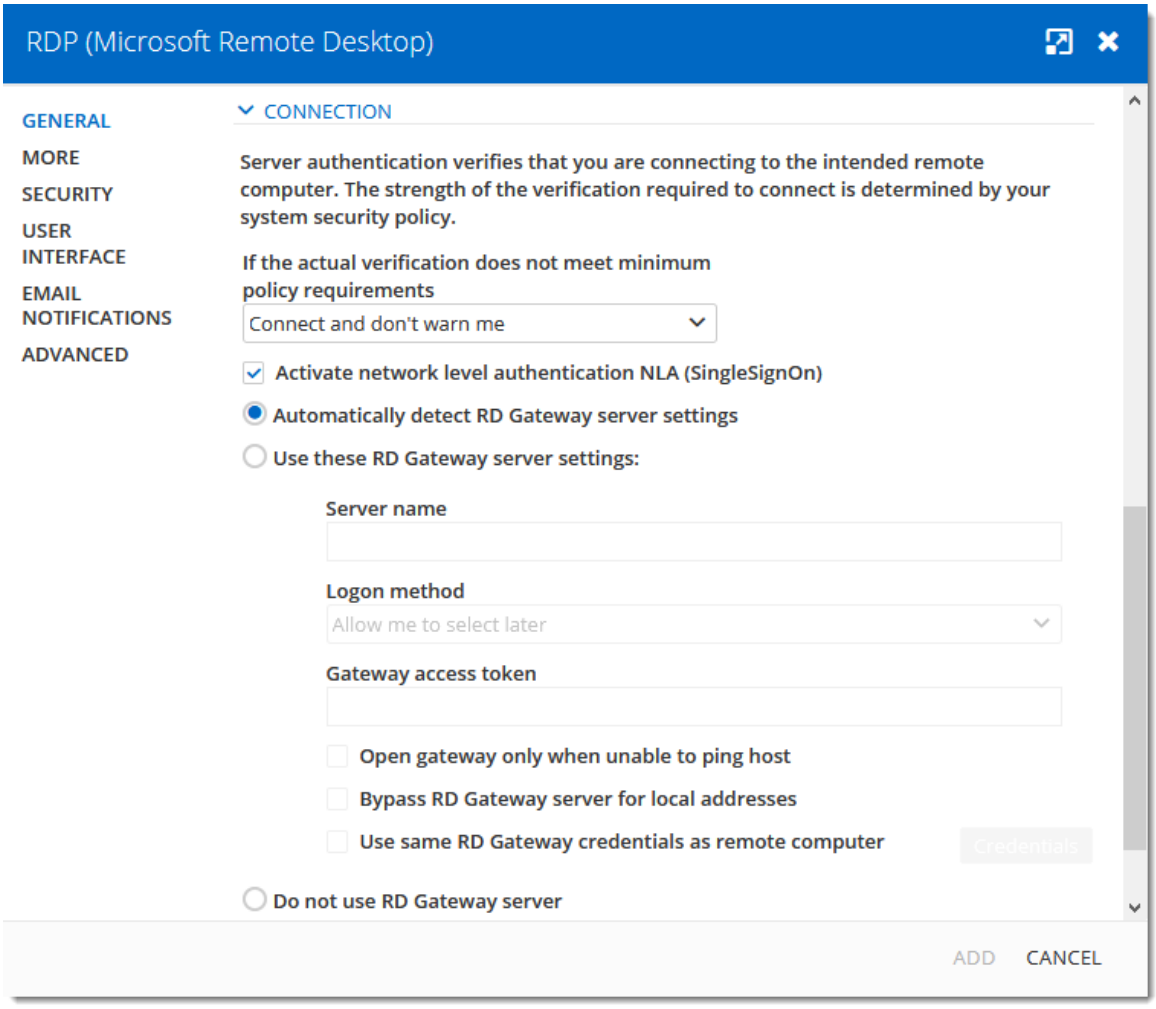
RDP (Microsoft Remote Desktop) - Experience

OPTION	DESCRIPTION
Choose the connection speed to optimize performance	Specify the connection speed to use to optimize the remote session performance. Select between: • **Default** • **Modem (56 kbps)** • **Low-speed broadcast (256 kbps - 2 Mbps)** • **Satellite (2-16 Mbps with high latency)**

OPTION	DESCRIPTION
	• **High-speed broadcast (2-10 Mbps)** • **WAN (>10 Mbps with high latency)** • **LAN (> 10 Mbps with low latency**)
Allow the following	Enable the following features on the remote computer: • **Desktop background** • **Font smoothing** • **Desktop composition** • **Show window contents while dragging** • **Menu and window animation** • **Visual styles** • **Persistent bitmap caching** • **Redirect DirectX** • **Redirect video playback** • **Load plug-ins in embedded mode** • **Enable data compression** • **Detect network automatically** • **Detect bandwith automatically** • **Reconnect if connection is dropped**
Cache	Select the type of cache that will be used for the remote session:

OPTION	DESCRIPTION
	• **Default:** Use the value set in File – Options – Type – RDP – Cache. • **Full mode:** This protocol is full Windows 8 Remote Desktop protocol. • **Thin client:** This protocol is limited to using the Windows 7 with SP1 RemoteFX codec and a smaller cache. All other codecs are disabled. This protocol has the smallest memory footprint. • **Small cache:** This protocol is the same as **Full mode**, except it uses a smaller cache.
Keep alive	Data will be sent to the remote computer to keep the session alive. You can determinate the time between that and when the data is send. This option is only available in embedded mode.

CONNECTION



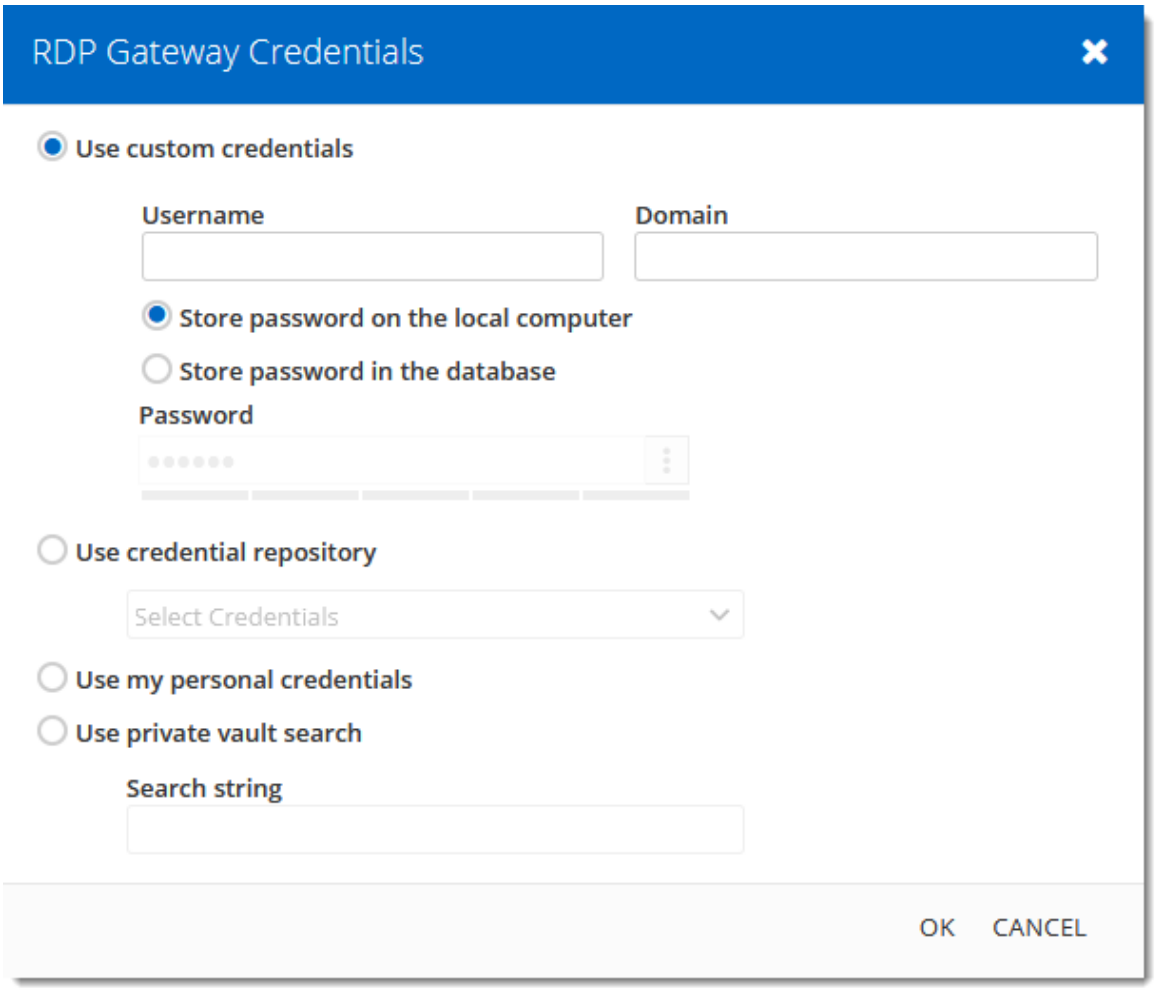
RDP (Microsoft Remote Desktop) - Connection

OPTION	DESCRIPTION
Server authentication verifies that you are connecting to the intended remote computer.	If the actual verification does not meet minimum policy requirements, select what needs to be done by the remote computer between the following: • **Connect and don't warn me** • **Do not connect** • **Warn me**

OPTION	DESCRIPTION
Activate network level authentication (SingleSignOn)	Network Level Authentication completes user authentication before you establish a remote session and the logon screen appears. This is a more secure authentication method.
Automatically detect RD Gateway server settings	The RD Gateway server settings will be detected by the application automatically.
Use these RD Gateway server settings	Indicate the specific settings to connect on the RD Gateway server.
Server Name (Host)	Enter the RD Gateway server/host name.
Logon method	Select the logon method between: • **Ask for password (NTLM)** • **Smart card** • **Allow me to select later** • **Use a gateway access token**
Gateway access token	Provide the access token if the Logon method is set to Use a gateway access token.
Open gateway only when unable to ping host	Establish a connection with the RD Gateway server only when it is not possible to ping the remote computer.
Bypass RD Gateway server for local addresses	Bypass the RD Gateway server when connecting on a remote computer who has a local IP address.
Use same RD Gateway credentials as remote computer	Use your personal RD Gateway credentials to connect on the remote computer.

OPTION	DESCRIPTION
Credentials	See **RDP Gateway credentials** section below.
Do not use RD Gateway server	Don't use any RD Gateway server to connect on the remote computer.

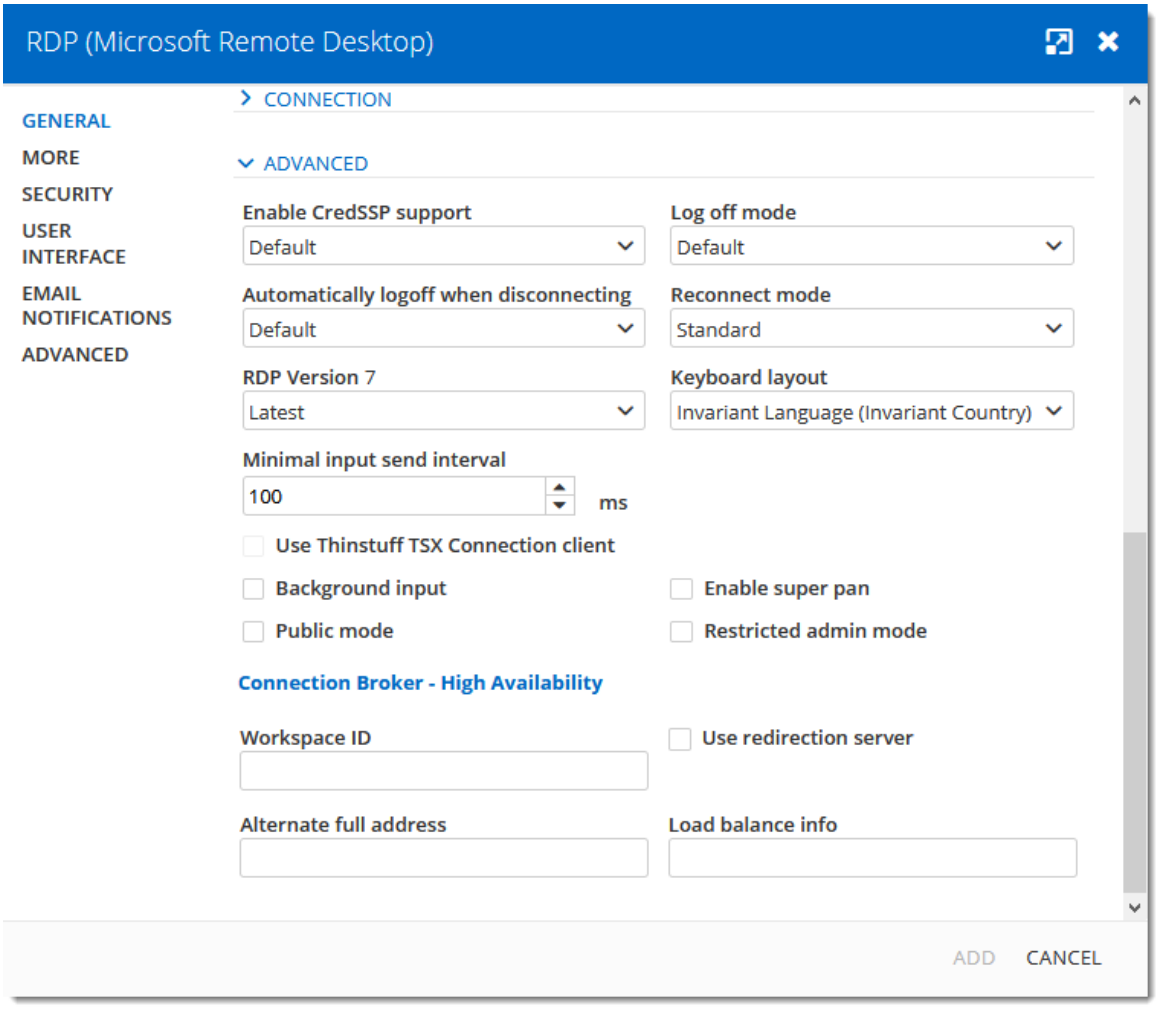
RDP GATEWAY CREDENTIALS



RDP (Microsoft Remote Desktop) - Gateway Credentials

OPTION	DESCRIPTION
Use custom credentials	Use a specific username, domain and store the password on the local computer or store the password in the database.
Store password on the local computer	This will use the Windows Credential Manager. It is not the best option because it has the following limitations: • The Credential Manager will hold only one entry per host, therefore if you have multiple sessions towards the same host, the last saved entry will overwrite whatever was stored. • The one host limitation ignores the port, therefore multiple sessions towards the same host, but with different ports, will conflict as well. Last saved entry overrides whatever was stored.
Store password in the database	The password will be store in the database.
Use Credential repository	Use a linked credential entry.
Use my personal credentials	Use the credentials stored in My Personal Credentials.
Use Private Vault search	Use the Search string to search for credential entries in the Private Vault.

ADVANCED



Microsoft Remote Desktop - (RDP) - Advanced

OPTION	DESCRIPTION
Enable CredSSP support	RDP will use the Credential Security Support Provider (CredSSP) for the authentication on the remote computer. Select between:
Log off mode	Select the log off method between: • **Default** • **Automatic** • **RDM Agent**

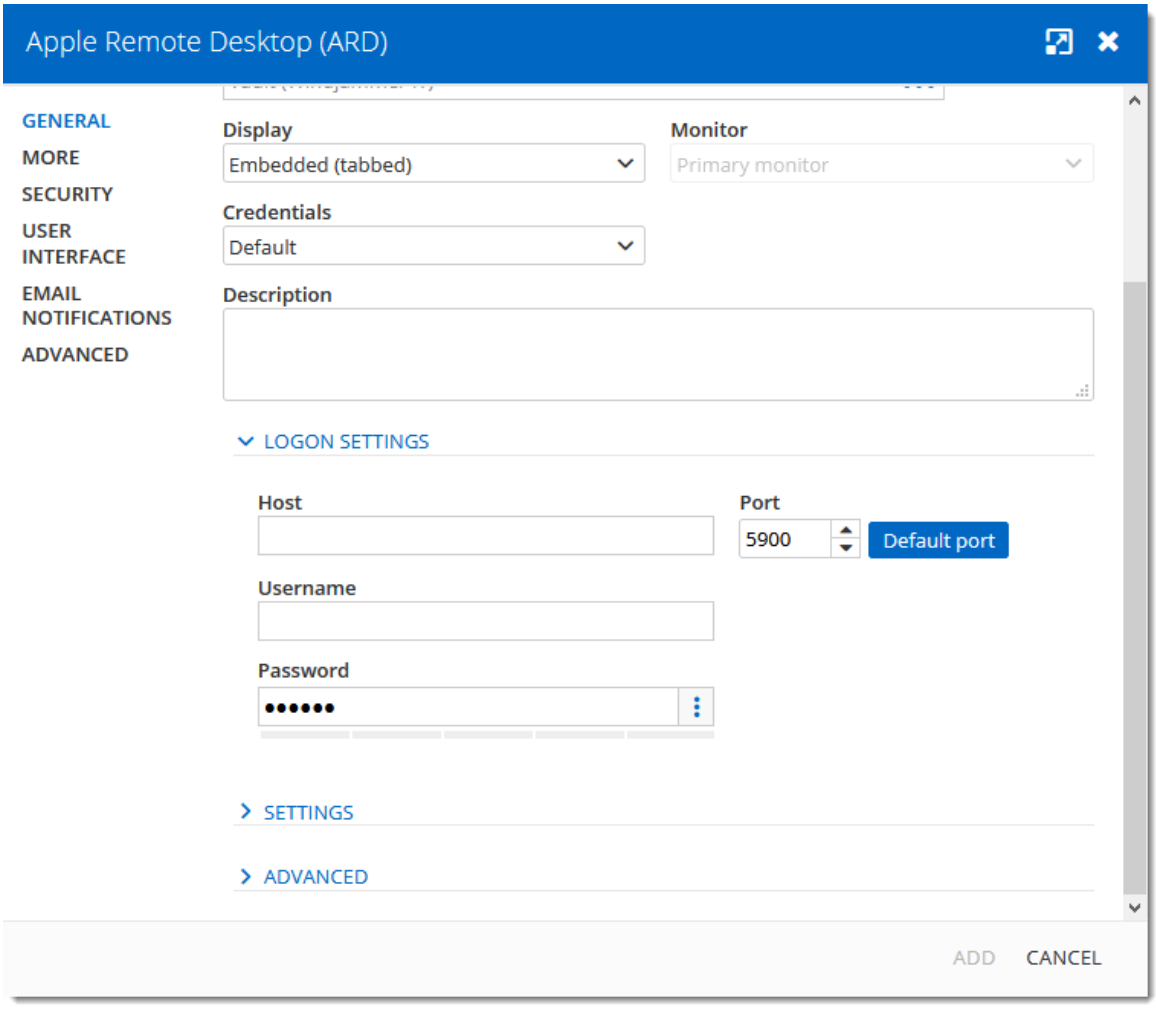
OPTION	DESCRIPTION
	• **Remote Desktop Services API** • **Macro**
Automatically logoff when disconnecting	Automatically log off your RDP session when disconnecting.
Reconnect mode	Select the reconnect behavior. Select between: • Default • Full • Smart reconnect • Legacy
RDP Version	Select the Remote Desktop Protocol version.
Minimal input send interval	Set the minimum time in milliseconds between the input is send to the remote computer.
Background input	The remote computer can accept input even when the focus is not on the session.
Restriced admin mode	This enables the restricted admin mode.
Enable super pan	Enabling super pan will take the entirety of your screen for the RDM session.
Public mode	Public mode is a security feature that limits the security information stored on the remote station. It also limits the amount of time this information can be stored.
Workspace ID	Enter the Workspace ID that contain the setting associate to the RemoteApp and Desktop ID.
Use redirection server	Redirect a remote computer to the RDP session host.

OPTION	DESCRIPTION
Alternate full address	Indicate an alternate name of the remote computer that you want to connect on.
Load balance info	Indicate the load balance info when the load balancing feature is enable on the RD Connection Broker.

5.3.2.1.2 Apple Remote Desktop (ARD)

DESCRIPTION

GENERAL (LOGON SETTINGS)

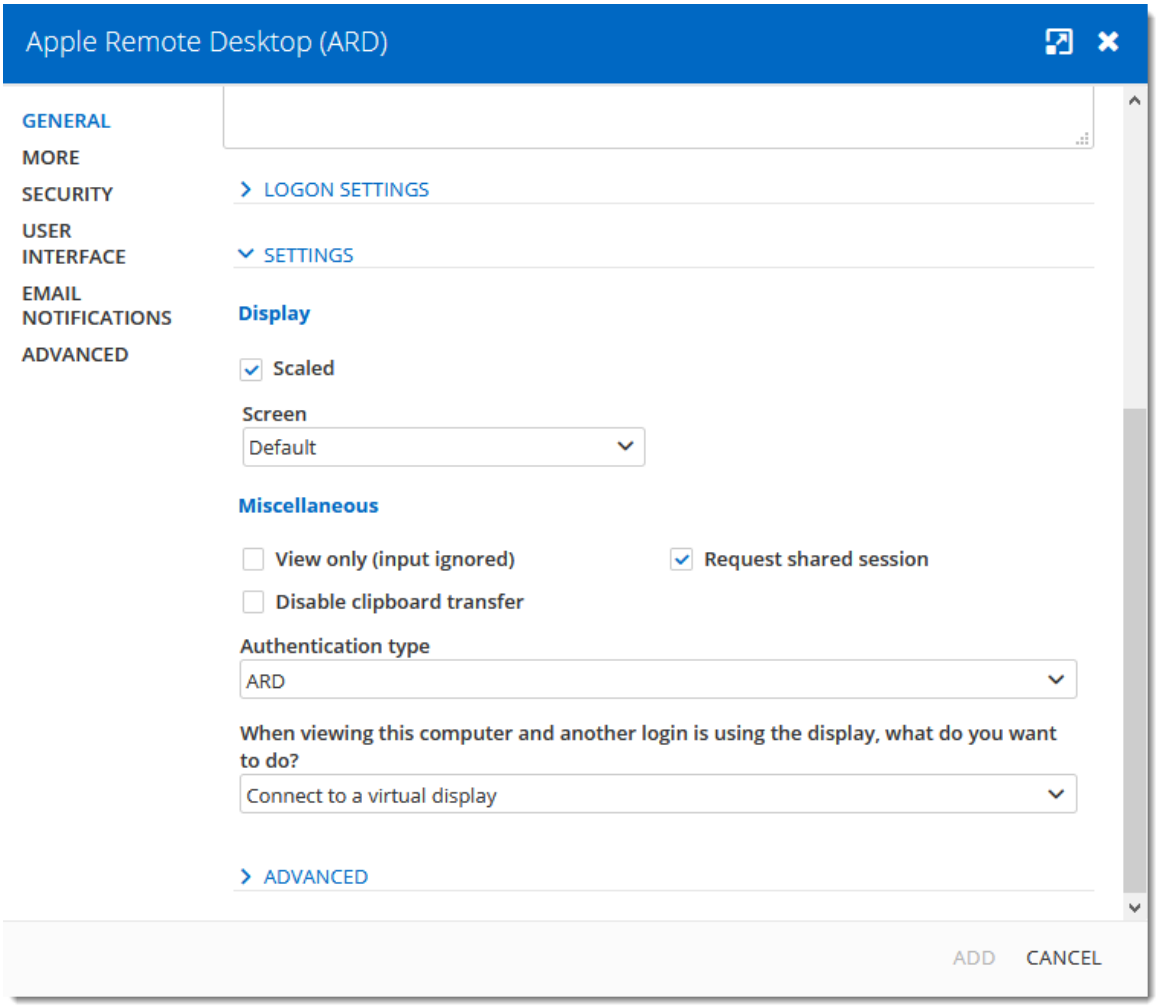


Apple Remote Desktop - General

OPTION	DESCRIPTION
Host	Enter the host name or IP address of the remote device.
Port	Enter the port to access the remote computer. Set the value to 0 to use the default port.
Username	Enter the username to connect to the remote computer.
Password	Enter the password to connect to the remote computer.

OPTION	DESCRIPTION
Password Analyzer	Indicates the strength of the password.

SETTINGS

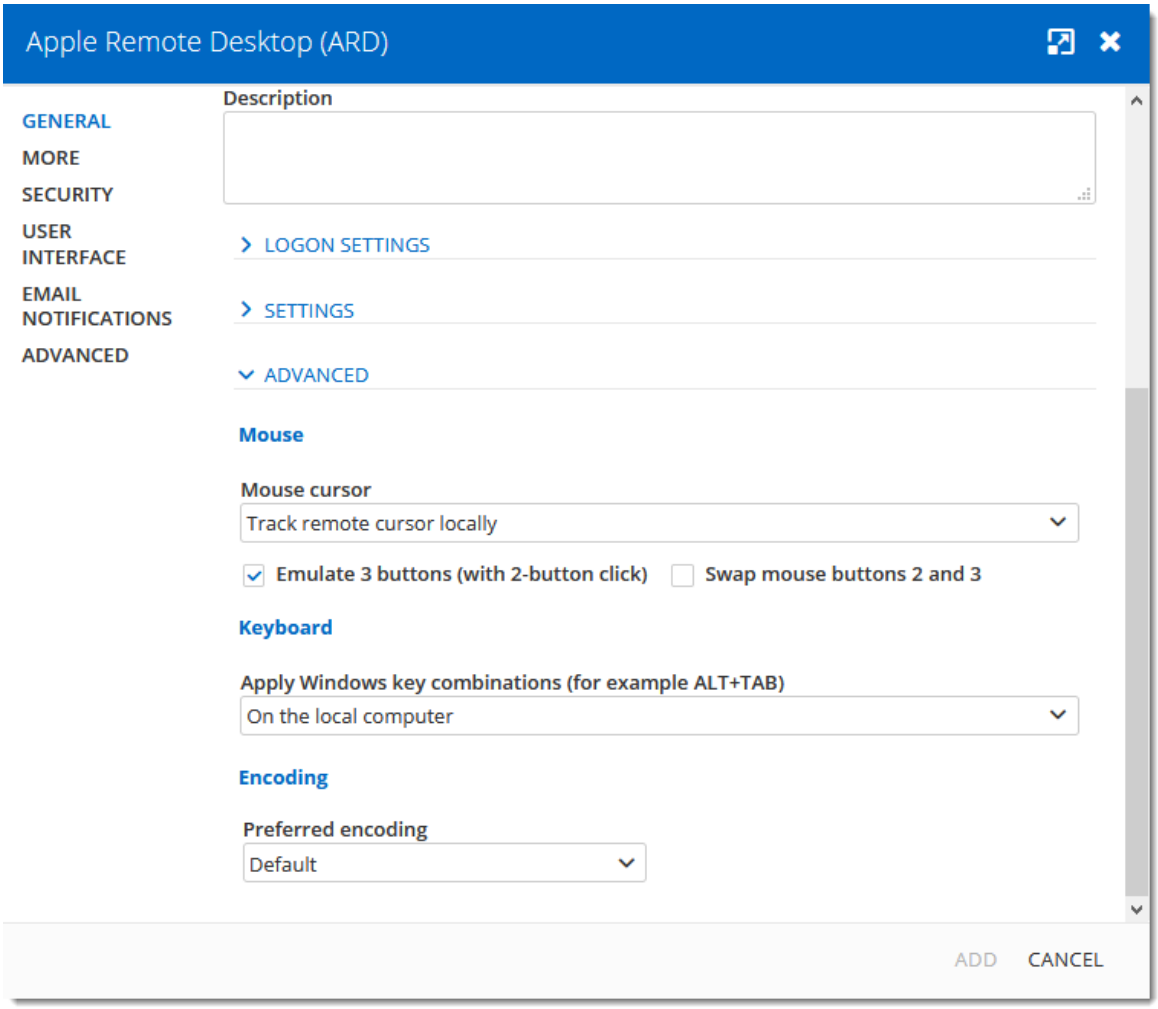


Apple Remote Desktop - Settings

OPTION	DESCRIPTION
Scaled	Scale the remote display to fit the window.

OPTION	DESCRIPTION
Screen	Select the screen where you want to display the remote connection. Select between: • **Default**: Use the setting in ***File – Options – Types – Others – Apple Remote Desktop (ARD)***. • **Primary**: Display the primary screen. • **Custom**: Select which screen to display. • **Prompt**: Prompt at opening to select the remote display if there is more than one.
View only (input ignored)	Connect in view only mode. This option disables the keyboard and mouse while in session.
Request shared session	The remote user will be prompted with a request to share his session.
Disable clipboard transfer	Disable the clipboard sharing.
Authentication type	Select the authentication mode for the connection. Select between: • **ARD** • **ARD ask observe** • **ARD ask control**

ADVANCED



Apple Remote Desktop - Advanced

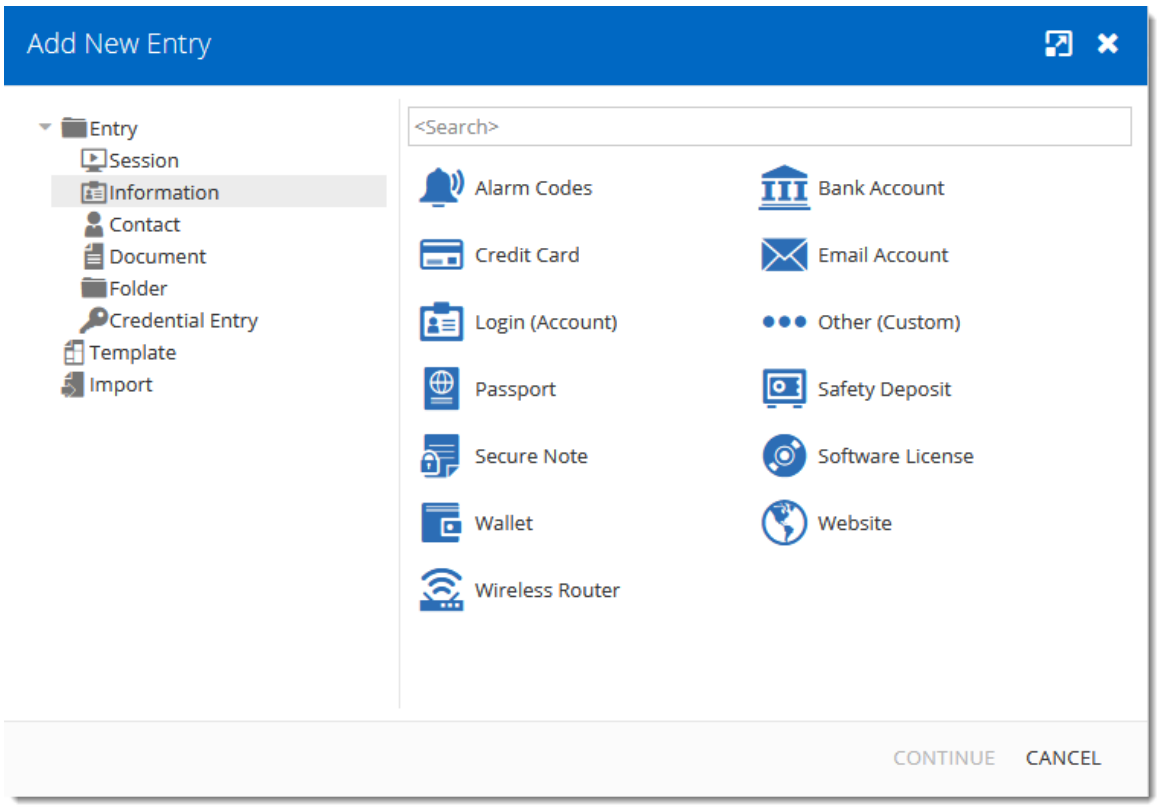
OPTION	DESCRIPTION
Mouse cursor	Select the way the mouse cursor is handled. Select between: • **Track remote cursor locally** • **Let remote server deal with mouse cursor** • **Don't show remote cursor**
Emulate 3 buttons (with 2-button click)	Emulate mouse button 3 when clicking on both button 1 and button 2.

OPTION	DESCRIPTION
Swap mouse buttons 2 and 3	Invert mouse buttons 2 and 3.
Apply Windows key combinations	Select where the key combinations are sent. Select between: • On the local computer • On the remote computer • In full screen mode only
Keyboard layout	Select the keyboard layout. Select between: • Azerty • Qwerty
Preferred encoding	Change the encoding to use less bandwidth. From the least to the most bandwidth used, select between: • Zlib 16 gray (black and white) • Zlib halftone (black and white) • Zlib thousands (in color) • Zlib (you can choose your custom compression level) • Default (color)

5.3.2.2 Information

DESCRIPTION

Information entry types are used to store sensitive information like alarm codes, serial numbers, credit card information and more into the data source.



Add a new Information Entry

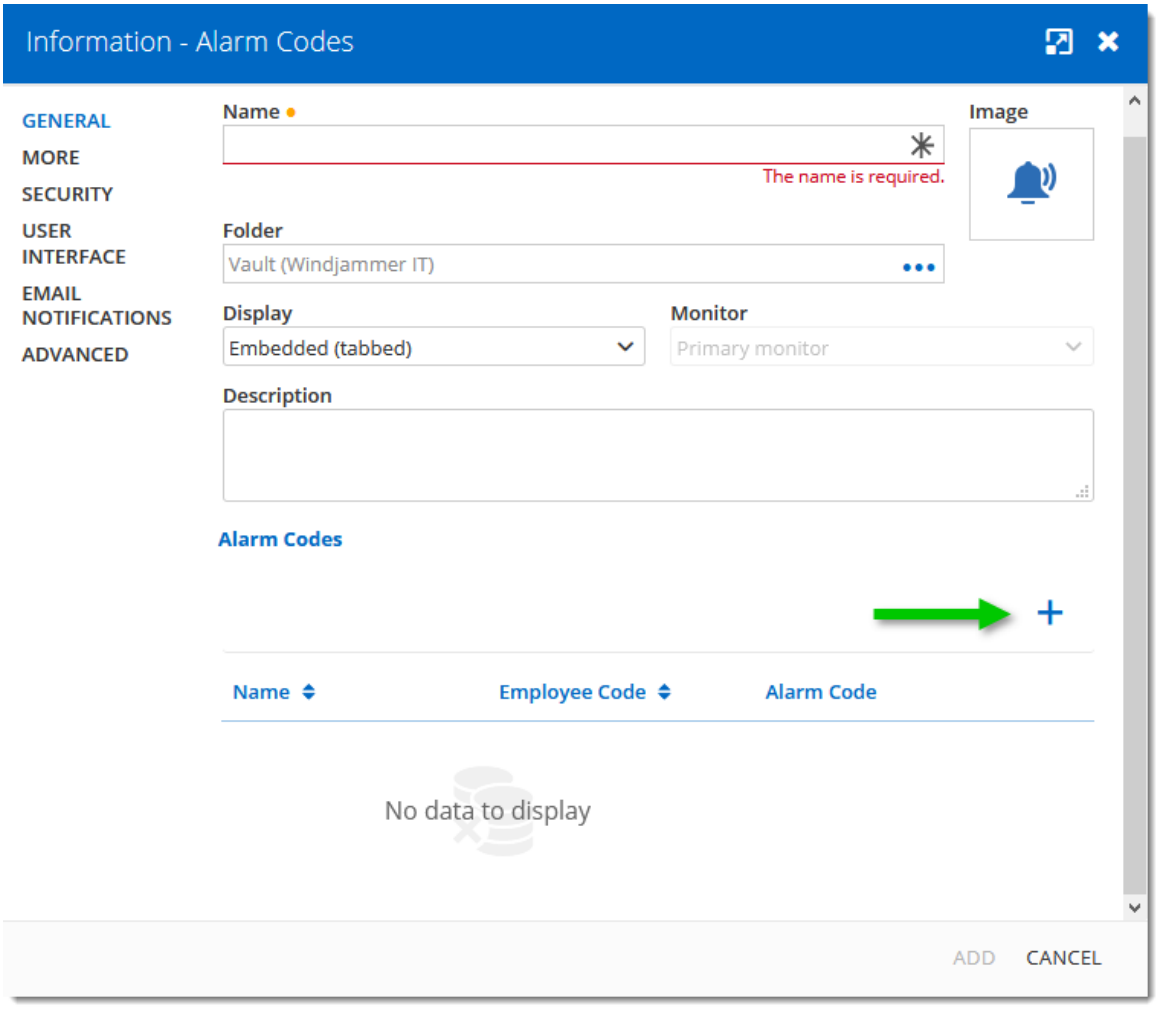
5.3.2.2.1 Alarm Codes

DESCRIPTION

The **Alarm Codes** entry is used for securely storing employee/alarm code pairings.

GENERAL

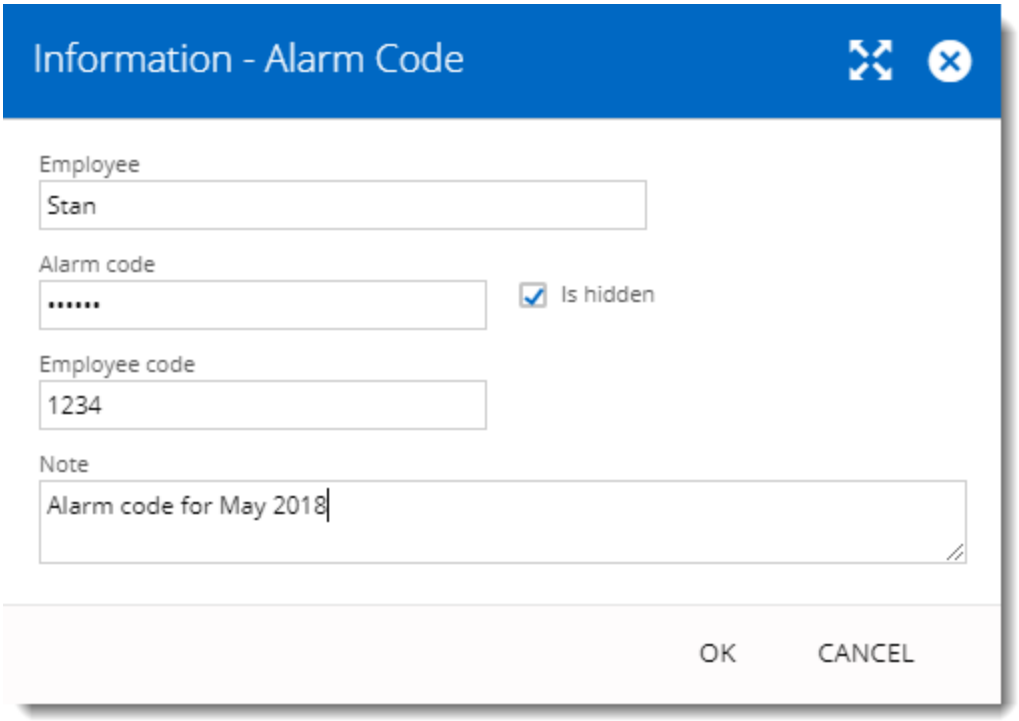
Click on the **General** side menu and enter a Name for your newly created entry, then click on the **plus sign** to add information.



Information Entry - Alarm Codes

SETTINGS

Enter all the Alarm Codes information and then click on **OK** to add it to your entry. You can add multiple Alarm codes to the same entry, once you've entered all the Alarm codes simply click on **Add**.



New Alarm Code

OPTION	ENCRYPTED	DESCRIPTION
Employee		Enter the employee's name.
Alarm code	✔	Enter the alarm code.
Employee code		Enter the employee's code.
Note		Add a note regarding the alarm code.

5.3.2.2.2 Email Account

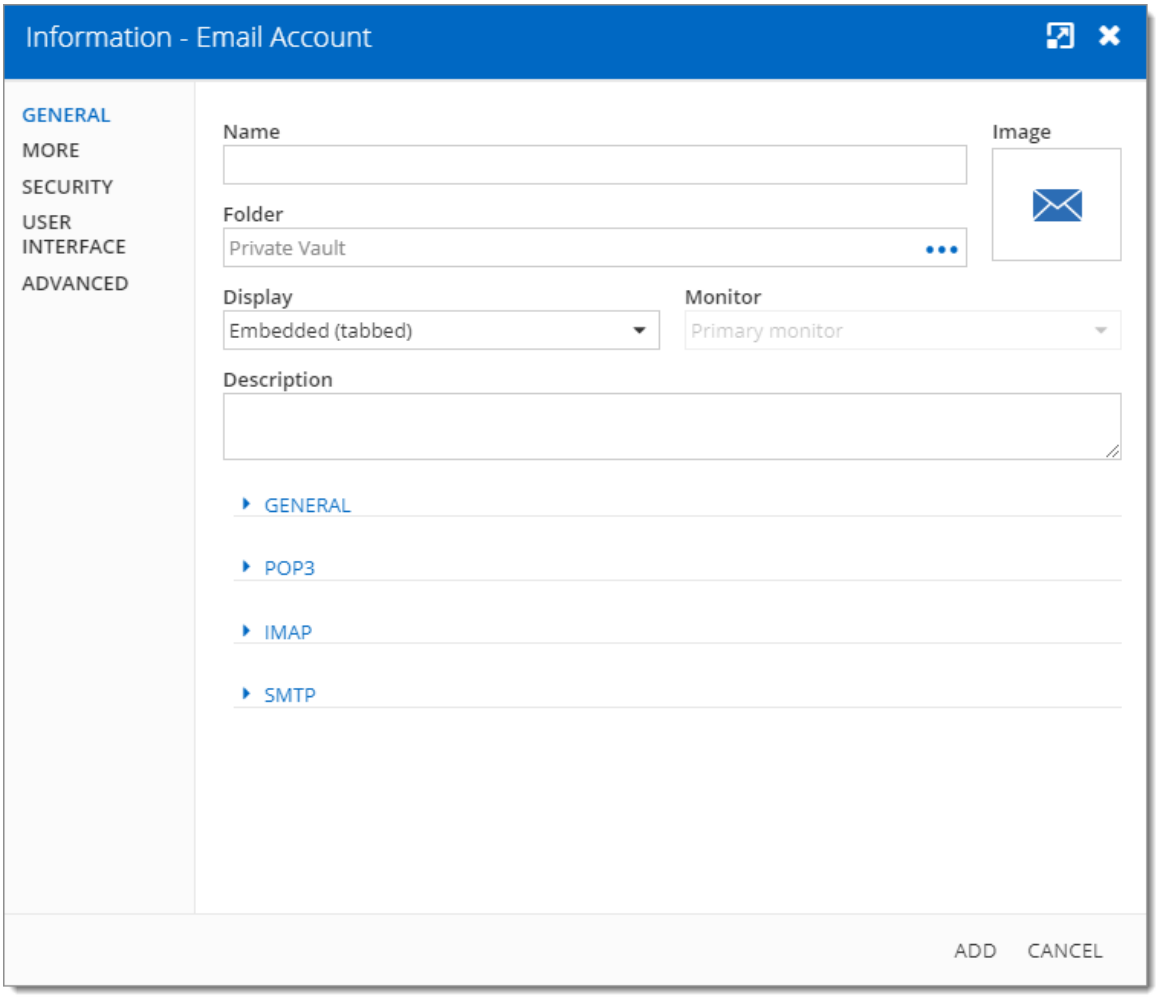
DESCRIPTION

The **Email Account** entry is useful to securely store email account settings including POP3/IMAP/SMTP servers, username and passwords.

SETTINGS

GENERAL

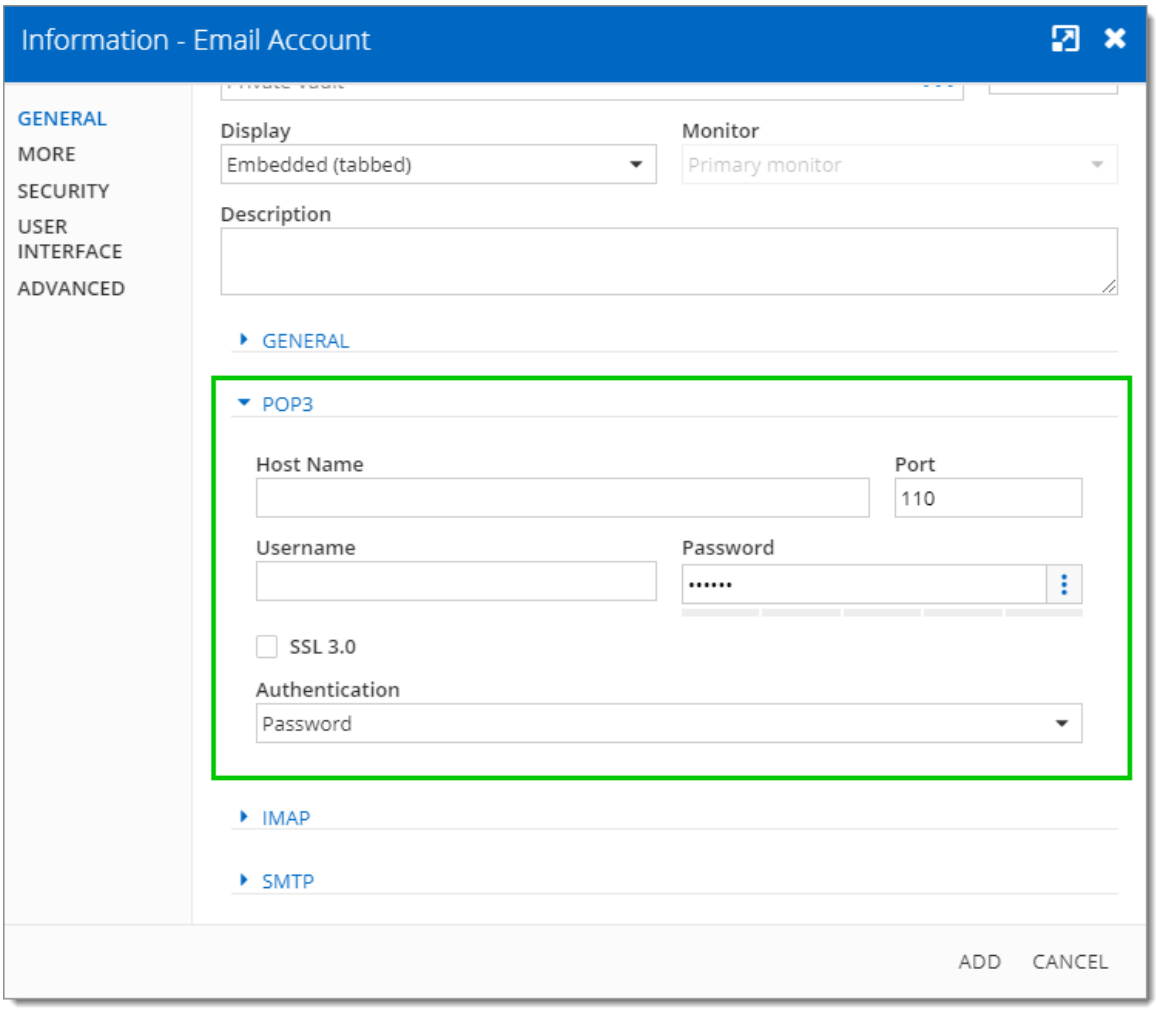
Click on the **General** side menu and enter all the required information in the **General tab**. Once all required information in all tabs is entered click on **Add**.



Information Entry - Email Account - General Tab

OPTION	ENCRYPTED	DESCRIPTION
Your name		Enter the account name.
Email		Enter the email address.
S/MIME		Enable if this email account requires/uses Secure/Multipurpose Internet Mail Extensions.

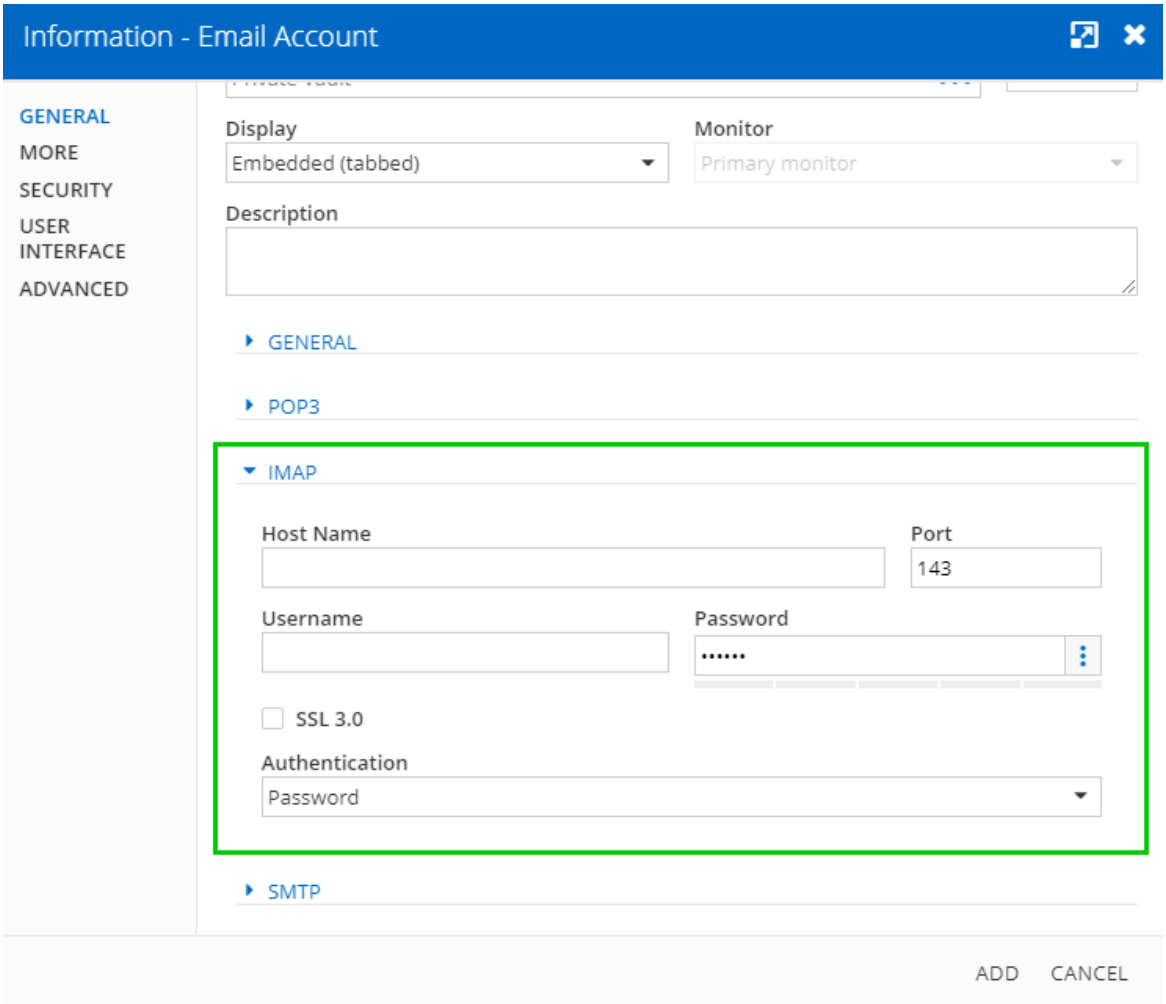
POP3



Information Entry - Email Account - POP3 Tab

OPTION	ENCRYPTED	DESCRIPTION
Host name		Enter the POP3 host name.
Port		Enter the POP3 port, the default port is 110.
Username		Enter the POP3 username.
Password	✔	Enter the POP3 password.
SSL 3.0		Enable if the POP3 requires an SSL connection.
Authentication		Choose your POP3 authentication mode between: • **AppleToken** • **HTTPMD5Digest** • **MD5ChallengeResponse** • **NTLM** • **Password**

IMAP

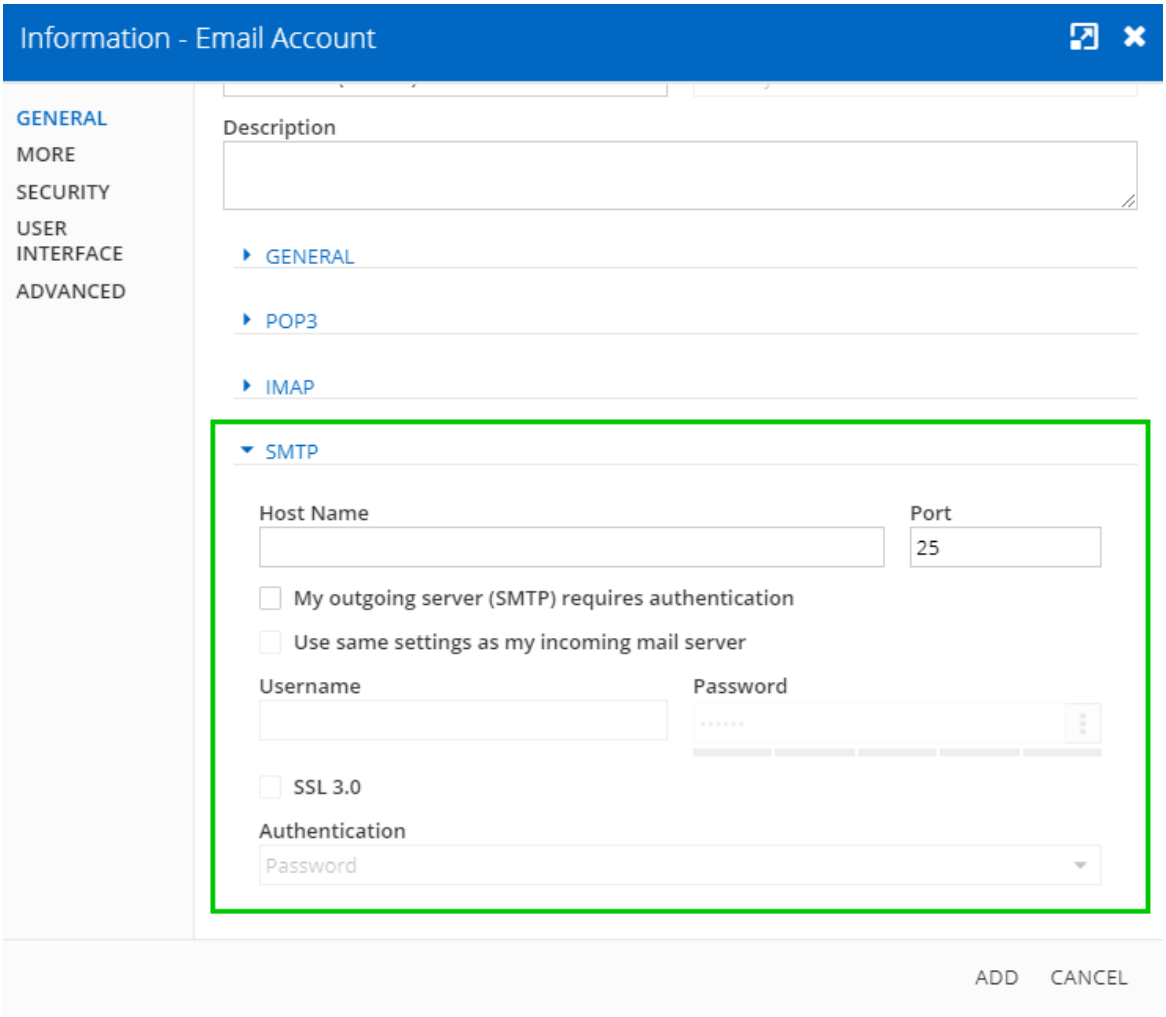


Information - Email Account - IMAP Tab

OPTION	ENCRYPTED	DESCRIPTION
Host name		Enter the IMAP host name.
Port		Enter the IMAP port, the default port is 143.
Username		Enter the IMAP username.
Password	✔	Enter the IMAP password.
SSL 3.0		Enable if the IMAP requires an SSL connection.

OPTION	ENCRYPTED	DESCRIPTION
Authentication		Choose your IMAP authentication mode between: • **AppleToken** • **HTTPMD5Digest** • **MD5ChallengeResponse** • **NTLM** • **Password**

SMTP



Information Entry - Email Account - SMTP Tab

OPTION	ENCRYPTED	DESCRIPTION
Host name		Enter the SMTP host name.
Port		Enter the SMTP port, the default port is 25.
My outgoing server (SMTP) requires authentication		Does the SMTP server require authentication.

OPTION	ENCRYPTED	DESCRIPTION
Use same settings as my incoming mail server		Use POP3 or IMAP settings for the outgoing server authentication.
Username		Enter the SMTP username.
Password	✔	Enter the SMTP password.
SSL 3.0		Enable if the SMTP requires an SSL connection.
Authentication		Choose your SMTP authentication mode between: • **AppleToken** • **HTTPMD5Digest** • **MD5ChallengeResponse** • **NTLM** • **Password**

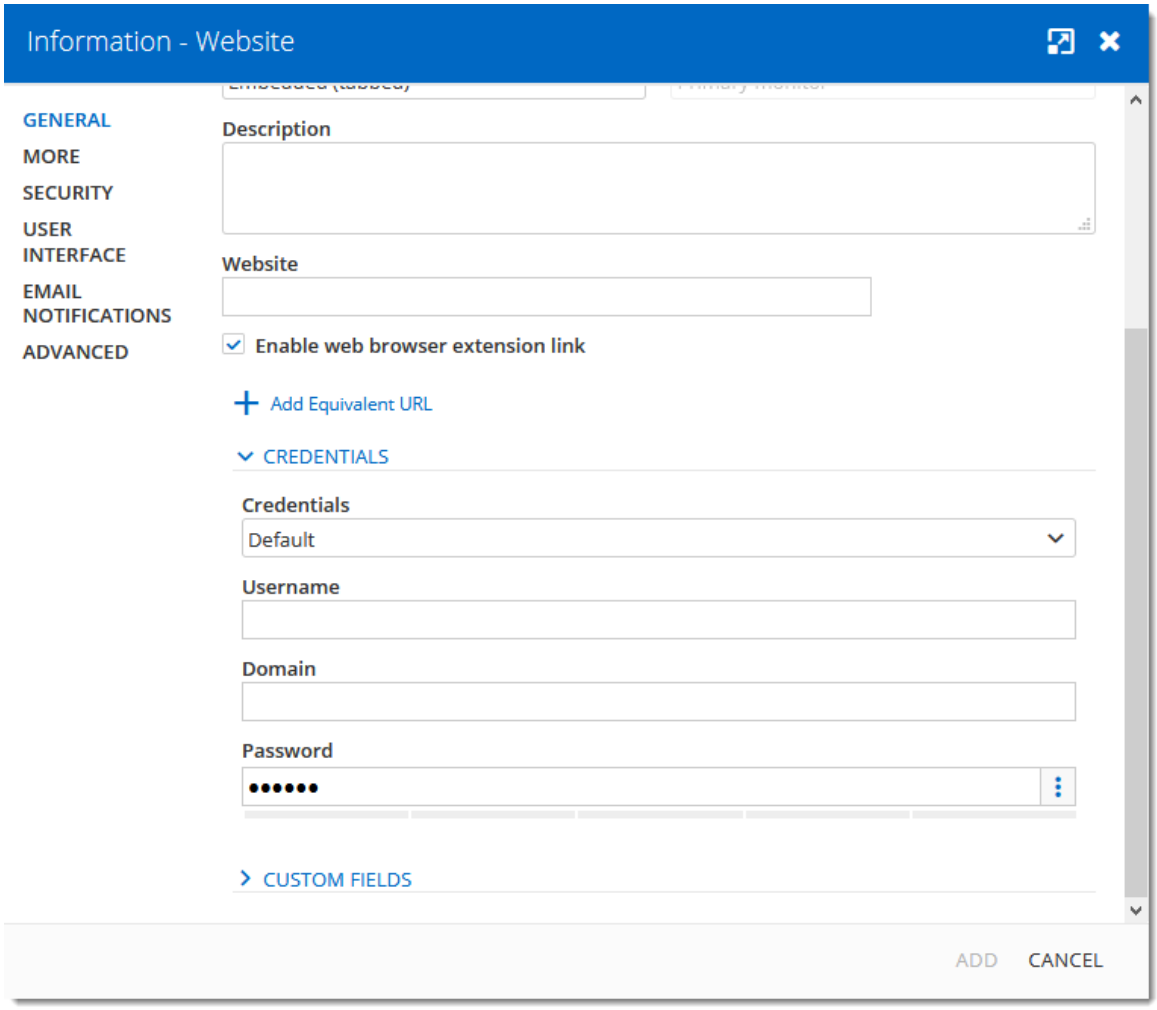
5.3.2.2.3 Website

DESCRIPTION

The **Website** entry is useful for storing web site credential information including username, domain and password.

SETTINGS

Click on the **General** side menu and enter all the required information, then click on **Add**.



Information Entry - Website

OPTION	ENCRYPTED	DESCRIPTION
Website		Enter the URL to a website's log in page.
Credentials		Select the credential mode between: • **Default**: provide the credentials in the entry's properties.

OPTION	ENCRYPTED	DESCRIPTION
		• **Credential repository**: select an existing credential entry. • **Inherited**: inherit the credentials from a parent folder. • **None**: do not provide any credentials in the entry. • **Private Vault search**: search for an existing credentials entry in the user's Private Vault. The exact name of the credential entry must be provided. If two matches occur, the user is prompted with all available credential entries in their Private Vault.
Username		Enter the username associated to the website's account.
Domain		Enter the domain associated to the website's account.
Password	✔	Enter the password associated to the website's account.

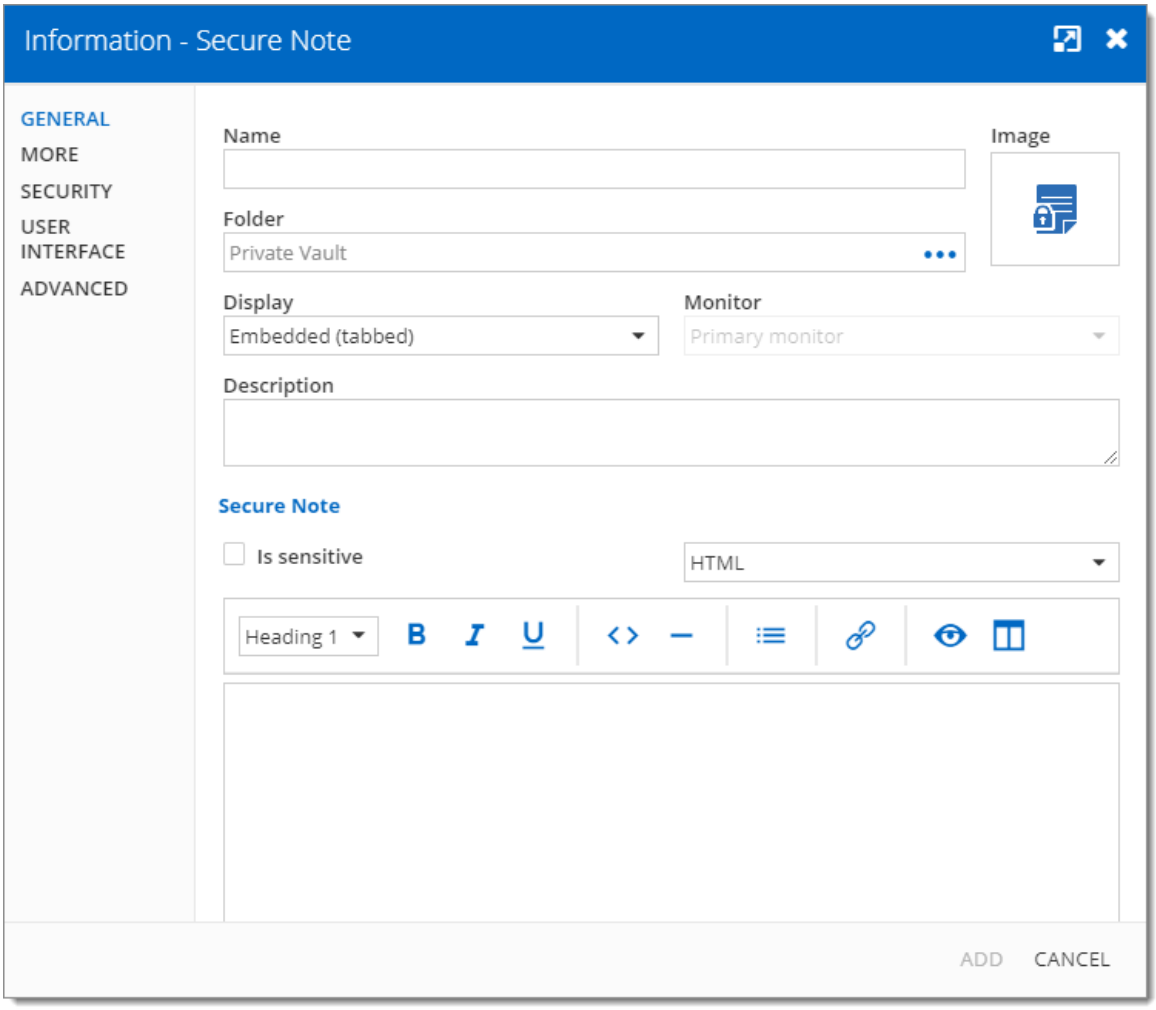
5.3.2.2.4 Note/Secure Note

DESCRIPTION

The **Note/Secure Note** entry is a simple free form note allowing you to securely store any type of free form information.

SETTINGS

Click on the **General** side menu and enter all the required information, you can choose between the HTML or plain text format, then click on **Add**.



Information Entry - Note/Secure Note

5.3.2.3 Contact

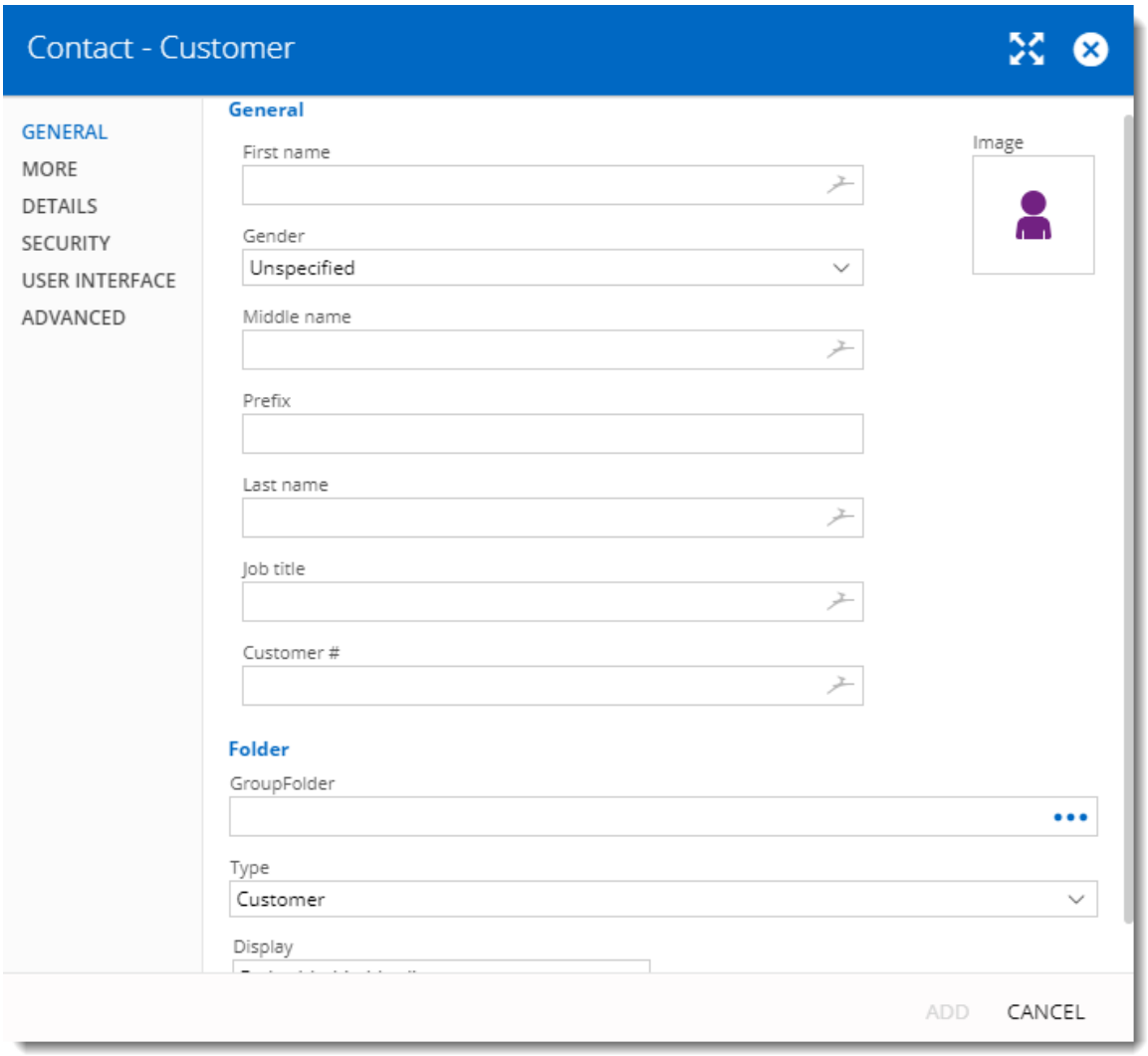
DESCRIPTION

Contact entry types are used to manage your contacts in Devolutions Password Server.

SETTINGS

GENERAL

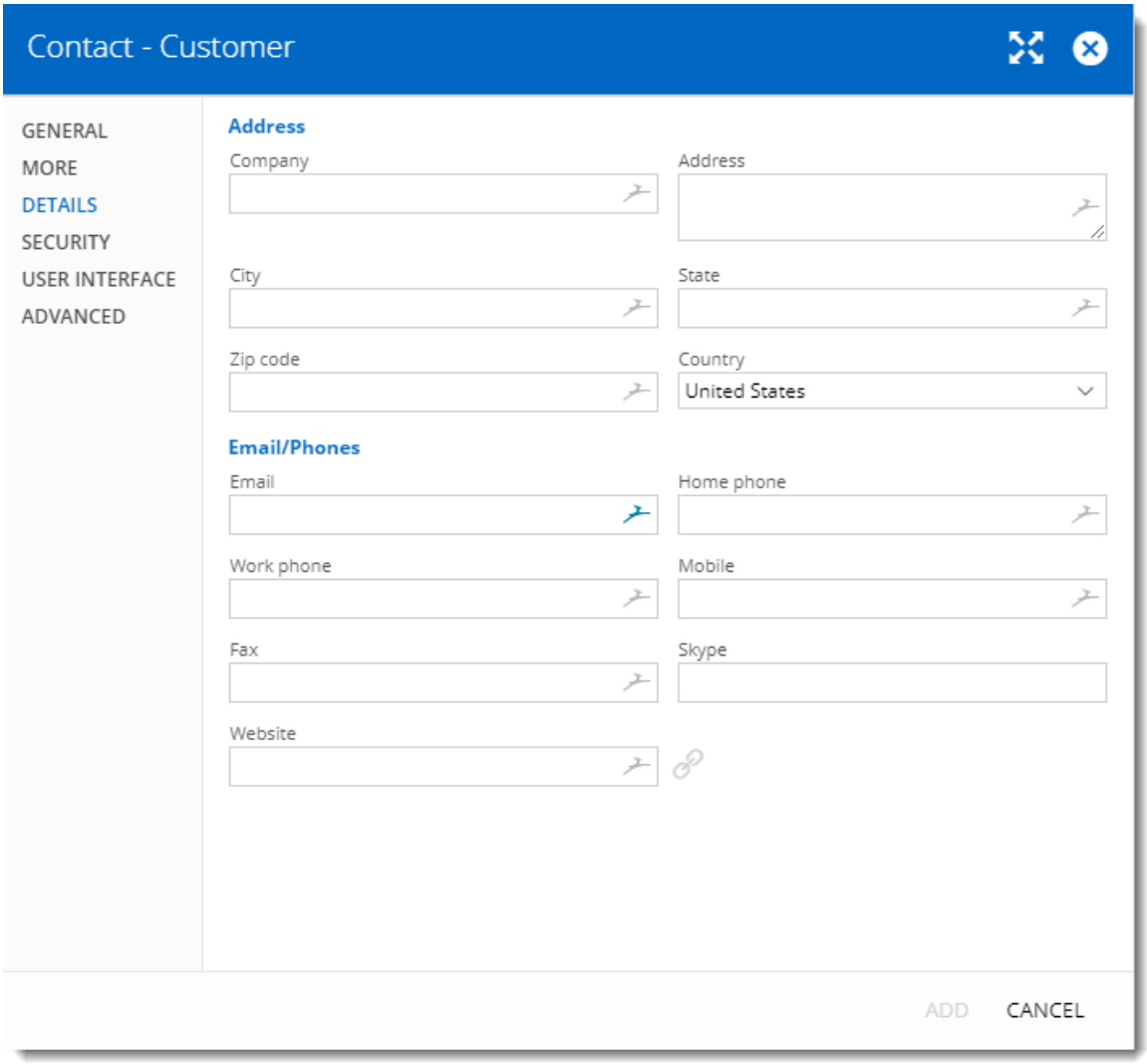
Use the **General** side menu to enter basic information about the contact, such as their name, gender and job title.



Contact Entry - Customer - General side Menu

DETAILS

Use the **Details** side menu to enter information about the contact's company address, email and phone number.



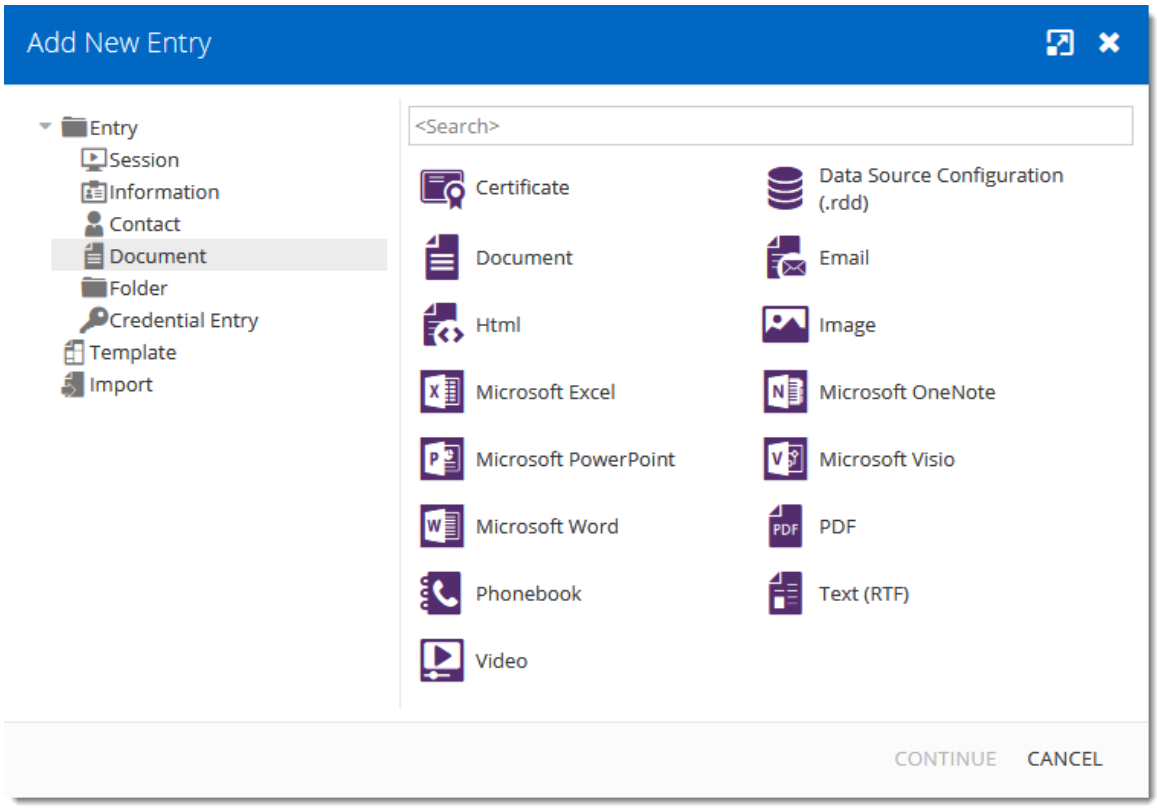
Contact Entry - Customer - Details side Menu

5.3.2.4 Document

DESCRIPTION

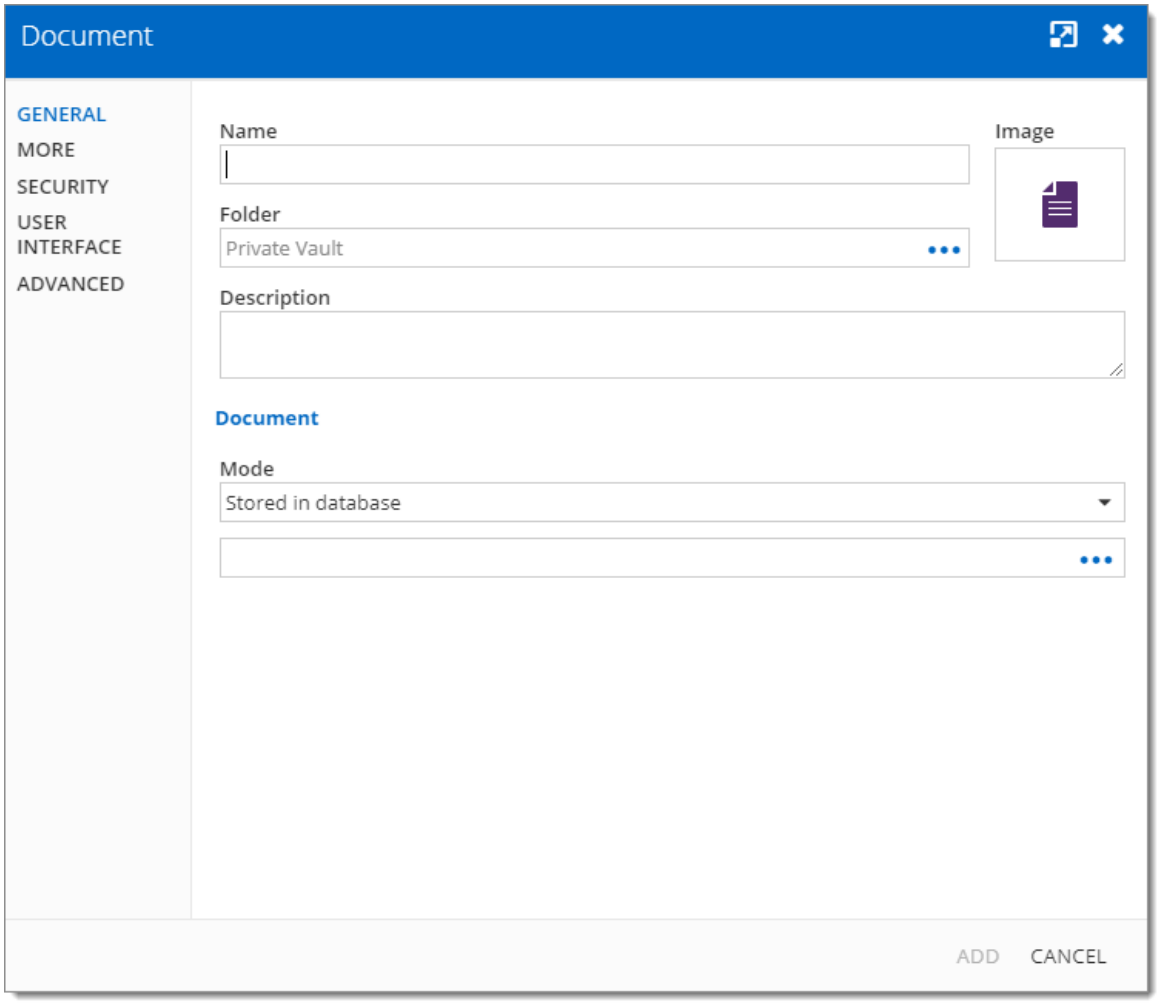
Document entry types are used to store any type of document directly in the data source.

For architectural reasons, the documents stored in our Advanced Data sources are **NOT** protected from deletions. Once they are deleted, **they cannot be restored**. Please keep a safe copy of all documents in another storage device. Support for this feature will be added in a coming update to our products.



Add a new Document Entry

SETTINGS



Document Entry - Default

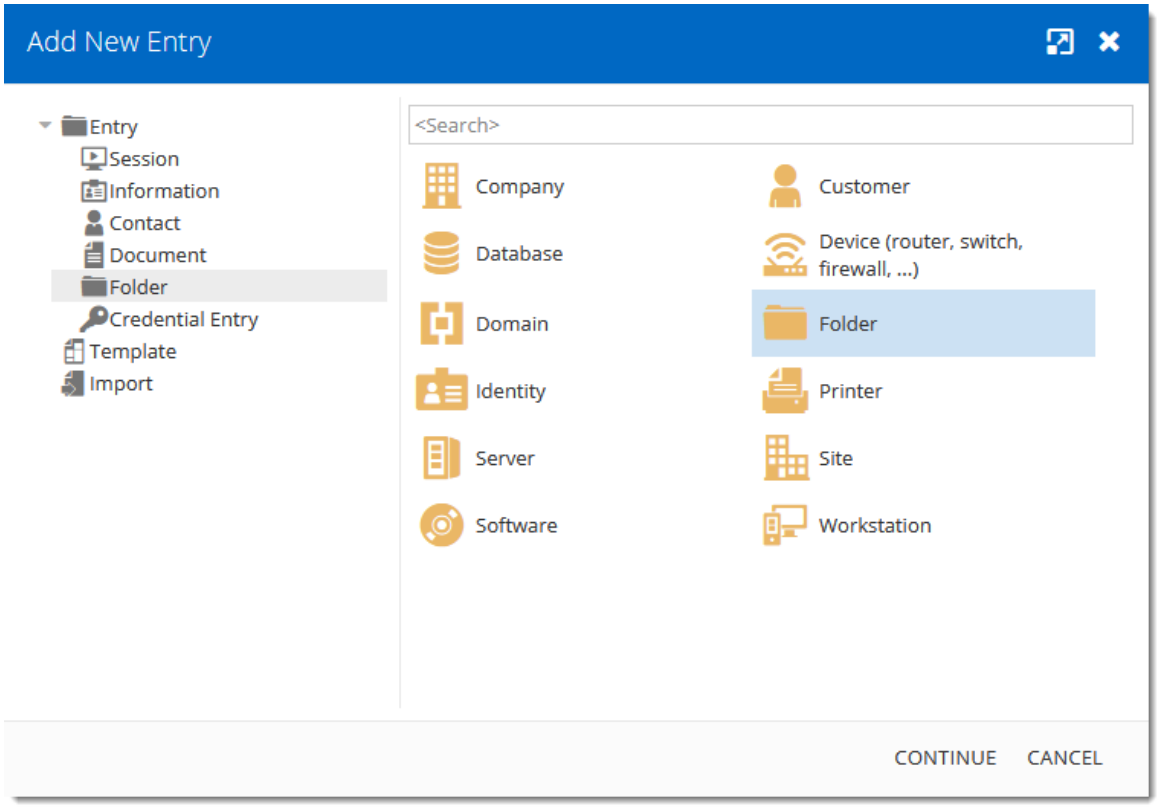
OPTION	ENCRYPTED	DESCRIPTION
File Type		Indicate the file type entry you wish to create.
Mode		Select the mode between: • **Stored in database (select a file stored in the database)** • **URL (open a file using a URL)**

OPTION	ENCRYPTED	DESCRIPTION
Stored in database		If you have selected the ***Stored in database*** mode, click on the ellipsis in the box under to select a file that will be stored in the database. Some data sources do not support this mode.
URL		If you have selected the ***URL*** mode, click in the box under to enter the URL.

5.3.2.5 Folder

DESCRIPTION

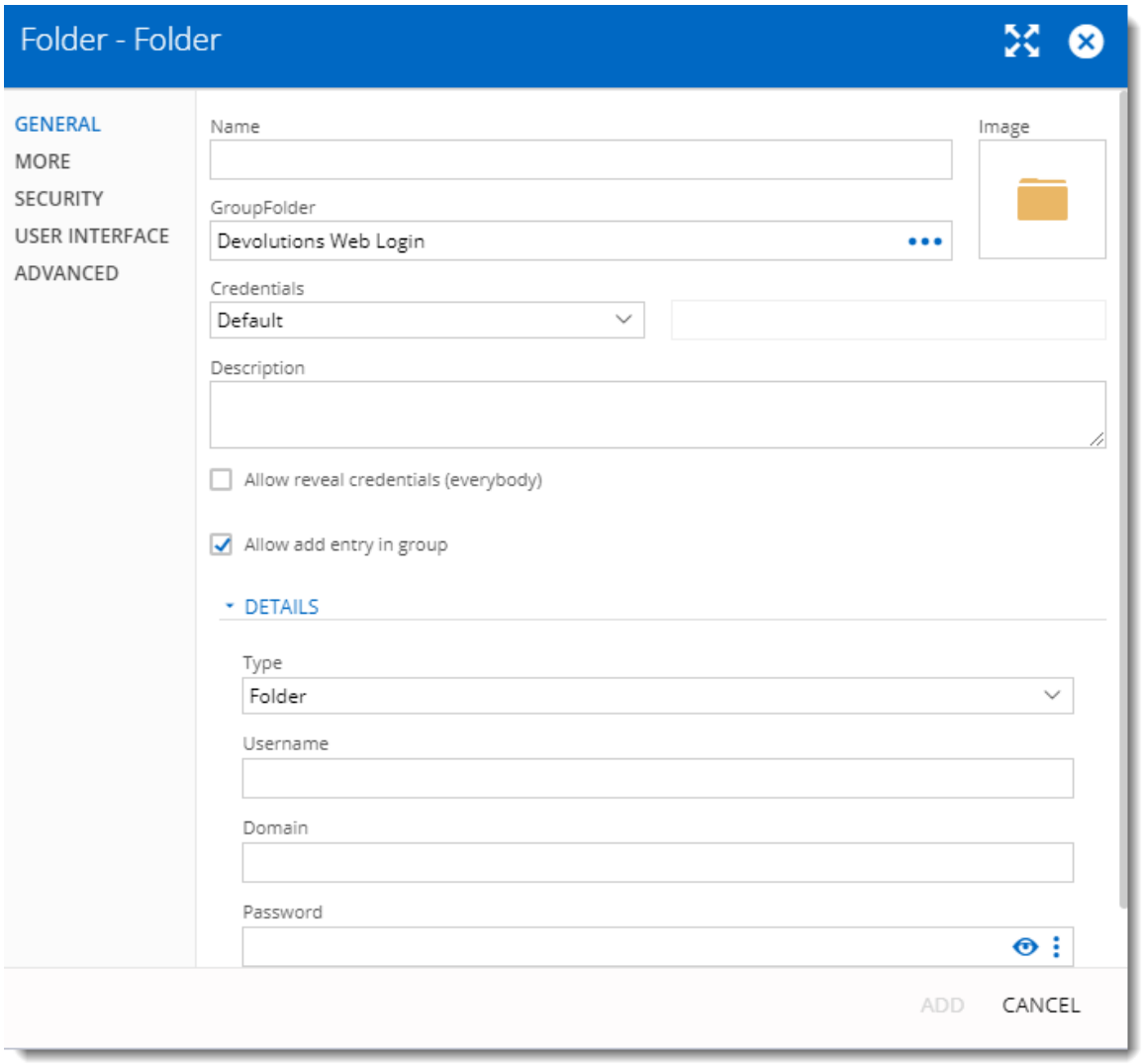
Folders are used to organize your entries in a logical way. It is possible to create an extensive hierarchy of folders and sub folders, alphabetically sorted.



Folder Entry

SETTINGS

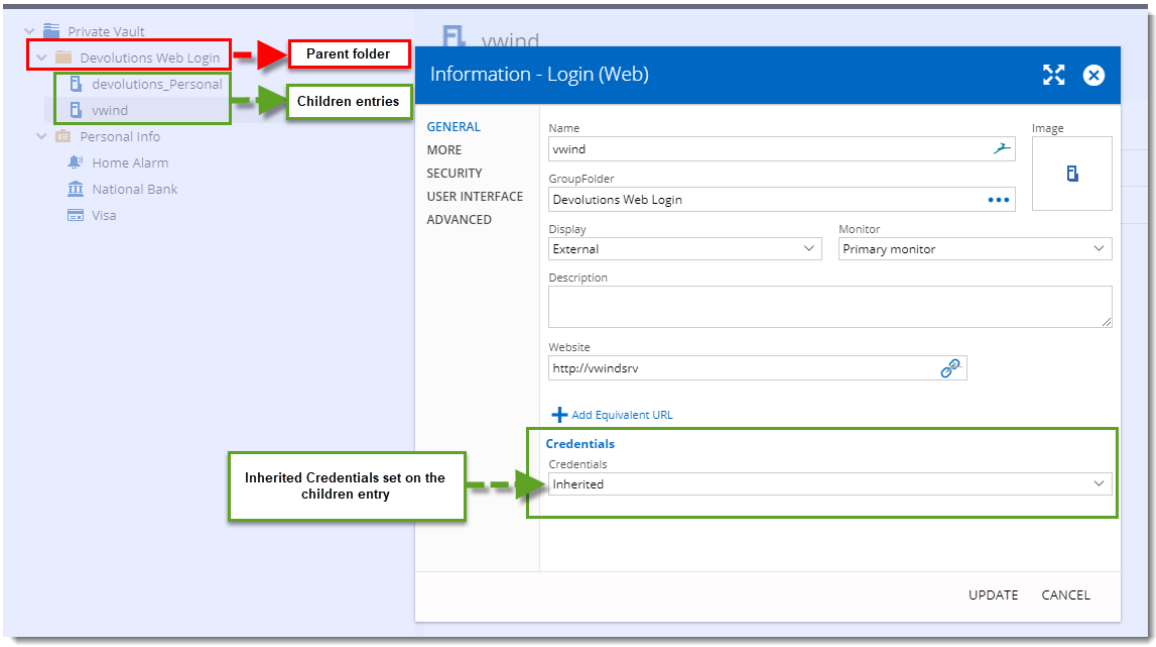
Enter a name for your **Folder**. You could also define a username, domain and password directly in your folder if you wish for the child entries to inherit from it.



Folder - Folder

INHERITED CREDENTIALS

If you want your child entries (meaning entries stored under your folder) to inherit the credentials set on the folder (also called parent folder), you must specify **Inherited** credentials in your child entries.



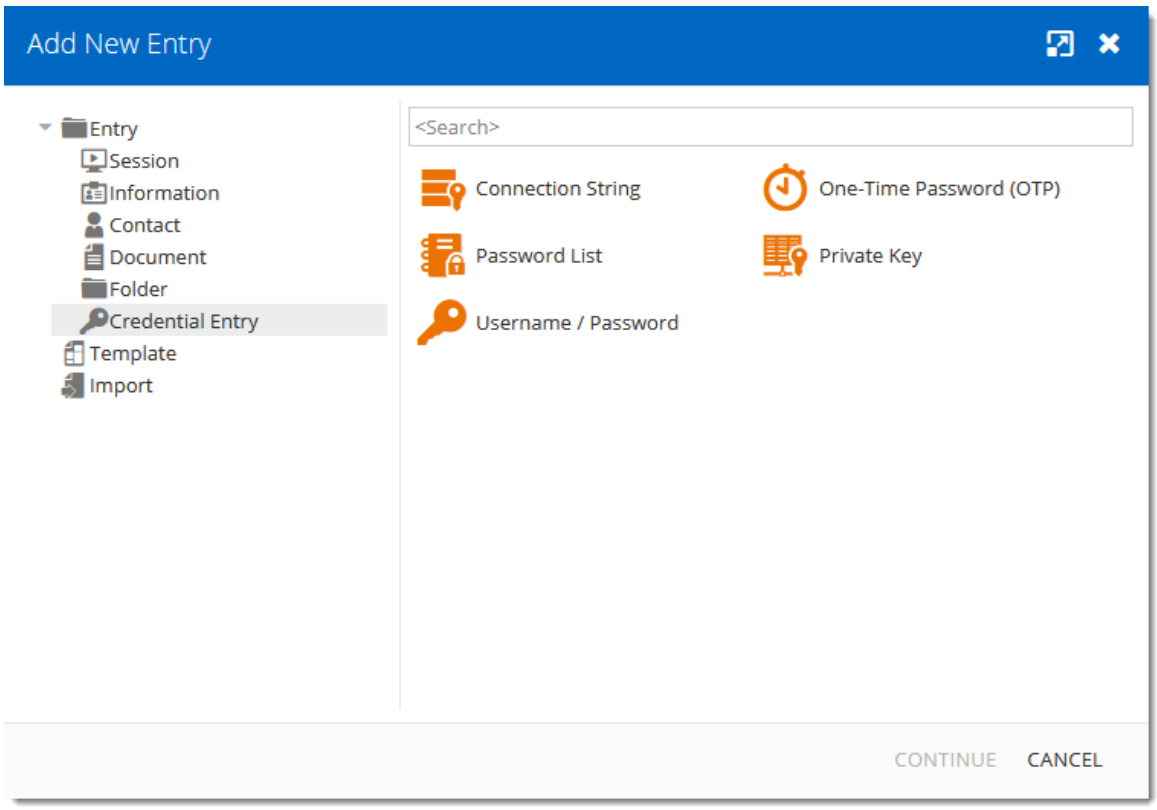
Inherited Credentials set on your child Entry

5.3.2.6 Credential Entry

DESCRIPTION

Credential entries are used to store account information, such as usernames, passwords, domains, etc. **Credentials** are available from the **credential repository**, a collection of all the credentials stored in the data source.

Credentials entries allows you to set multiple sessions to use specific credentials in the data source. This simplifies management by allowing you to maintain a single credential entry for multiple entries.



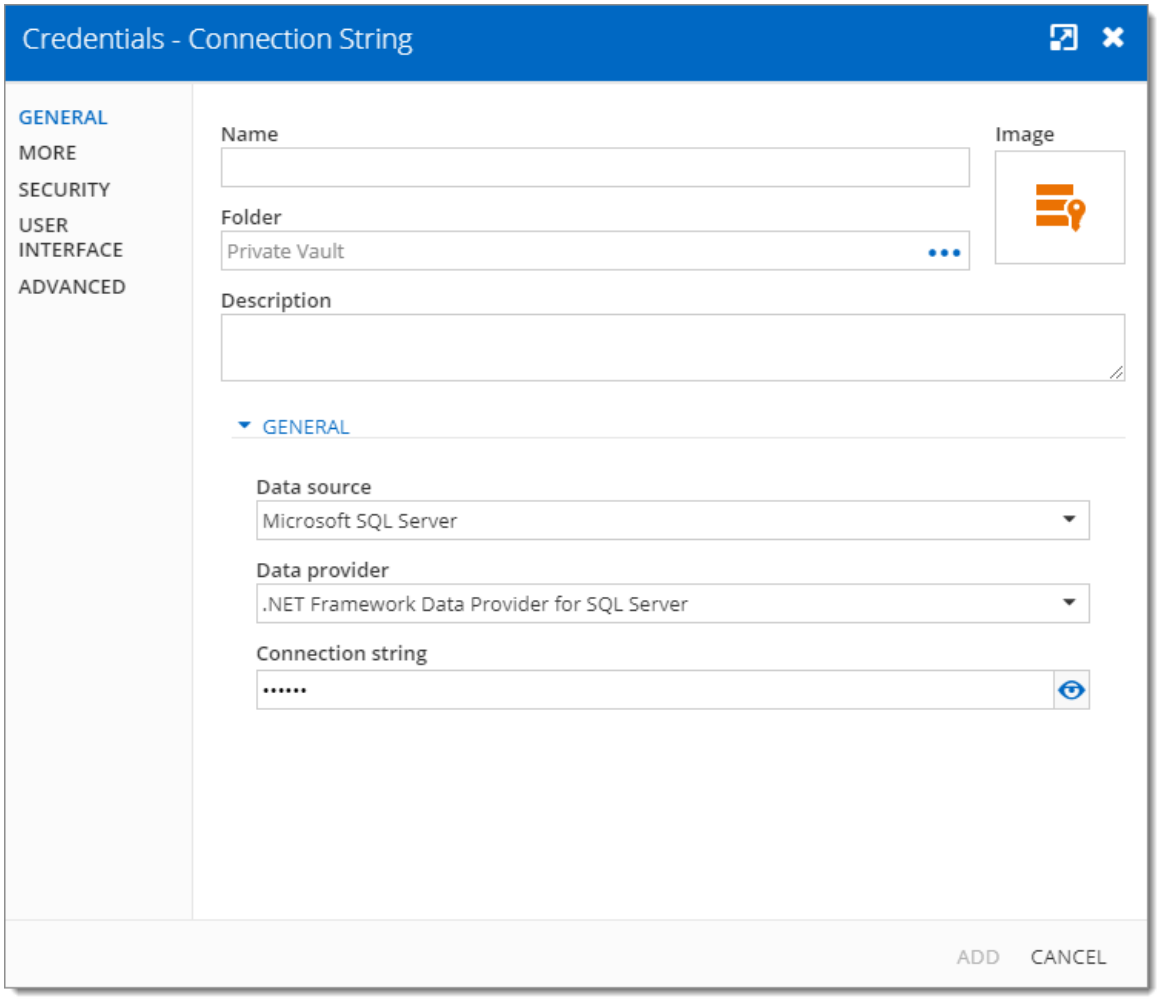
Add New Entry - Credential Entry

5.3.2.6.1 Connection String

DESCRIPTION

This entry is used to define and configure a **Connection String** credential entry.

SETTINGS



Credentials - Connection String

OPTION	DESCRIPTION
Data Source	Contains data source types like ODB, OLEDB or native. This value is read only and is extracted from the connection string.
Data provider	Specify the provider used for the database access. This value is read only and is extracted from the connection string.
Connection String	This value contains the database connection string and it can be hidden/encrypted for a higher level of security
Eye/Lock button	Reveal or hide the connection string.

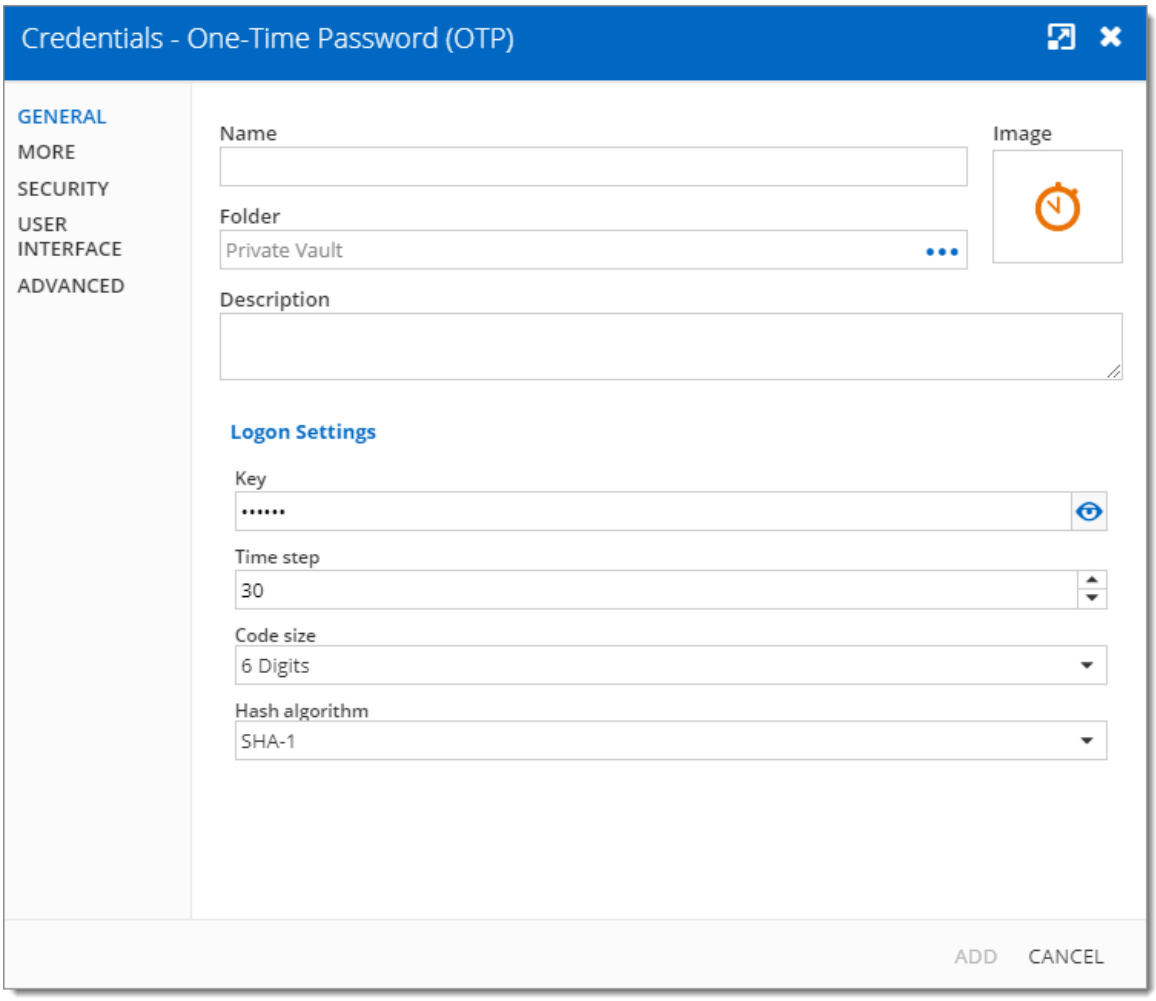
5.3.2.6.2 One-Time Password (OTP)

DESCRIPTION

This entry is used to define and configure a **One Time Password** credential entry.

SETTINGS

The **One Time Password** credential type is used as a second authentication factor that allows a user to secure their account with a generated verification code that changes over time.



Credentials - One-Time Password

OPTION	DESCRIPTION
Key	Enter the secret key given by the website or the application.
Time step	Enter the amount of time for which the generated verification code is valid.
Code size	Select the amount of digits the generated verification code contains. Select between: • **6 Digits** • **8 Digits**
Hash algorithm	Select the secure hash algorithm used to generate the verification code. Select between: • **SHA-1** • **SHA-256** • **SHA-512**

ENABLING MULTIFACTOR AUTHENTICATION

To use the multifactor authentication, this feature must be enabled from the user's account of a service or website that supports multifactor authentication. Usually, you can find the multifactor authentication settings in the user account security preferences. The name of the feature should be similar to two-factor authentication, two-step verification or multifactor authentication.

When enabling multifactor authentication, a list of recovery codes might be generated by the website or application. Carefully store these in a safe place, these recovery codes will be useful if the user happens to lose the **One Time Password** entry.

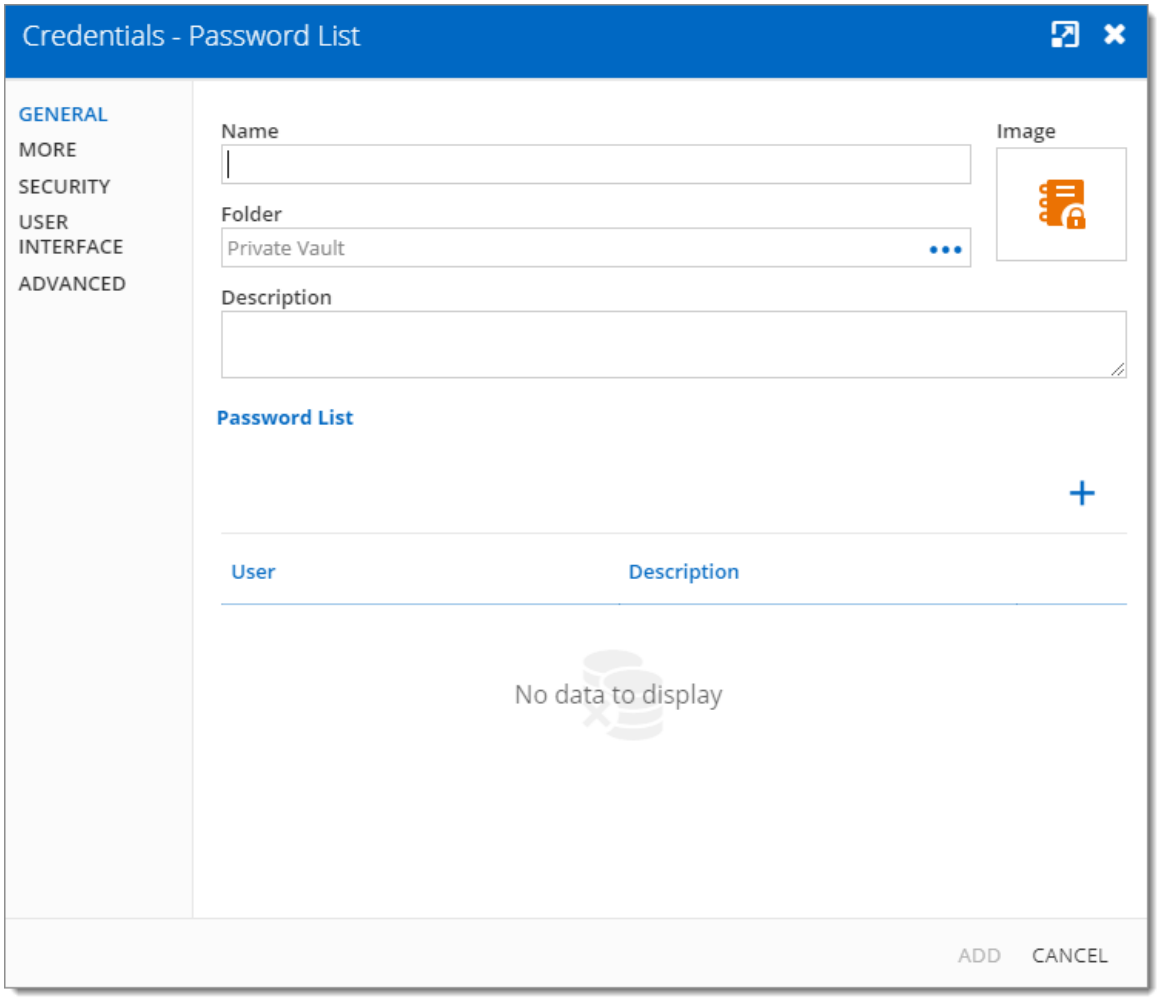
5.3.2.6.3 Password List

DESCRIPTION

This entry is used to define and configure a **Password List** credential entry. **Password Lists** store multiple username and password entries in one entry, minimizing the number of entries in the Vault.

SETTINGS

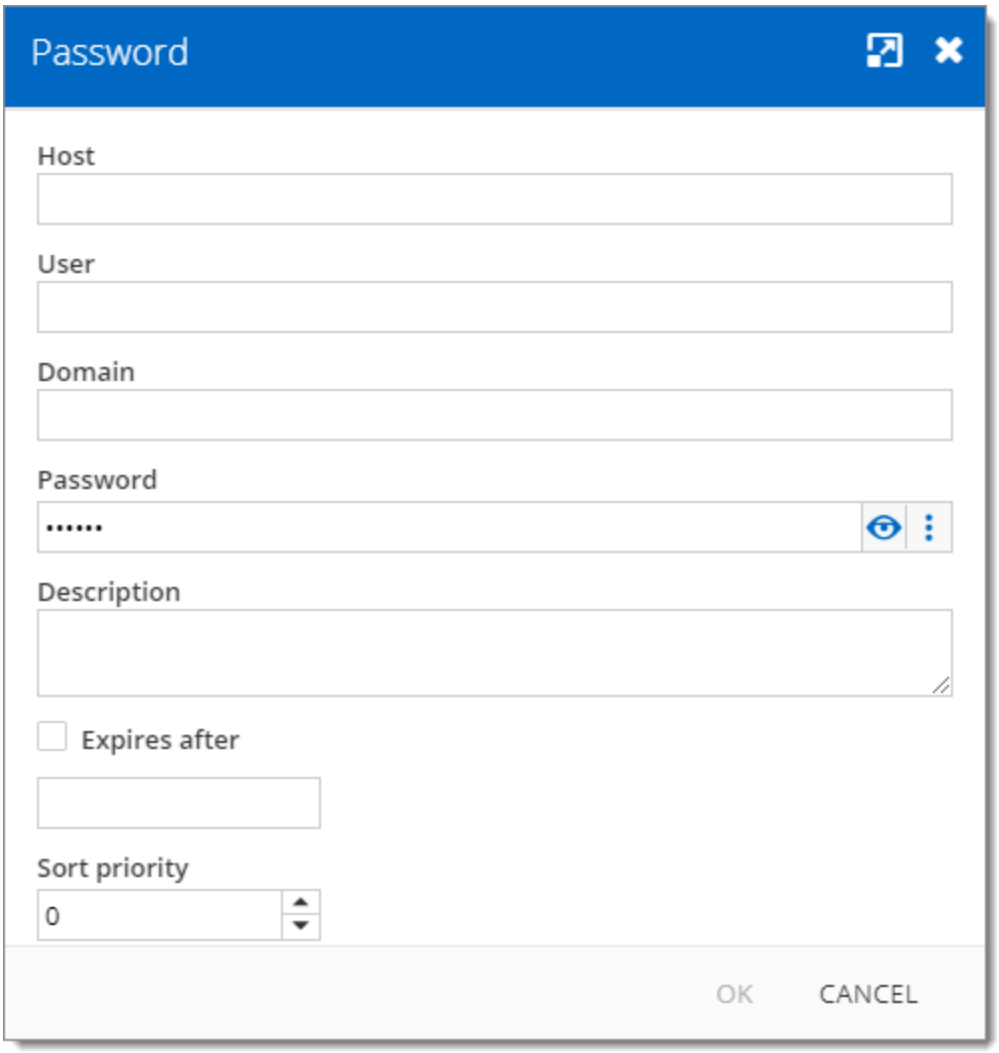
Click the add button + to create a new password entry in the password list.



Password List Entry

ENTRIES IN THE PASSWORD LIST

The **Password** entry is created through the **Password List** entry.



Password List - Password

OPTION	DESCRIPTION
User	Enter a username.
Domain	Enter the domain name (optional).

OPTION	DESCRIPTION
Password	Enter the password.
Description	Enter a description (optional).
Expire	Select the **Expire** box to enter an expiration date for the password. Click the date box to choose an expiration date in the calendar.

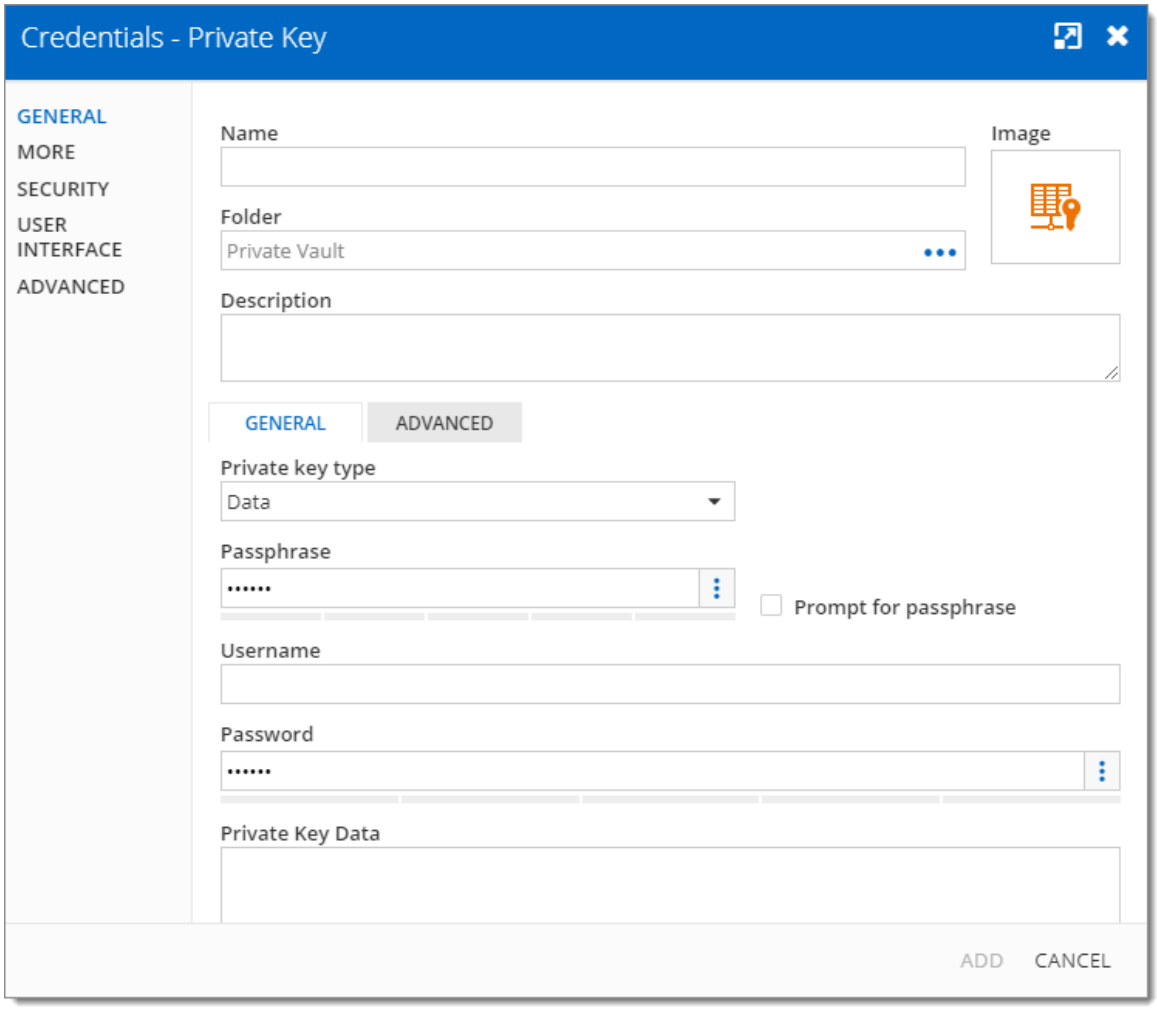
5.3.2.6.4 Private Key

DESCRIPTION

This entry is used to define and configure a **Private Key** credential entry.

The **Private Key** entry uses an encrypted public/private key pair to authenticate a user on a remote device. The **Private Key** is a secure authentication approach as long as the **Private Key** remains secret.

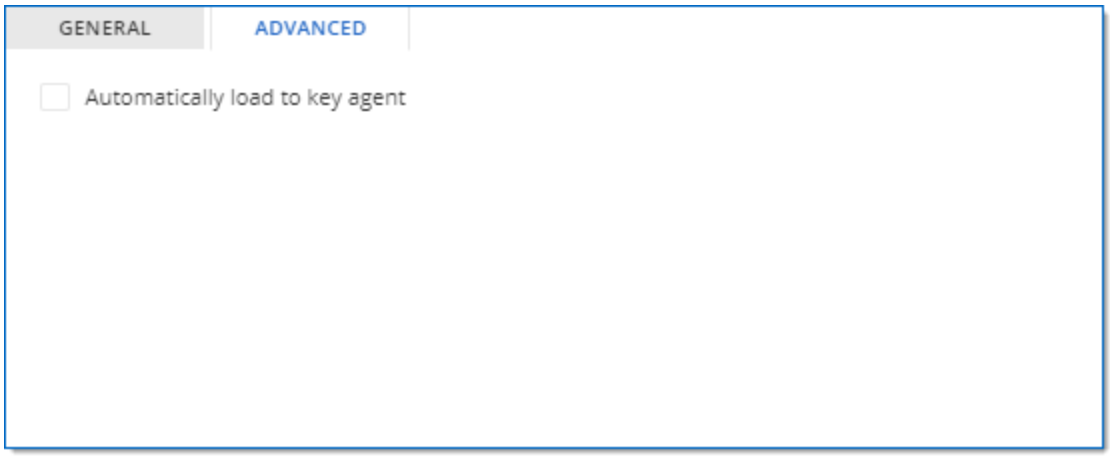
SETTINGS



Private Key Entry - Properties

OPTION	DESCRIPTION
Private Key Type	Select between: • **Data:** the key is stored in the entry, accessible on any machine. • **No private key:** Does not send the private key (for advanced scenarios).
Passphrase	Enter the passphrase to unlock the private key.
Username	Enter the username associated with the private key.

OPTION	DESCRIPTION
Password	Not used under normal circumstances.
Private Key Data	Click the more button ••• to find a file and insert the private key data in the entry.
	Click to download the private key as a .ppk file.



Private Key Entry - Properties - Advanced

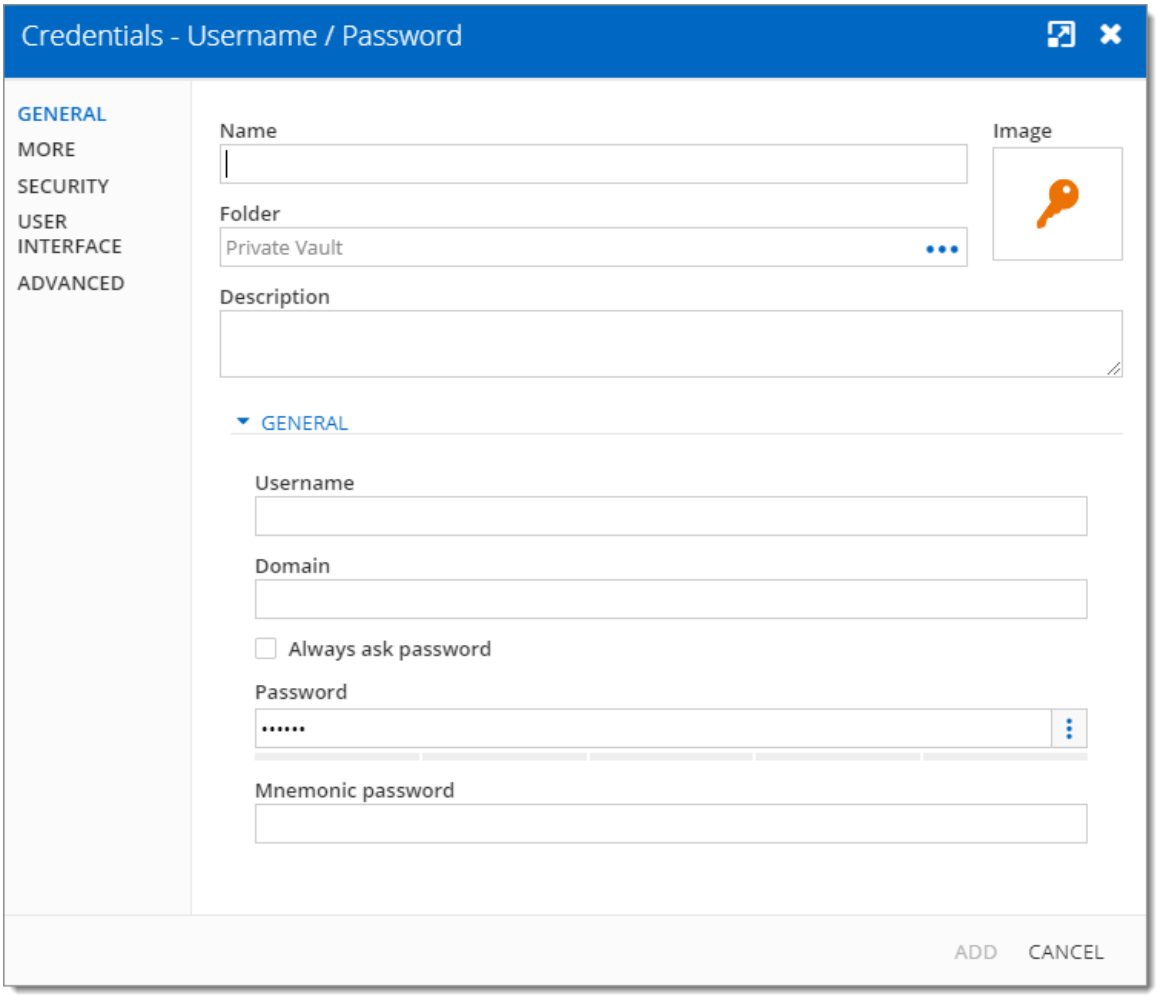
OPTION	DESCRIPTION
Automatically load to key agent	Automatically load the Private Key in the Key Agent Manager in Remote Desktop Manager.

5.3.2.6.5 Username/Password

DESCRIPTION

This entry is used to define and configure a **Username/Password** credential entry. This is the default credential type.

SETTINGS



Username / Password - Properties

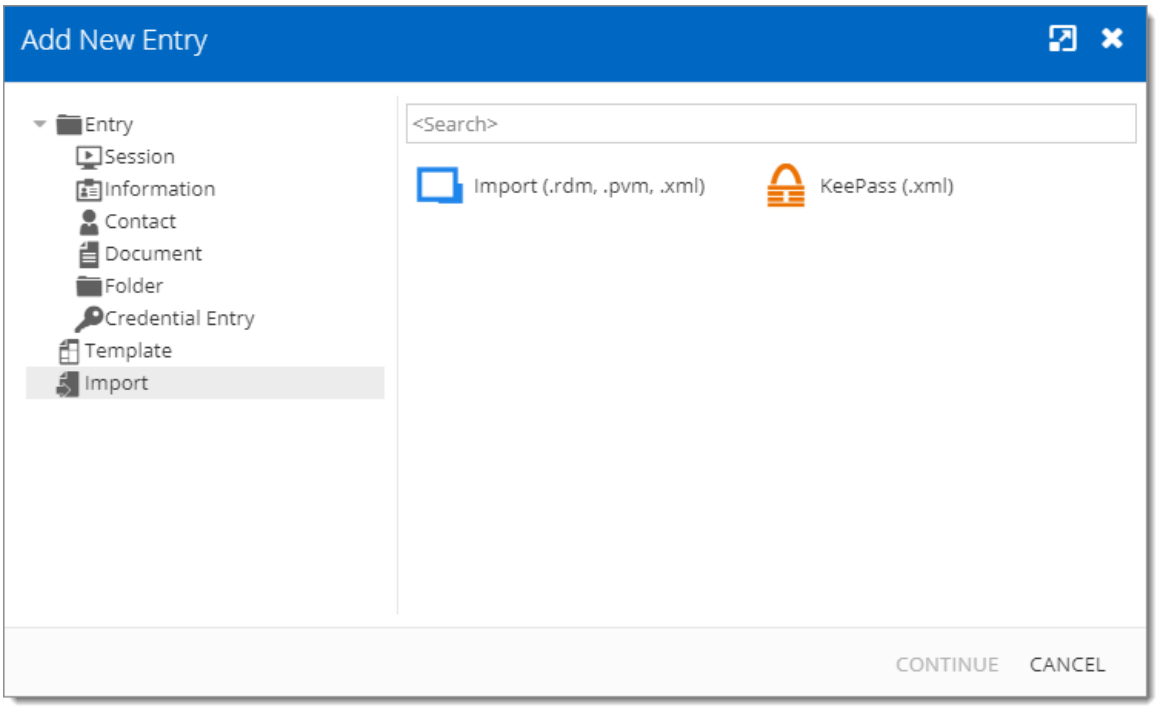
OPTION	DESCRIPTION
Username	Enter the username.
Domain	Enter domain.
Always ask password	Check box to prompt user for password each time they use the credential.

OPTION	DESCRIPTION
Password	Enter the password. Click to reveal the password. Click the advanced button to generate a password or open the Password generator for more settings and password choices.
Mnemonic password	Enter a phrase to help remember the password.

5.3.2.7 Import

DESCRIPTION

Use the **Import** selection to import entries in Devolutions Password Server.You can import entry types from a .RDM or from a Keepass file.

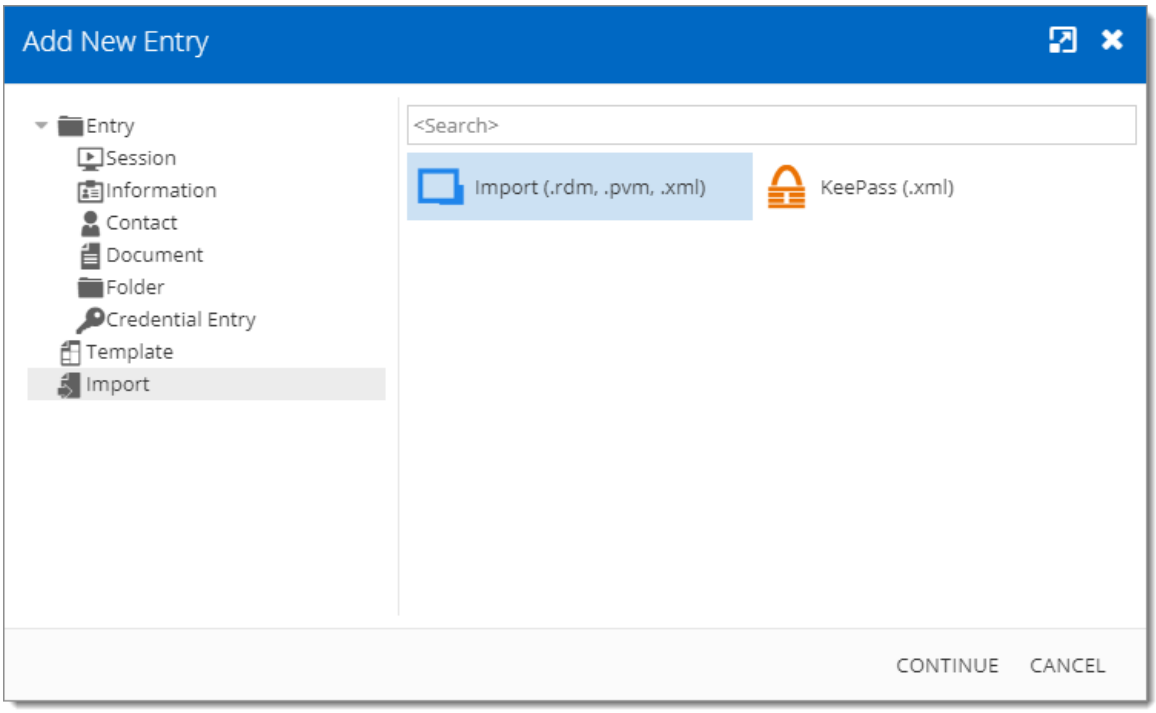


Add New Entry - Import

STEPS

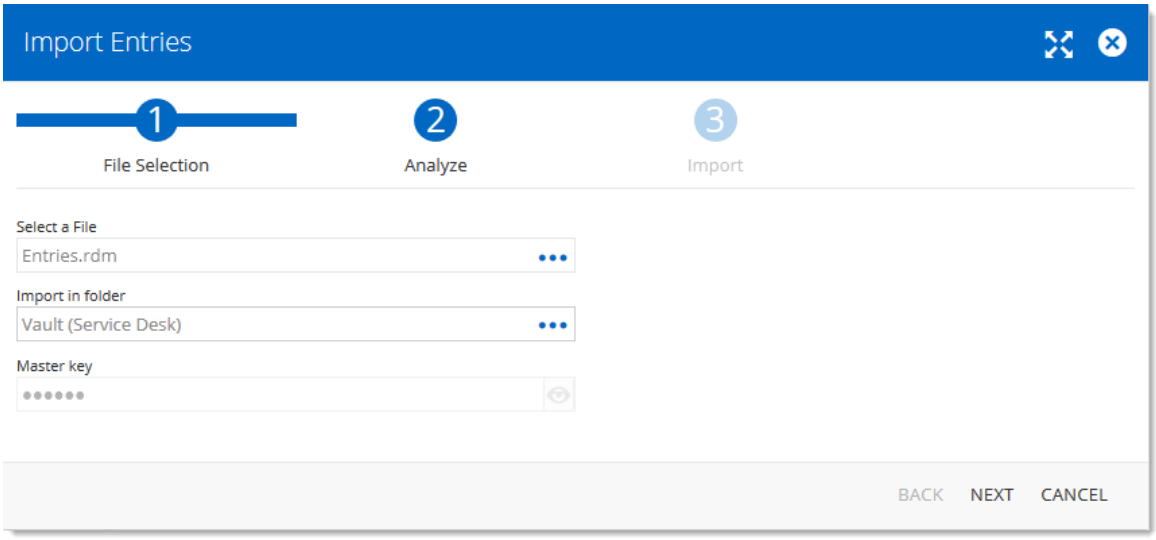
Here are the steps to import entries from a file.

1. Select the file type, **Import (.rdm, .pvm, .xml)** or **KeePass (.xml)**, and then click on **CONTINUE**.



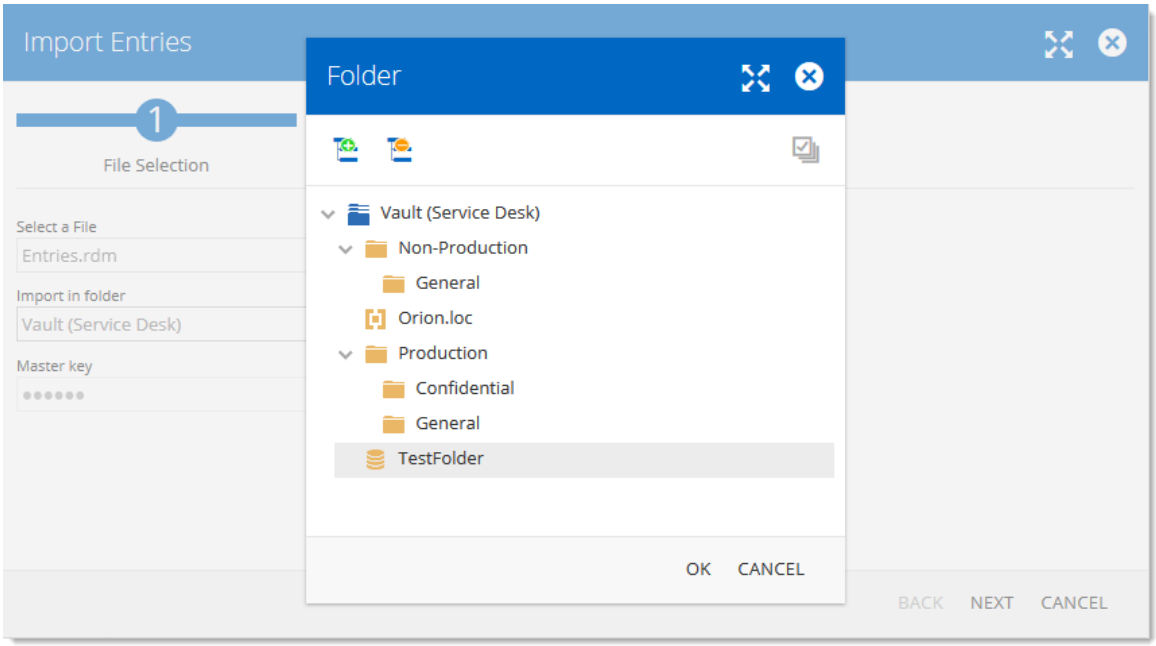
Add New Entry - Import

2. Select the file to import under **Select a file**.



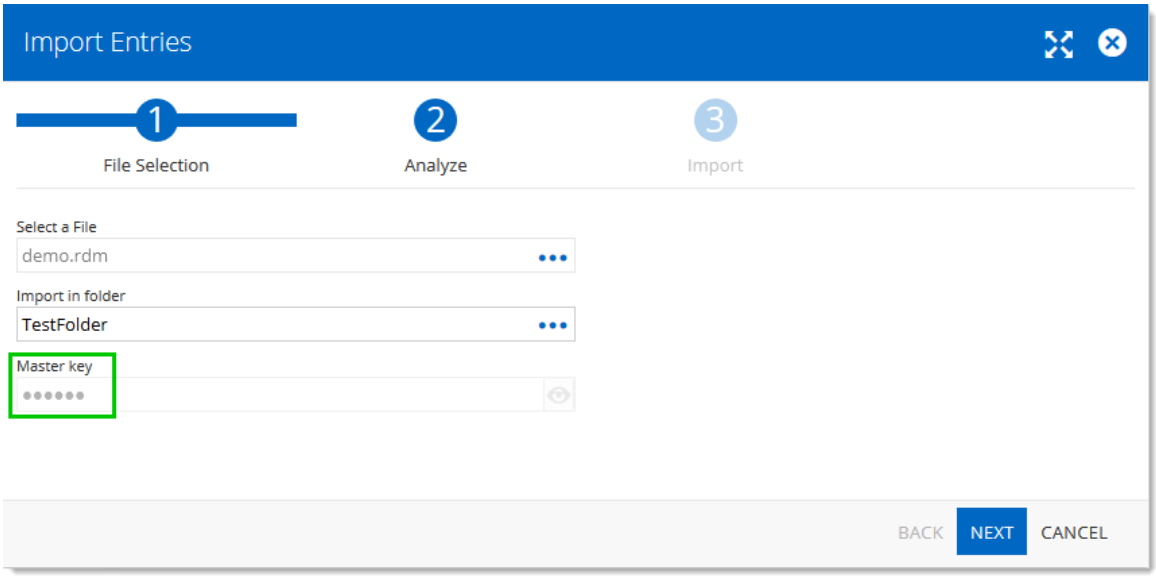
Import Entries - File Selection

3. Select the destination folder under **Import in folder** if you want to import the entries under a specific folder. If no folder is selected, it will be automatically imported under **Root Folder**.



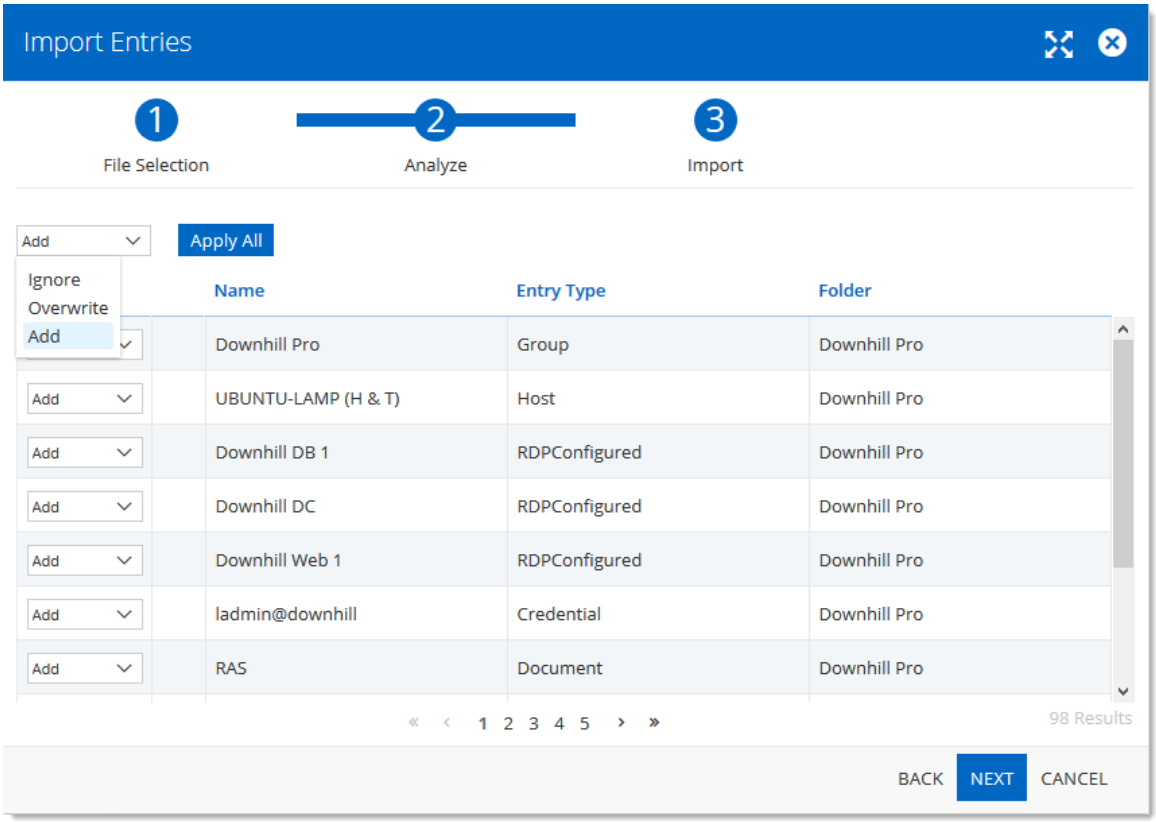
Import Entries - Folder Selection

4. Enter the password under **Master key** if the file is protected by a password. Then click on **Next**.



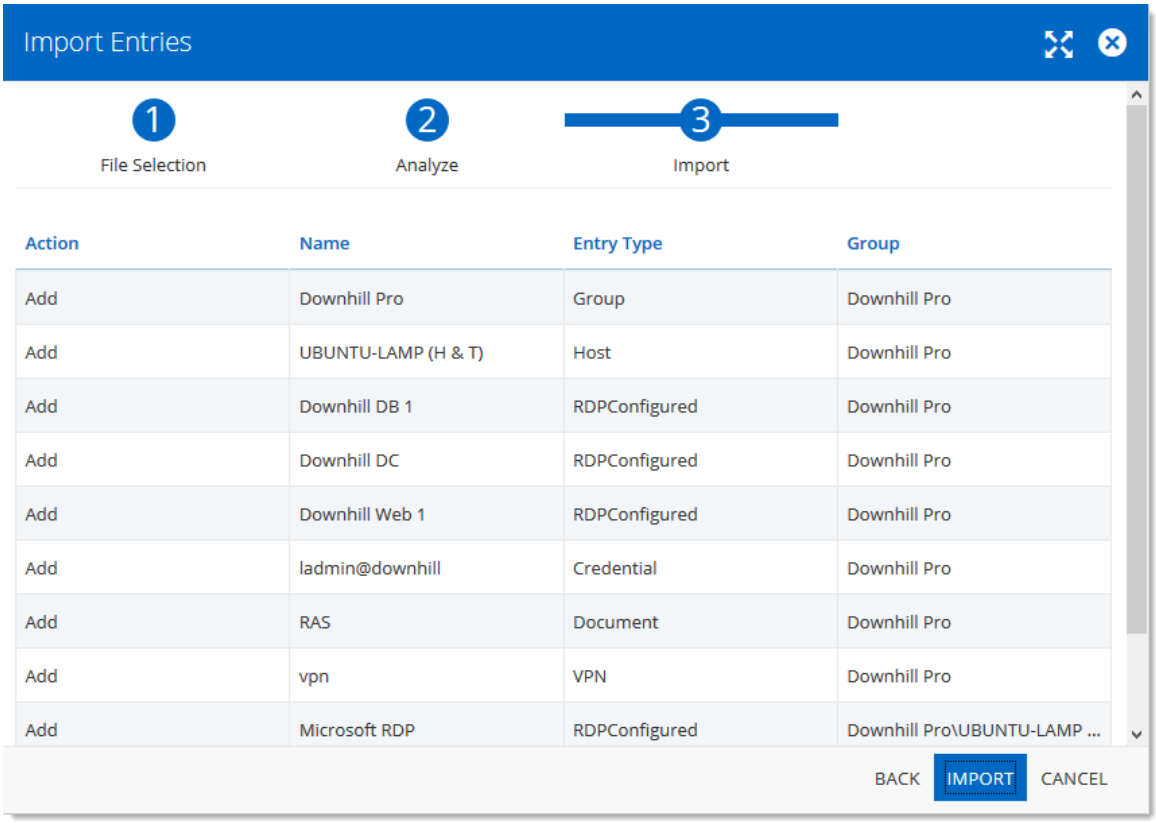
Import - Entries - Master key

5. Select the operation for each entry. It is possible to set the operation for all entries with the **Apply All** button.



Import Entries - Analyze

6. Finally, click on the **Import** button to launch the import process.



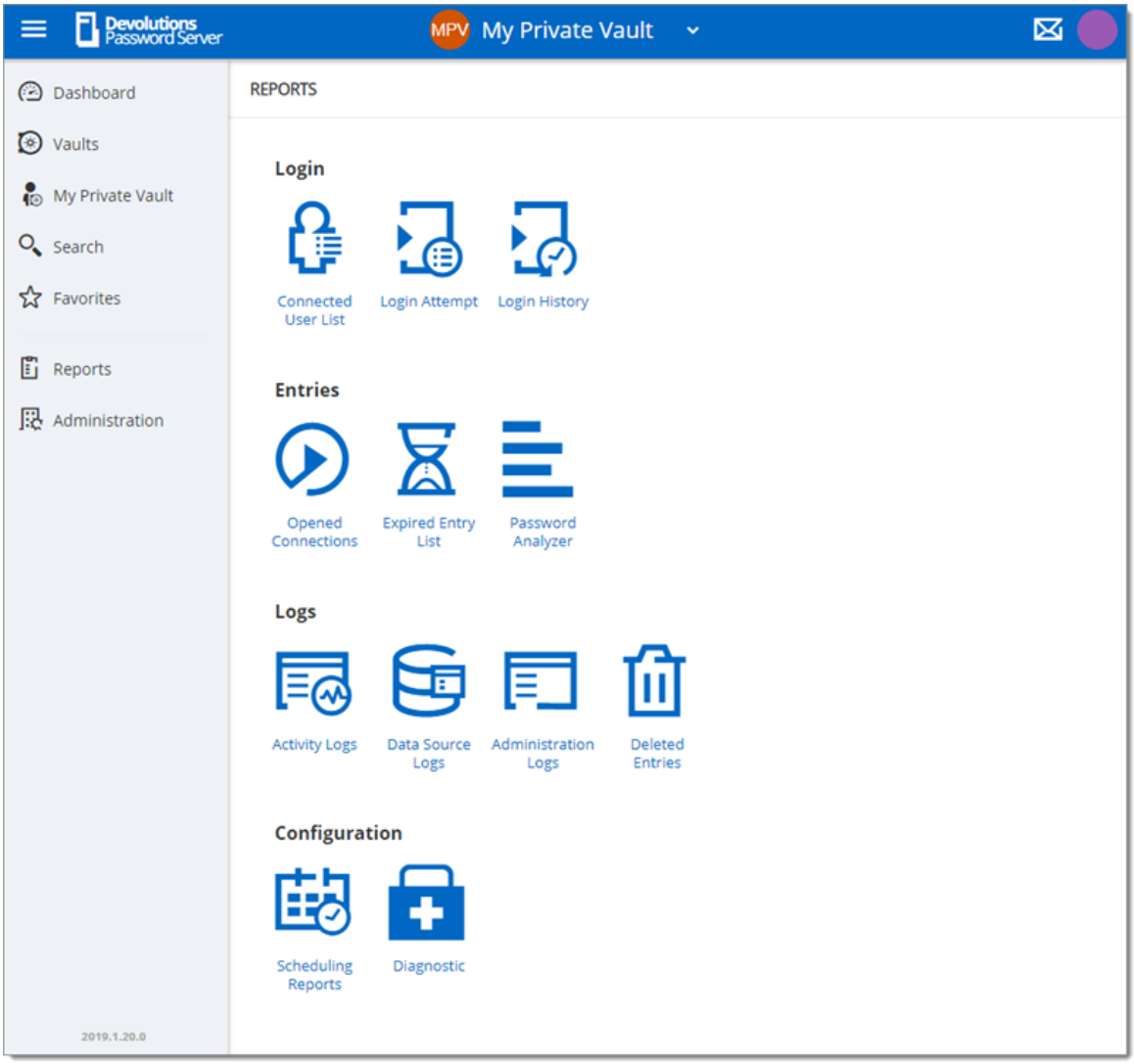
Import Entries - Import

5.4 Reports

DESCRIPTION

The **Reports** is only available for administrators. It allows the administrator to consult different reports.

REPORTS



Reports

OPTION	DESCRIPTION
Connected User List	This displays the users that are currently connected to the Devolutions Password Server data source.
Login Attempt	This lists all unsuccessful logins to the Devolutions Password Server data source.
Login History	The displays the information of each user that has been connected to the Devolutions Password Server data source.

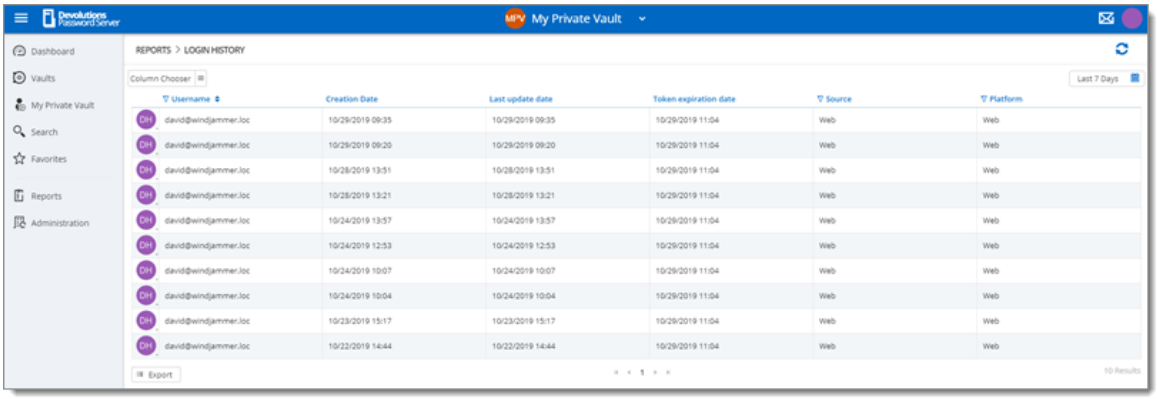
OPTION	DESCRIPTION
Opened Connections	This lists all connections that are currently opened by users.
Expired Entry List	This displays the entries that are expired or should expire in the future.
Password Analyzer	This lists all entries containing encrypted passwords and displays their Strength.
Activity Logs	The displays the information about session activity.
Data Sources Logs	This displays the logs of the Devolutions Password Server data source.
Administration Logs	This displays the Admin logs of the Devolutions Password Server data source.
Deleted Entries	This lists every entries deleted in the data source.
Scheduling Reports	With this feature, you can set dates, filters and various customized settings to schedule recurring reports over any desire period.
Diagnostic	This will present a data source diagnostic report.

REPORT CUSTOMIZATION

Most of the reports available can be customized. It is possible to filter or sort the data, choose specific columns or even export the report in a .CSV file.

FILTERING AND SORTING

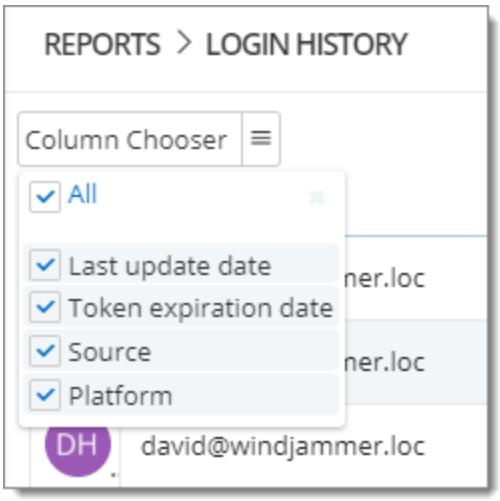
In front of the column title, the **filter button** offers some built-in filter values.



Filtering and Sorting Reports

COLUMN CHOOSER

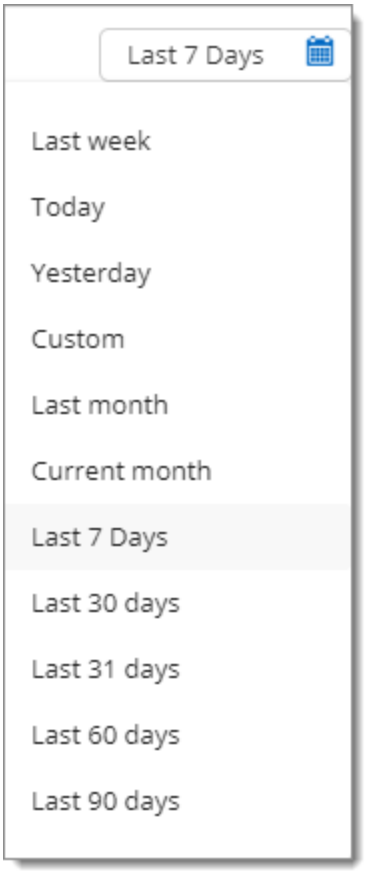
The **Column Chooser** button allows to select which columns will be displayed in the report.



Column Chooser selection Menu

TIME INTERVAL

Select the **Time Interval** on which the report will be based on.



Time Interval button

5.4.1 Configuration

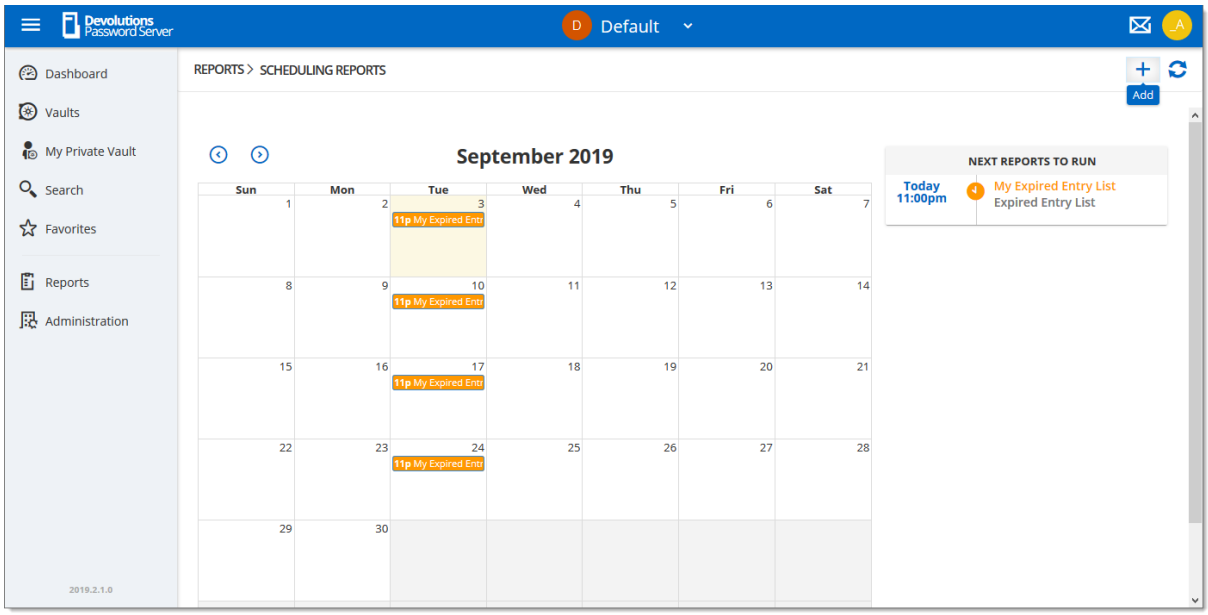
5.4.1.1 Scheduling Reports

DESCRIPTION

The Scheduling Reports will generate a report and send it by email to any selected user accounts. It could be an on demand report or a recurrent report based on a schedule (daily, weekly, monthly, yearly).

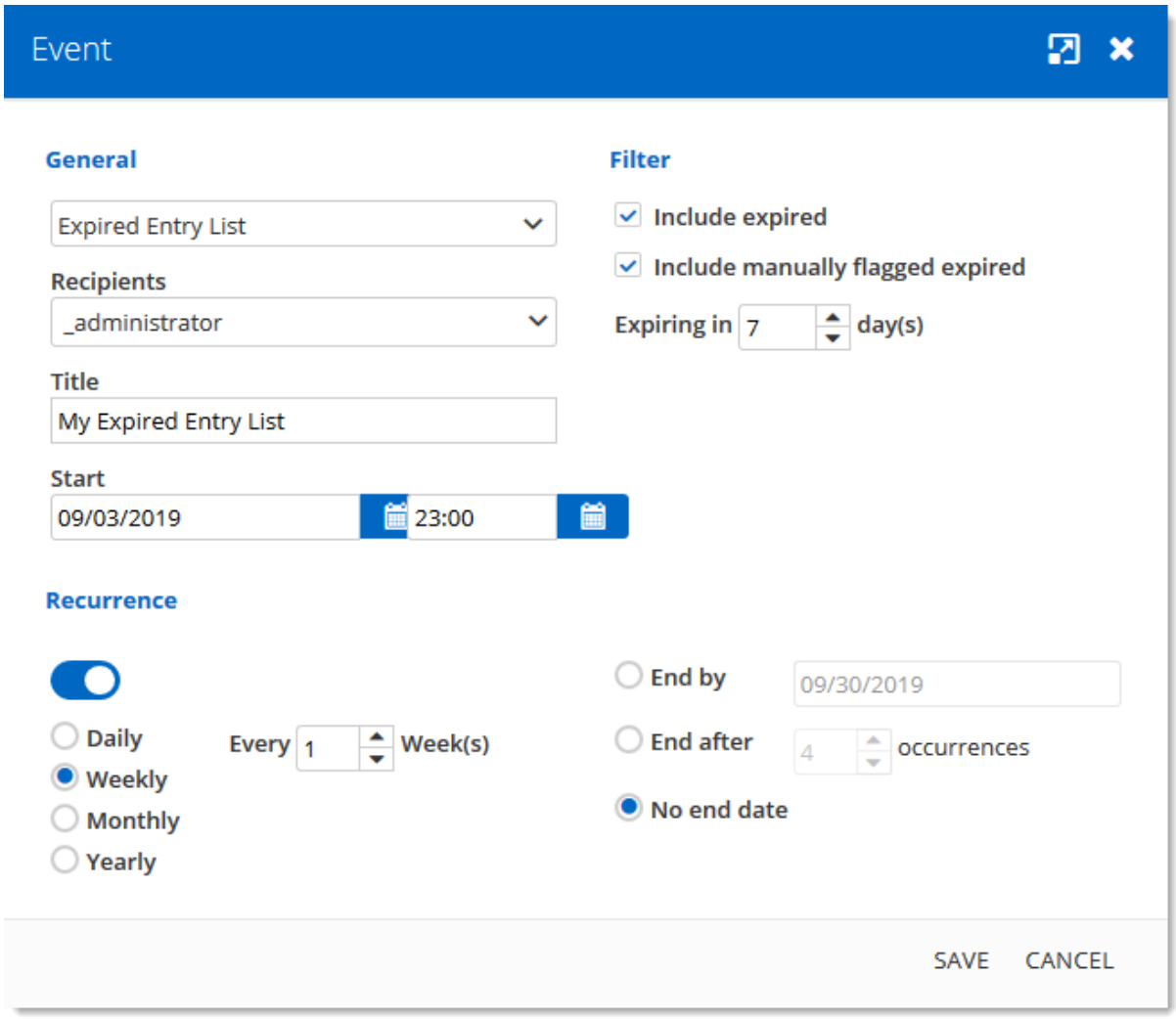
Only the Expired Entry List can be generated from the Scheduling Reports feature.

SETTINGS



Reports - Scheduling Reports

To create a new Scheduling Report, click on the Add button.



Scheduling Report creation

General options

OPTIONS	DESCRIPTION
Report type	Select the report type that will be generated. Only the Expired Entry List can be generated.
Recipients	Select all user accounts that will receive the report.
Title	Set the title of the report.

OPTIONS	DESCRIPTION
Start	Set the date and time when the report will be created.

Filter options

OPTIONS	DESCRIPTION
Include expired	Select this option to get all entries that are already expired in the report.
Include manually flagged expired	Select this option to get all entries that have been manually set to expire in the report.
Expiring in ... days	Set this option to get all entries that will expire in X days in the report.

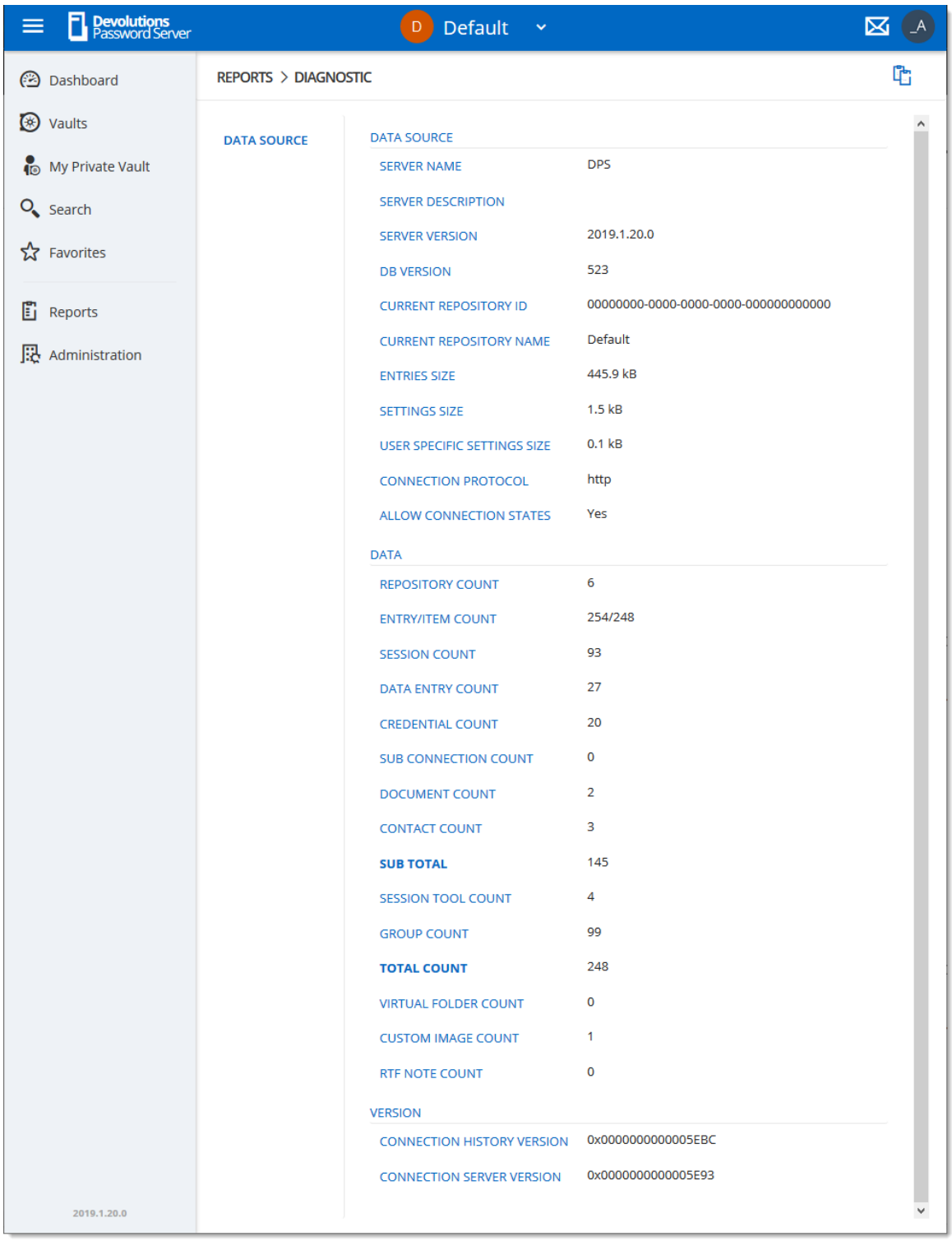
Recurrence options

OPTIONS	DESCRIPTION
Daily, Weekly, Monthly, Yearly	Set the recurrence for this report.
Every ...	Set the the number for the recurrence.
End by	Set this option and the date to stop the report at a specific moment.
End after ... occurrences	Set this option to run this report a specific number of times.
No end date	Set this option to get the report running indefinitely.

5.4.1.2 Diagnostic

DESCRIPTION

The Diagnostic report contains information such as the Devolutions Password Server and database version, the number of entries, the size of the data, etc. This report could be useful for troubleshooting or simply as an indication of your Devolutions Password Server content.

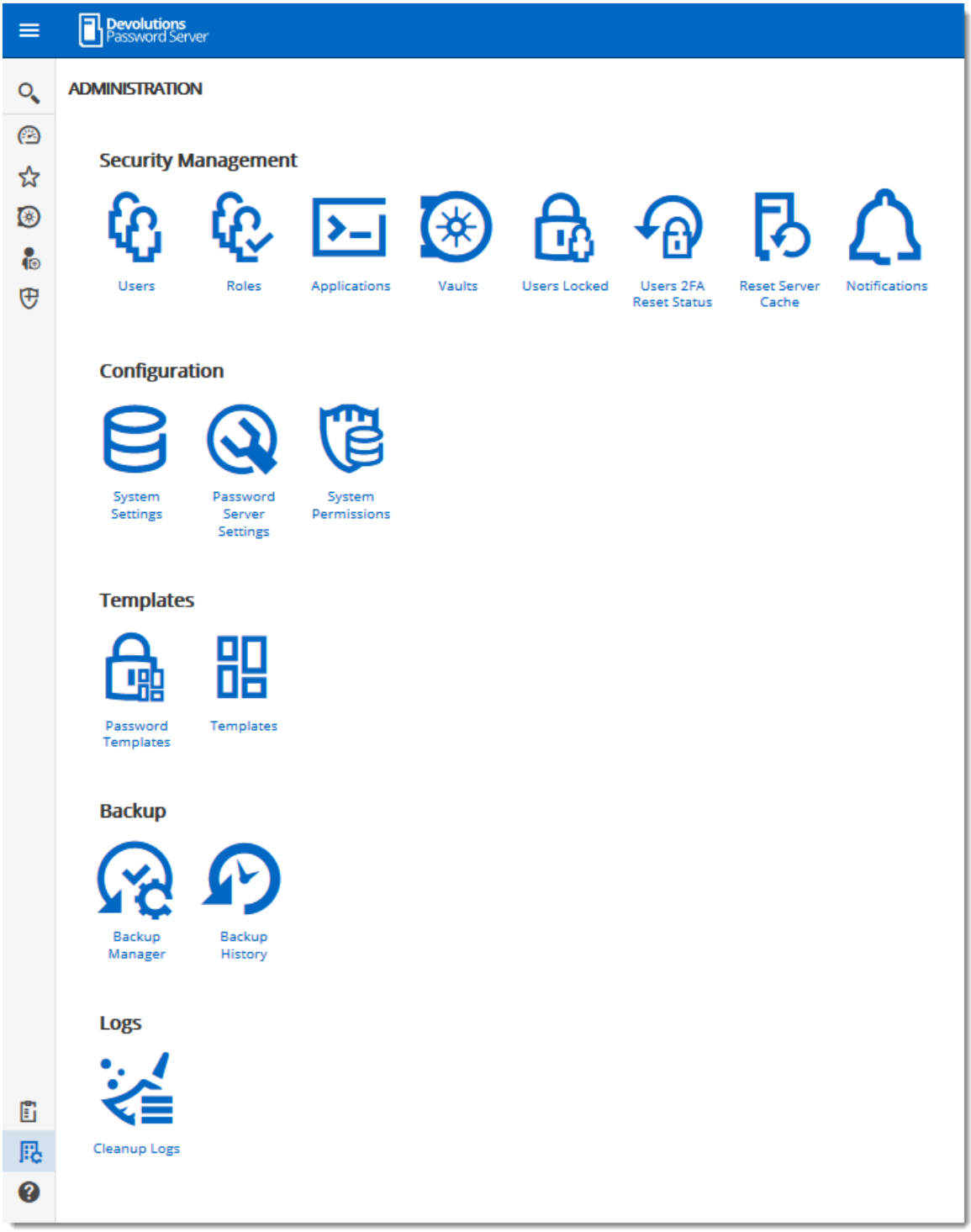


Reports - Diagnostic

5.5 Administration

DESCRIPTION

The **Administration** section is only available for administrators. Here you can find the various necessities to probably manage and customize your settings, ranging from security to the Backup system.



Administration

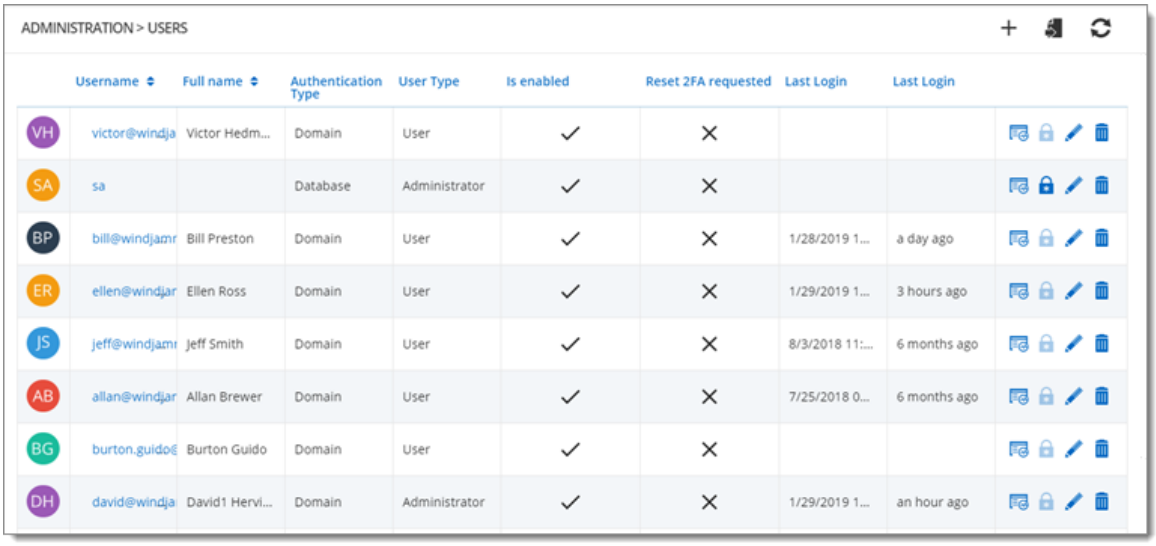
5.5.1 Security Management

5.5.1.1 Users

DESCRIPTION

Users is where you can create, import and manage users. To access the user management, navigate to ***Administration – Users***. Click on a user to configure specific settings and permissions.

SETTINGS



Administration - Users

GLOBAL OPTIONS

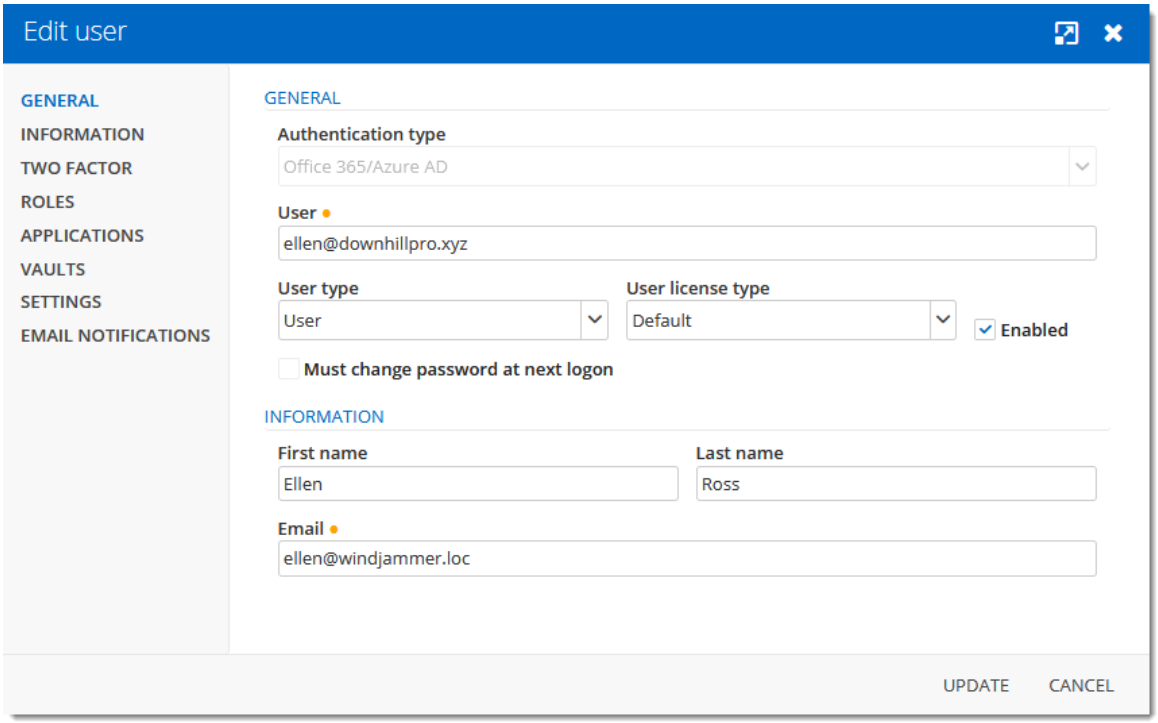
Options	DESCRIPTION
+	Add a user.
	Import users from LDAP.
	Refresh users list.

USER OPTIONS

Options	DESCRIPTION
	See user activity report.
	Change password.
	Edit user settings.
	Delete user.

5.5.1.1.1 General

DESCRIPTION



Edit Users - General

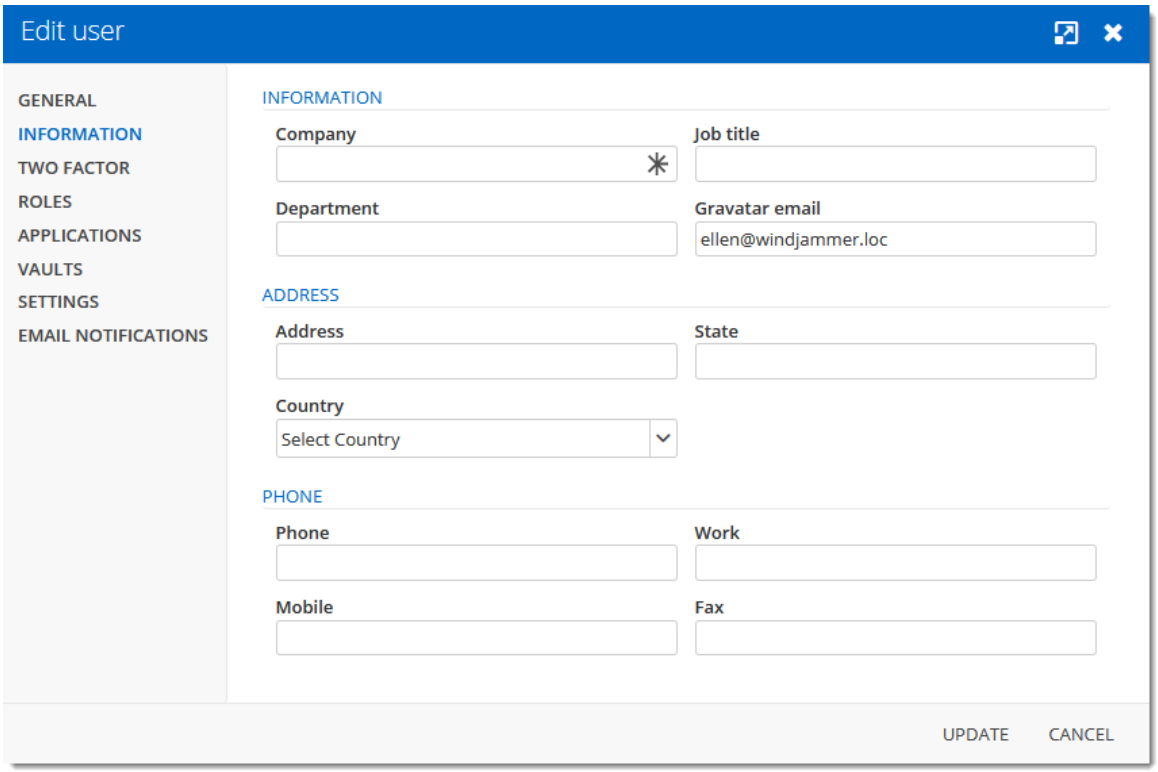
OPTION	DESCRIPTION
Authentication type	Select the user's authentication type: • **Custom (Devolutions)**: create a user in Devolutions Password Server without creating an SQL login. • **Domain** : authenticate using the Active Directory user account. • **Database (SQL Server)**: authenticate using the SQL login from your SQL Server.
User (required)	Enter the user login name.
User type	Choose the user type: • **Administrator:** grant full administrative rights to the user. • **Read only user:** grant only the **View** access to the user. • **Restricted user:** select which rights to grant to the user. • **User:** grant all basic rights to the user (Add, Edit, Delete).
User license type	Select the type of the license that the user has: • **Default:** Connection Mangement. • **Connection Management:** for users who open remote connections. • **Password Management:** for users who only use Devolutions Password Server as a password manager.
Enabled	Check to activate the user.
Must change password at next	Check to force the user to change the password next time they log on.

OPTION	DESCRIPTION
logon	
First name	Enter the user's first name.
Last name	Enter the user's last name.
Email (required)	Enter the user's email address.

5.5.1.1.2 Information

DESCRIPTION

The **Information** section is for optional information.



Edit User - Information

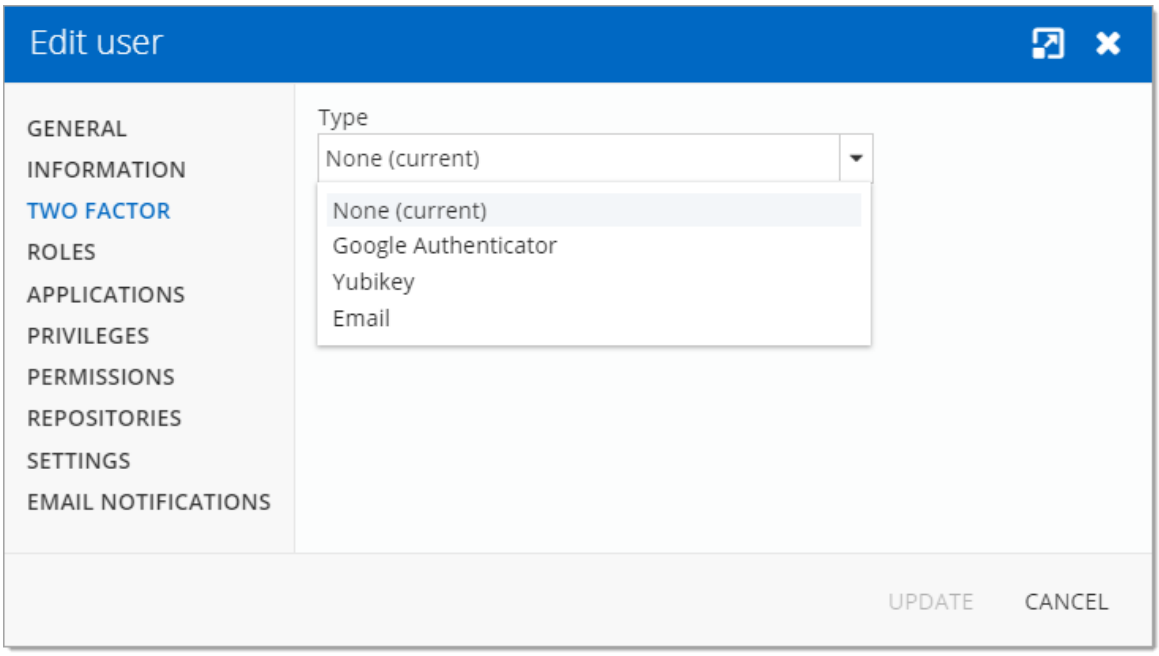
5.5.1.1.3 Two Factor

DESCRIPTION

If you set two-factor authentication as optional per user in Password Server Settings, you then need to configure which 2FA method to use.

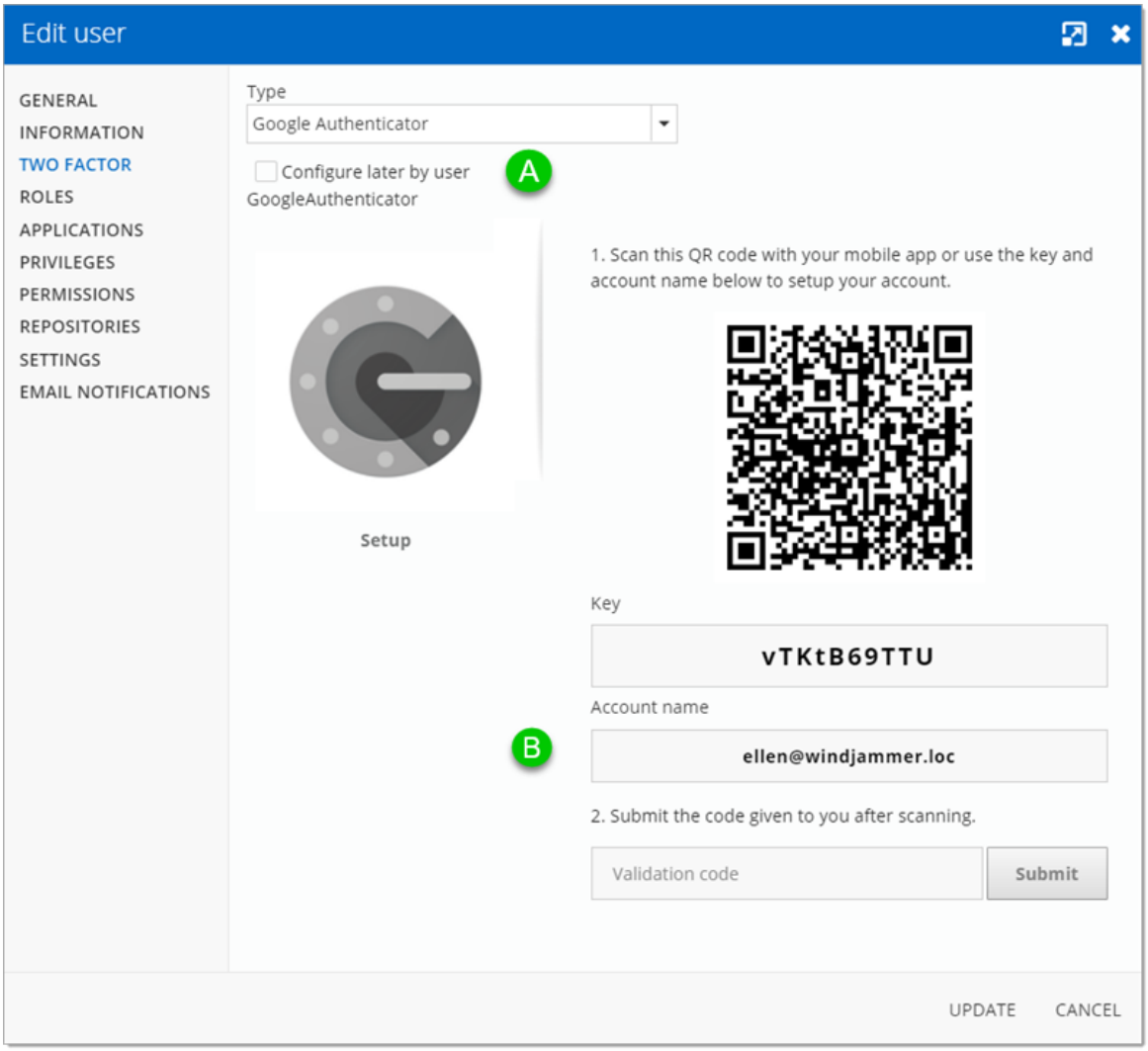
SETTINGS

1. Select the users 2FA **Type** from the list.



Edit User - Two Factor

2. Choose if you **(a)** want the user to configure the 2FA next time they log in or **(b)** complete the set up now.

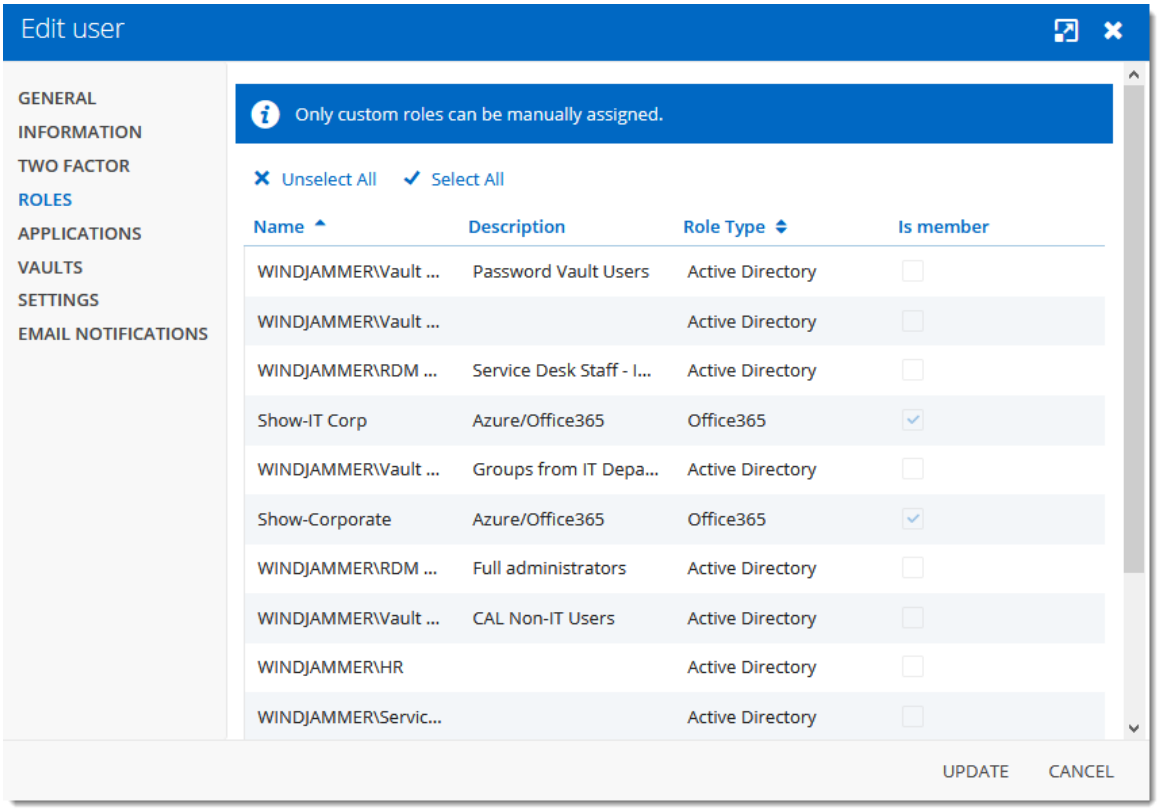


Edit User - Two Factor

5.5.1.1.4 Roles

DESCRIPTION

Assign users to a **Role**.



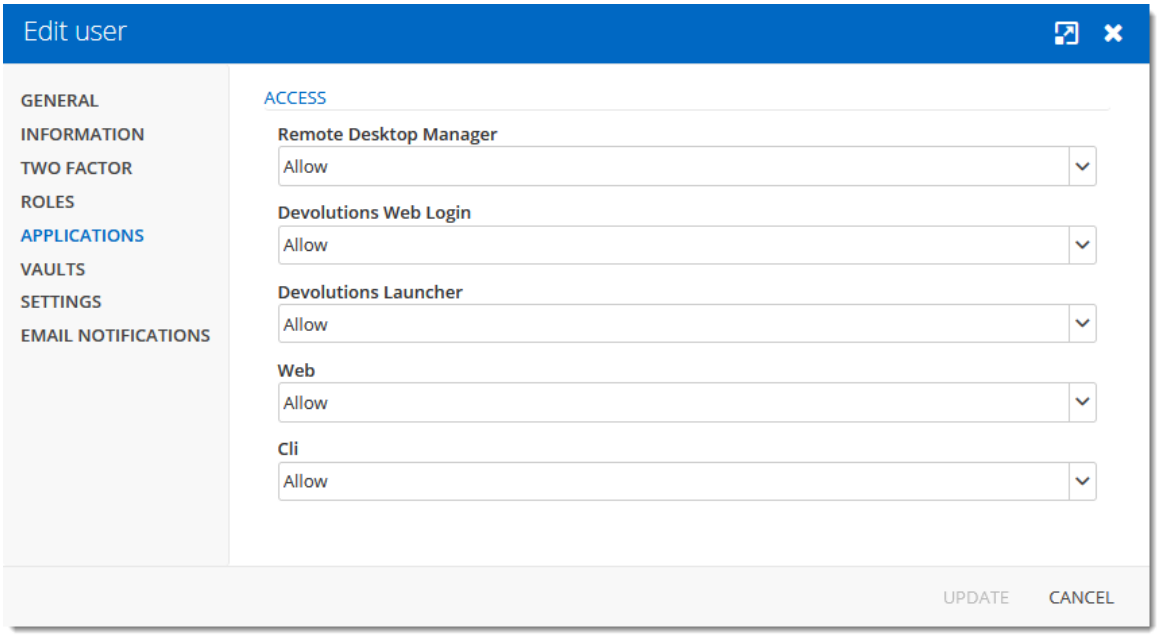
Edit User - Roles

OPTION	DESCRIPTION
Roles	Check the **Is Member** box to assign the role to the user. Consult Role Management topic for more information.

5.5.1.1.5 Applications

DESCRIPTION

Allow or deny the user access to different applications and companion tools:



Edit User - Applications

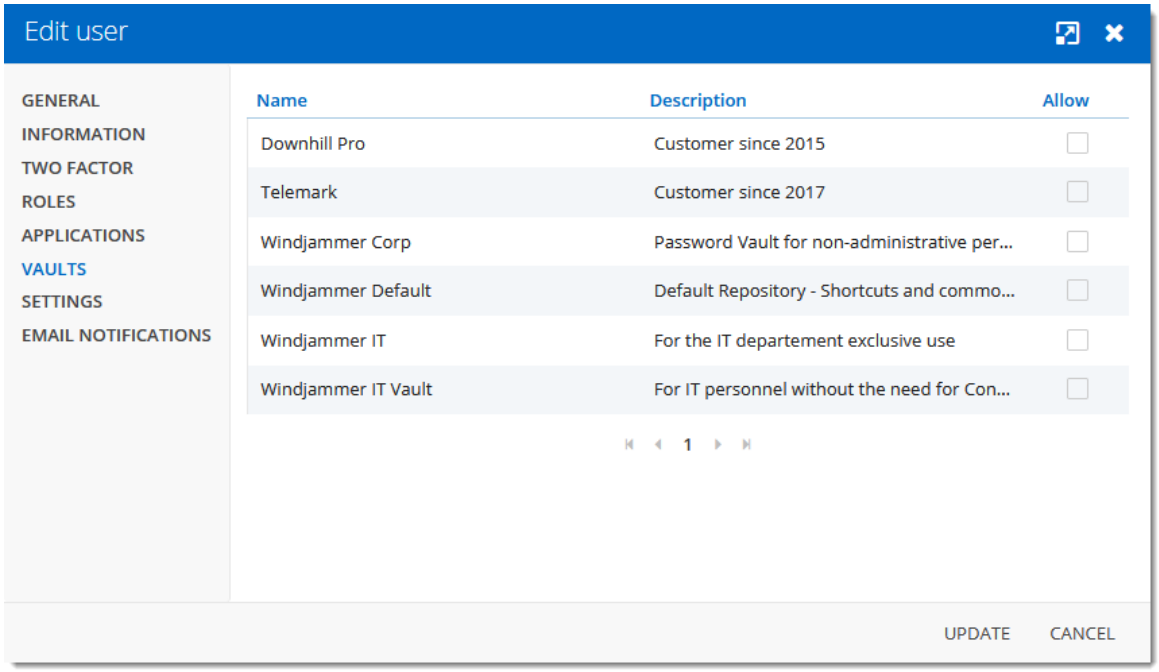
OPTION	DESCRIPTION
Remote Desktop Manager	Allow user to access Devolutions Password Server through Remote Desktop Manager.
Devolutions Web Login	Allow user to auto fill username and passwords on websites with Devolutions Web Login.
Devolutions Launcher	Allow user to open remote connections with Devolutions Launcher.
Web	Allow user to use Devolutions Password Server web interface.
Cli	Allow user to use the Cli.

5.5.1.1.6 Vaults

DESCRIPTION

Select which **vaults** the user has access to.

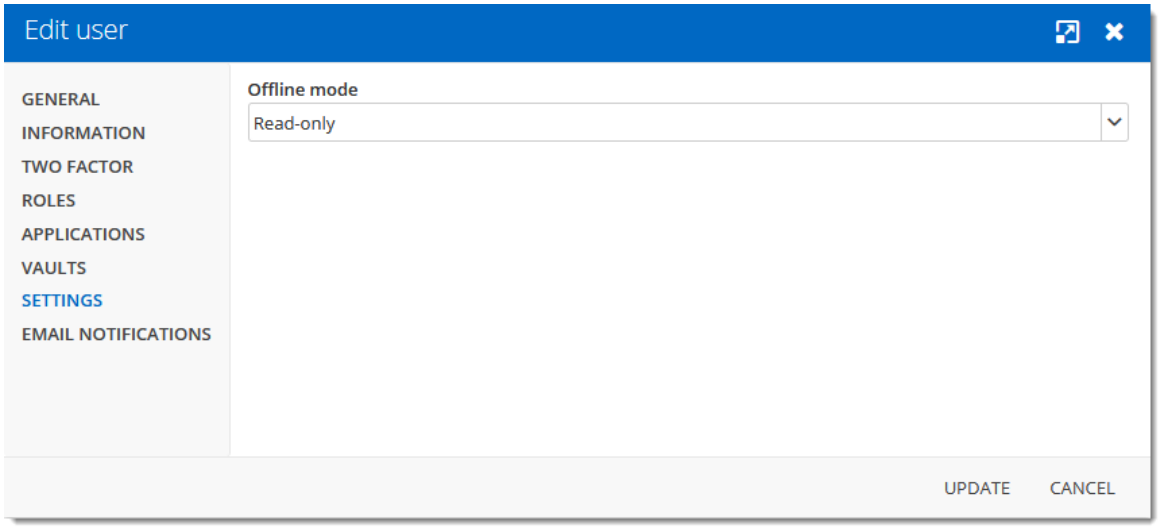
For more information, please consult the vaults topic.



Edit User - Vaults

5.5.1.1.7 Settings

DESCRIPTION



Edit User - Settings

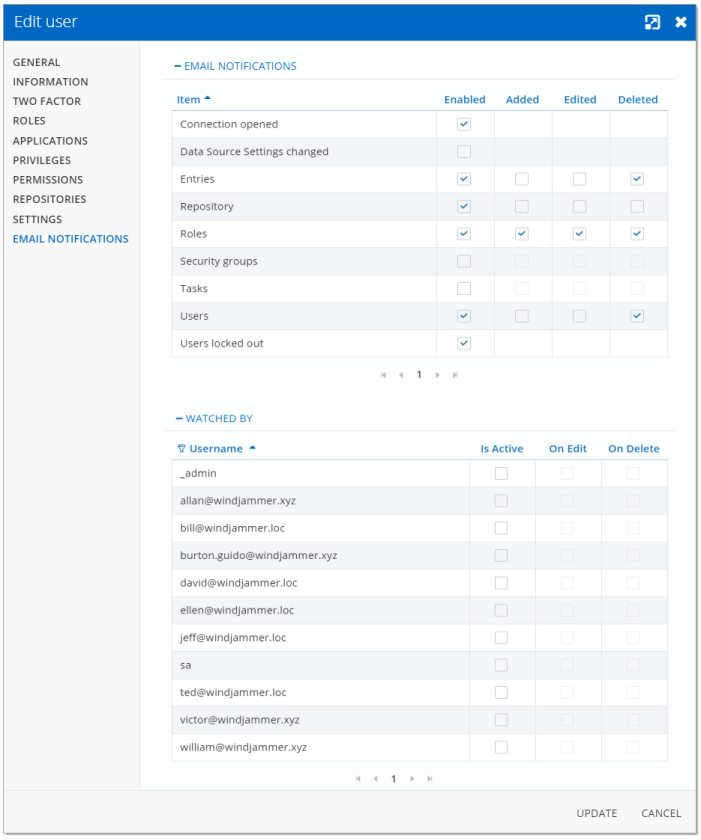
Allow the user to enable Offline Mode on the data source. The data source also needs to be configured to permit offline mode. There are 4 modes available:

OPTION	DESCRIPTION
Disabled	No offline cache allowed for the user.
Cache only	Allow to save a cache of the data source but not the offline mode.
Read-only	A read-only cache. The user will not be able to edit data in the data source. This mode is allowed for Advanced Data Sources only.
Read/Write	An advanced cache, with change synchronization. This mode is allowed for Advanced Data Sources only.

5.5.1.1.8 Email Notifications

DESCRIPTION

Email Notifications are real-time alerts that are sent to specific users. The notifications are sent when certain items in Devolutions Password Server are added, modified or deleted.



Edit Users - Email Notifications

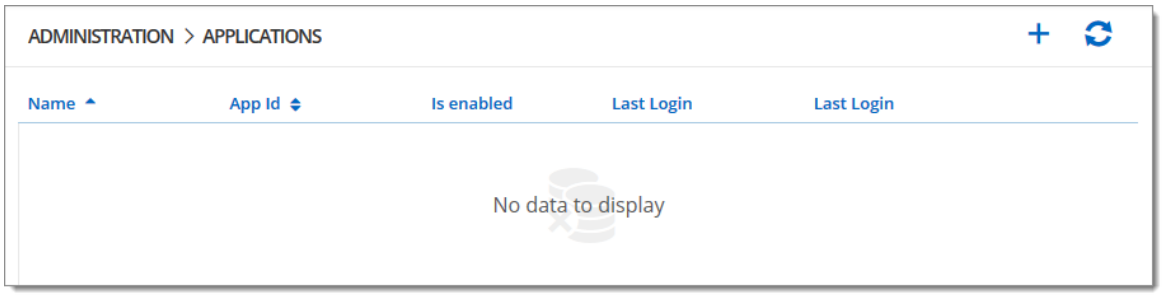
OPTION	DESCRIPTION
Connection opened	Sends notification when a connection is opened.
System Settings	Sends notification about modifications in the System Settings.
Entries	Sends notification about modifications to entries. It could be set for Add, Edit and/or Delete.
Vaults	Sends notification about modifications to Vaults. It could be set for Add, Edit and/or Delete.
Roles	Sends notification about modifications to Roles. It could be set for Add, Edit and/or Delete.

OPTION	DESCRIPTION
Tasks	Sends notification about modifications to Tasks. It could be set for Add, Edit and/or Delete.
Users	Sends notification about modification to users. It could be set for Add, Edit and/or Delete.
Users Locked Out	Sends notification when a user is locked out after multiple failed login attempts.

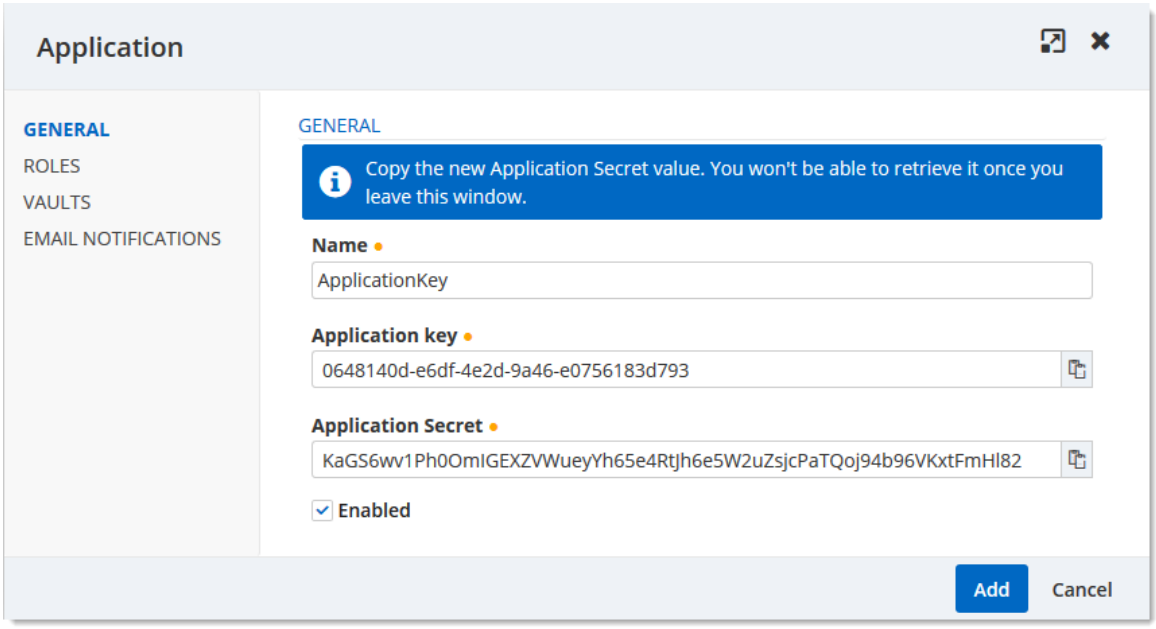
5.5.1.2 Applications

DESCRIPTION

The Applications section will allow to create an application key to communicate with Devolutions Password Server through the API SDK.



Administration - Applications



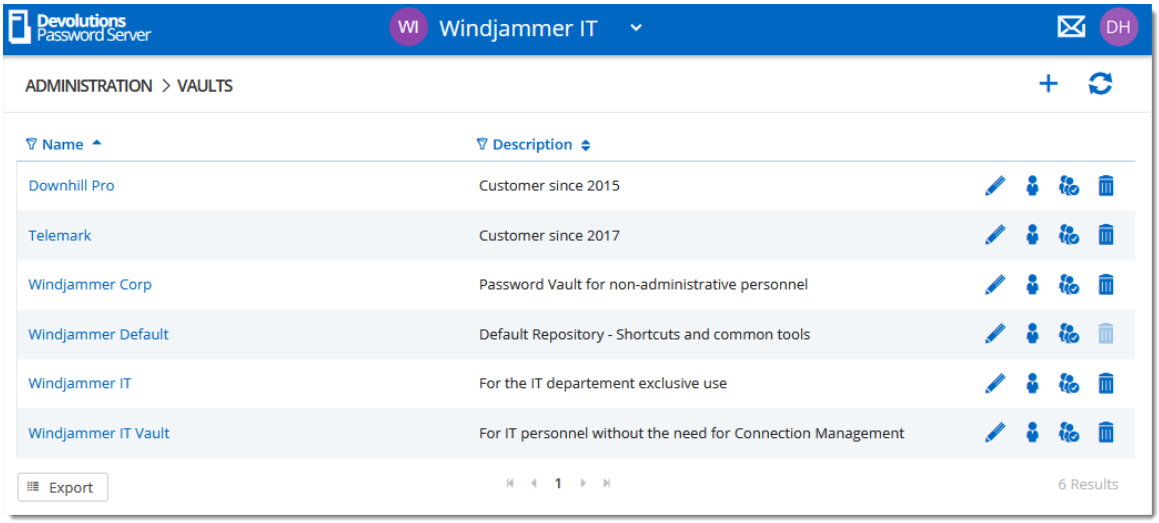
Administration - Applications - New Application

GENERAL	DESCRIPTION
Name	Display name of the Application key.
Application key	Application key to be use in the application to communicate with Devolutions Password Server instance.
Application Secret	Secret key to be use in combination with the Application key. Available only on Application key creation.
Enabled	Activate the Application key.

5.5.1.3 Vaults

DESCRIPTION

The **Vaults** management allows to create and manage **Vaults**. To access the **Vaults** management, navigate to ***Administration – Vaults***.



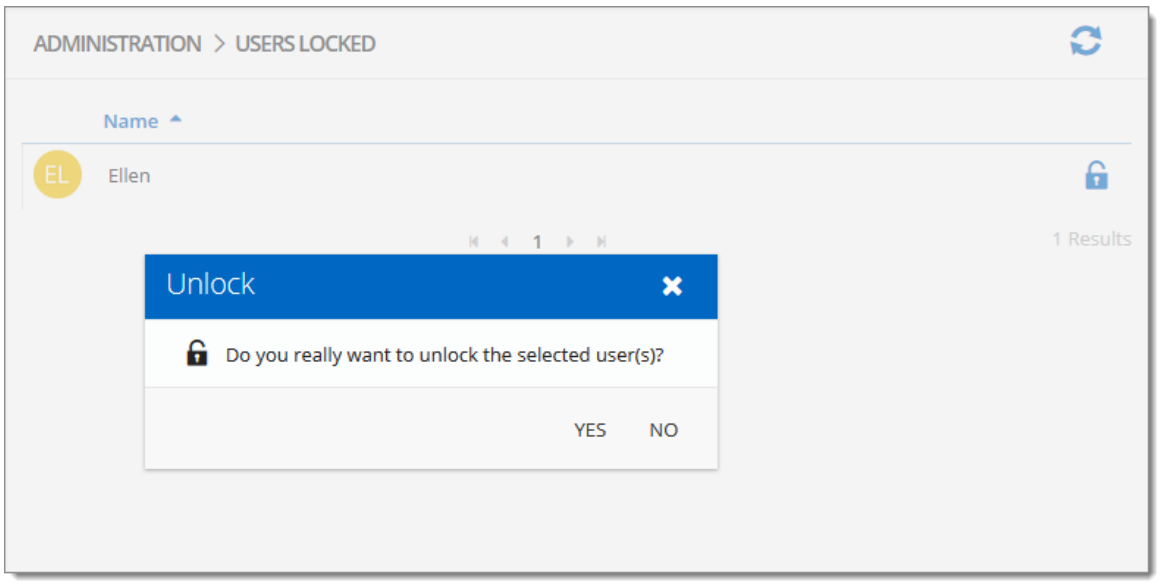
Administration - Vaults

5.5.1.4 Users Locked

DESCRIPTION

The **Users Locked** allows to manage user accounts that has been locked after too many failed log in attempts. To access the **Users Locked** list, navigate to ***Administration – Users Locked***.

Administration - Users Locked

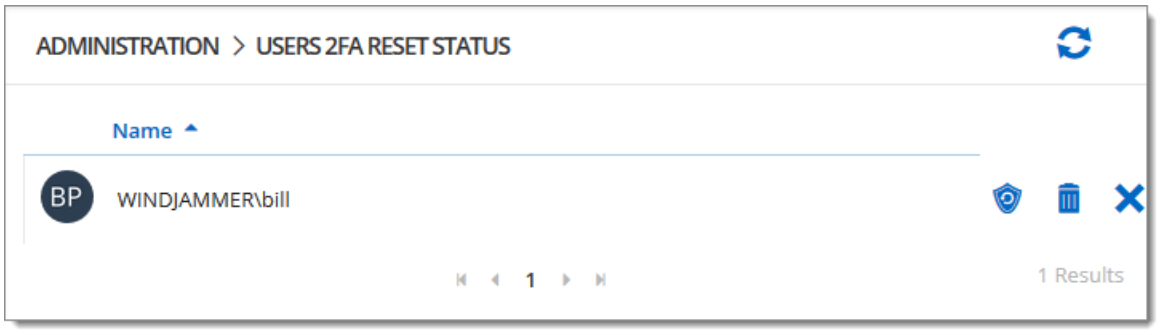


Unlock user account

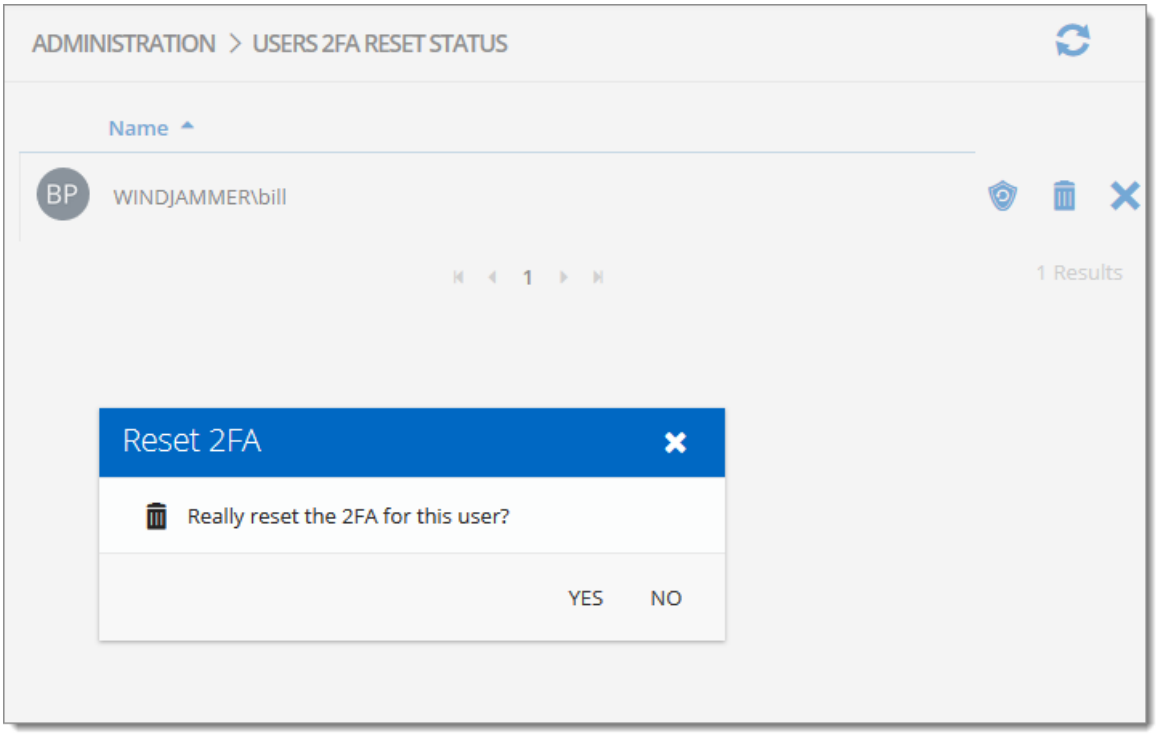
5.5.1.5 Users 2FA Status

DESCRIPTION

The **Users 2FA Status** section displays user accounts that have requested a 2FA reset. To access the list of users that ask for a 2FA reset, navigate to ***Administration – Users 2FA Status***.



Administration - Users 2FA Reset Status

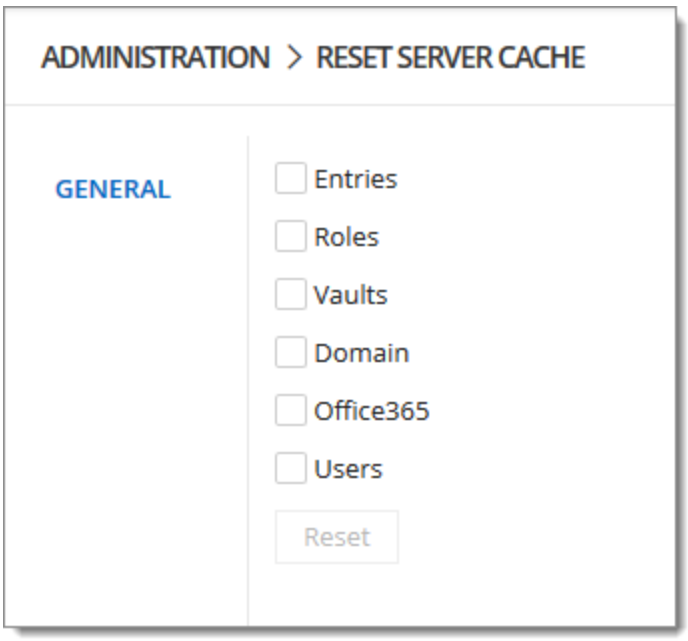


User 2FA Reset operation

5.5.1.6 Reset Server Cache

DESCRIPTION

Reset the **Server Cache** for specific elements.



Administration - Reset Server Cache

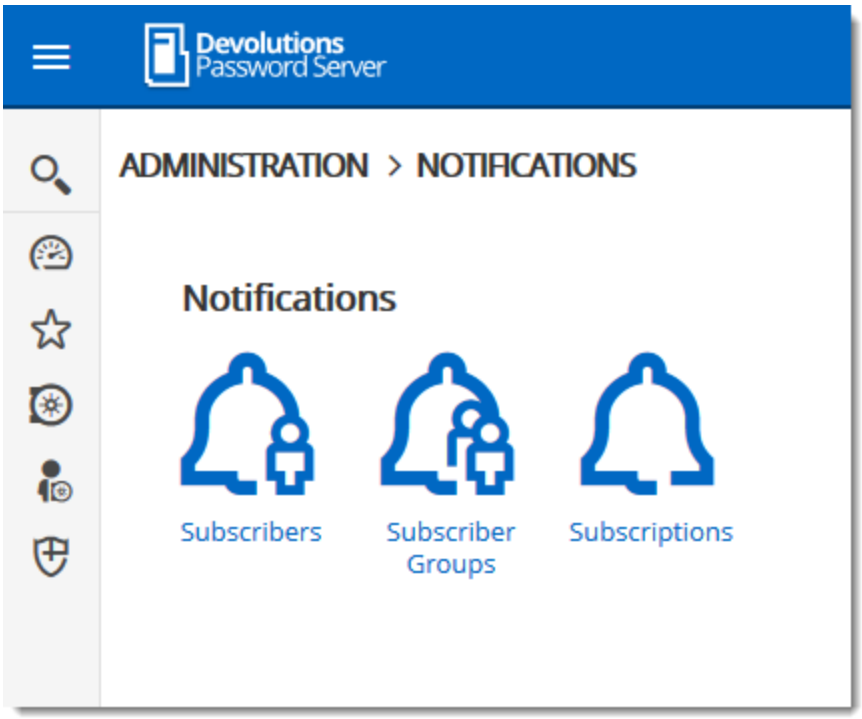
OPTION	DESCRIPTION
Entries **Roles** **Vaults** **Users**	When selecting one of those options, when resetting the cache, it will pull back all the information from the database and put the information in the server's memory cache.
Domain **Office365**	When resetting the **Domain** or the **Office365** cache, it will wipe out the information saved in the database and will reload all the users and groups memberships pulled from Active Directory or from Azure AD.

5.5.1.7 Notifications

DESCRIPTION

The Email and the Scheduler features must be enabled and properly configured to get the Notifications working.

With Devolutions Password Server, it is possible to get email notifications based on user activities with the Notification features.



Notifications

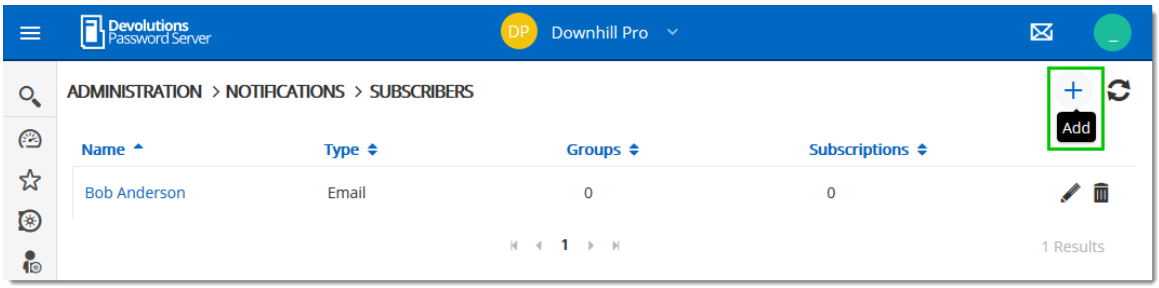
To get the Notification working, at least a Subscriber and a Subscription need to be created. It is also possible to regroup Subscriber in Subscriber Groups to send notifications to a group of subscribers.

5.5.1.7.1 Subscribers

DESCRIPTION

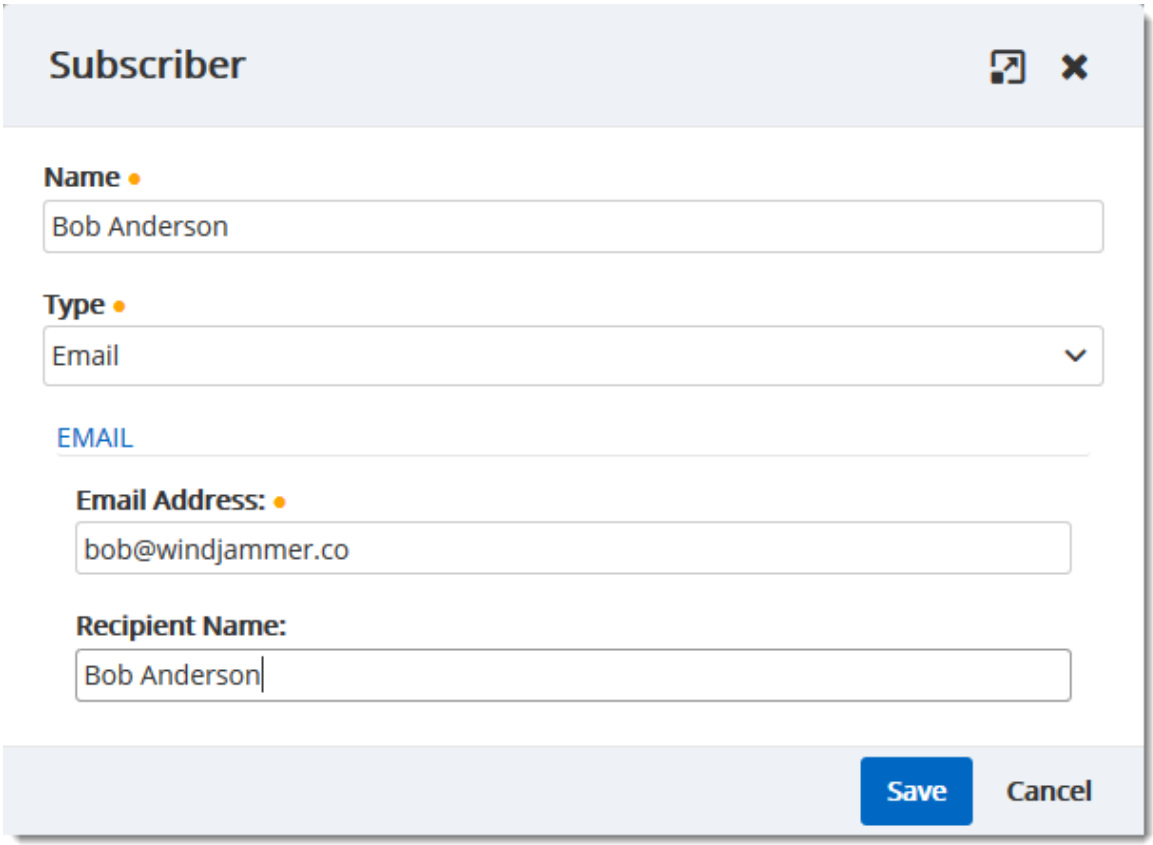
At least, one subscriber must exist to receive notifications about Devolutions Password Server activities.

To create a new Subscriber, click on the Add button.

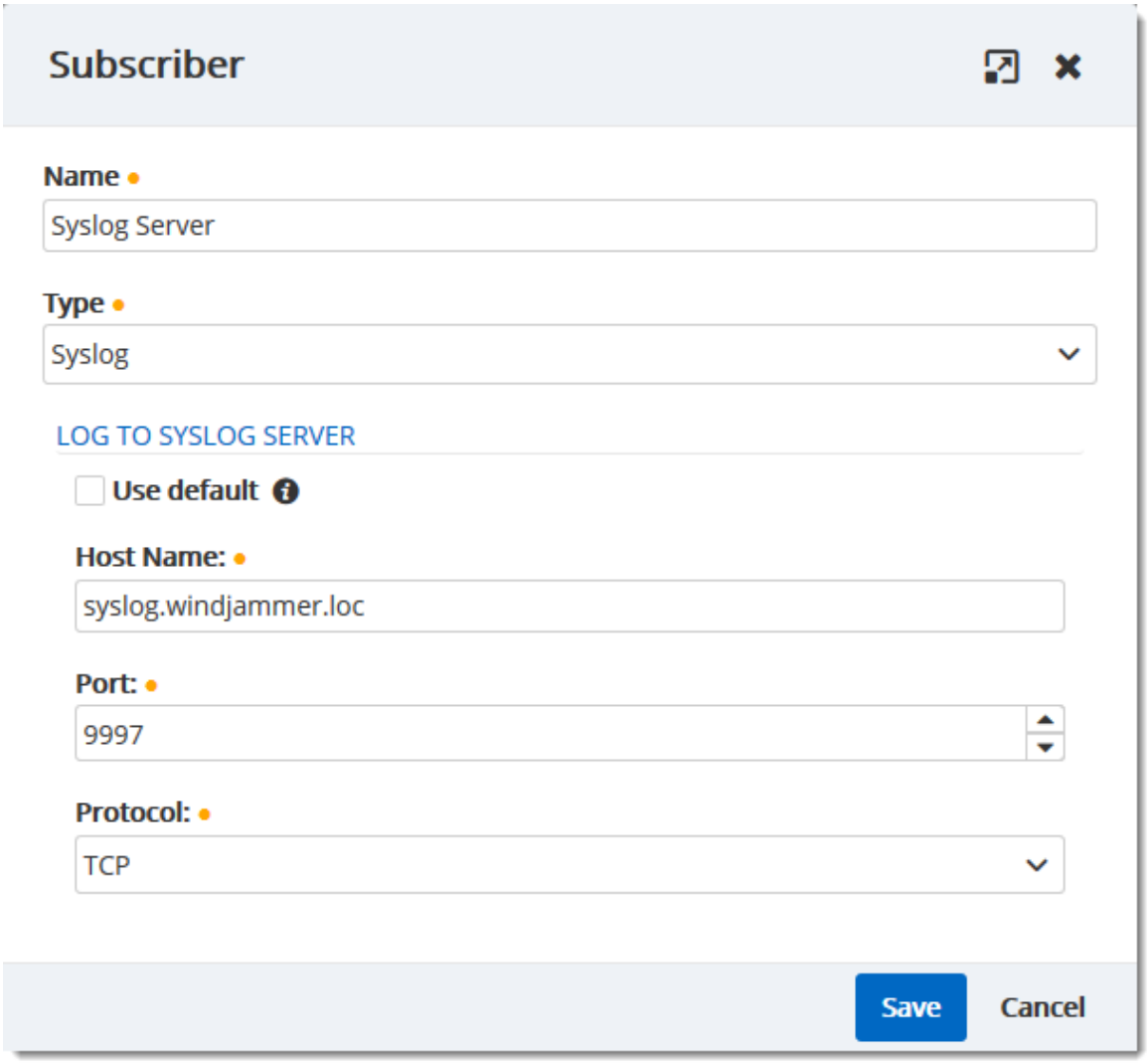


Create a Subscriber

Fill in the information in the following fields.



Email Subscriber properties



Syslog Server Subscriber properties

OPTION	DESCRIPTION
Name	Display name in the Subscribers list.
Type	• Email : The notification will be sent to an email address. ○ Email Address: Valid email address. ○ Recipient name: Email recipient name. • Syslog : The notification will be sent to a syslog server.

OPTION	DESCRIPTION
	○ Use default: Will use the Syslog server configuration set in Logging. ○ Host name: Host name of the Syslog server. ○ Port: Port of the syslog server. ○ Protocol: Protocol (TCP or UDP) to communicate with the Syslog server.

5.5.1.7.2 Subscriber Groups

DESCRIPTION

TBD

5.5.1.7.3 Subscriptions

DESCRIPTION

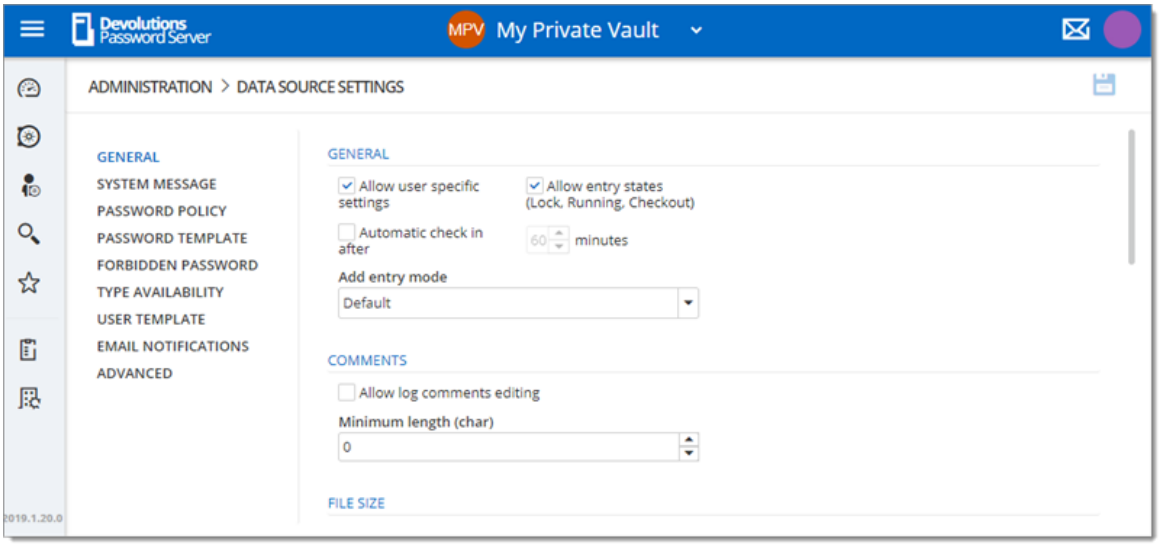
TBD

5.5.2 Configuration

5.5.2.1 System Settings

DESCRIPTION

The System Settings allow the administrators control many global aspects of the Devolutions Password Server data source. Manage settings such Offline Mode, password policies, version management, etc.

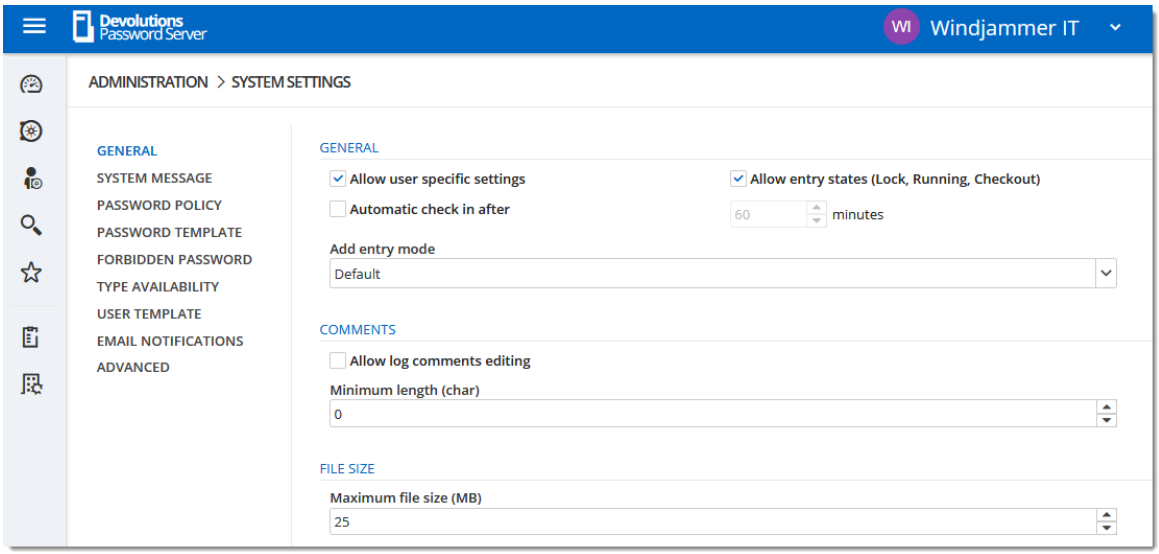


Administration - System Settings

5.5.2.1.1 General

DESCRIPTION

The General section of the System Settings allow the administrators to apply general policies for the whole data source.



Administration - System Settings - General

GENERAL	DESCRIPTION
Allow user specific settings	Allow users to save User Specific Settings.
Allow entry states (Lock, Running, Checkout)	Allow entries to be locked when used or edited.
Automatic check in after	
Add entry mode	Select if users are prompted to choose a template when creating a new entry. Select between: • **Default** • **Template list (include blank)** • **Template list only** • **No template selection**

COMMENTS	DESCRIPTION
Allow log comments editing	Enable the log comment editing for all users.
Minimum length (char)	Minimum length in character for the comment.

FILE SIZE	DESCRIPTION
Maximum file size (MB)	Limit the size of attachments and document entries to avoid to over load the data source.

FAVORITES	DESCRIPTION
Allow favorites	Allows to flag entries as favorites.

Private Vault	DESCRIPTION
Allow Private Vault	Allow users to use the Private Vault.
Log Private Vault activities	Include the logs of the Private Vault for all users of the data source.
Allow credential repository in private Vault	Allow credential repository for sessions in the Private Vault.

SECURITY	DESCRIPTION
Use legacy security	Enable the legacy security

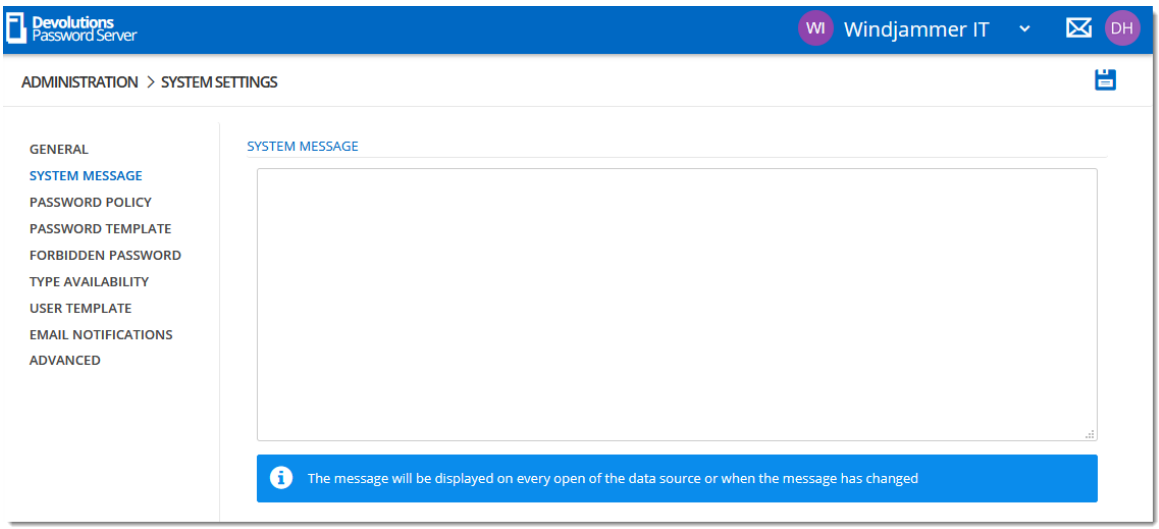
SECURITY - TIME-BASED USAGE	DESCRIPTION
Time Zone	Select the time zone you are currently in.
Days	Select which days the session is available for. Select between: • **Any day**: the session can be used any day of the week or week-end. • **Week days**: the session can be used only the week days.

SECURITY - TIME-BASED USAGE	DESCRIPTION
	• **Week ends**: the session can be used only the week ends. • **Custom**: manually select each day the session is available for.
Time of day	Select the hours which the session is limited to. Select between: • **Any time**: the session can be used at any hour. • **Custom**: manually select the time frame the session is available for.

5.5.2.1.2 System Message

DESCRIPTION

The **System Message** allows to set a message that will be displayed every time a user connects on the Devolutions Password Server data source no matter which method will be used (web interface, Remote Desktop Manager).

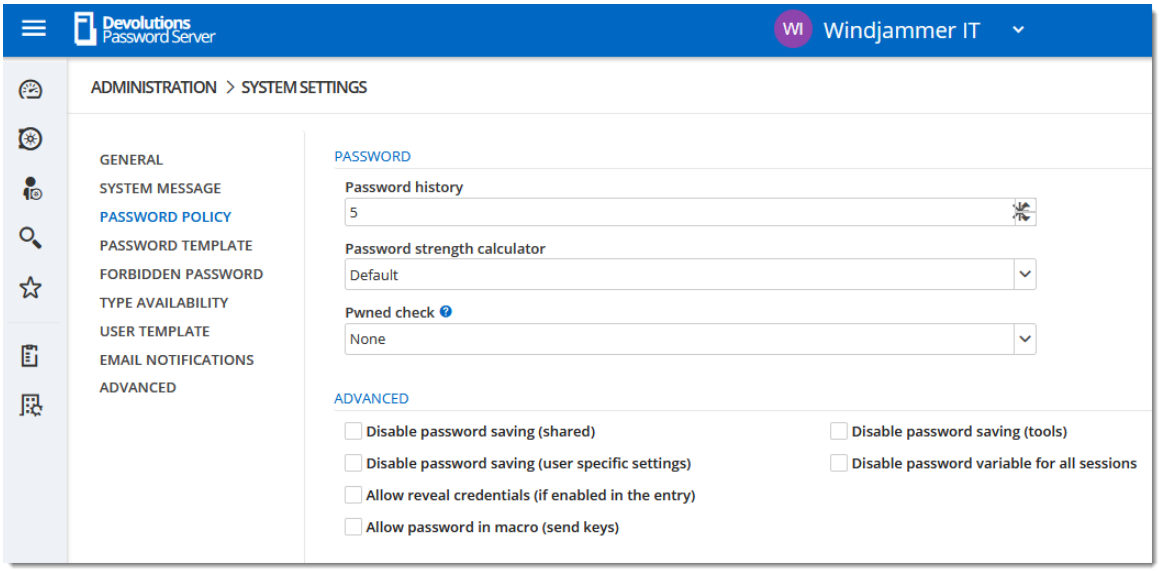


Administration - System Settings - System Message

5.5.2.1.3 Password Policy

DESCRIPTION

The **Password Policy** settings allow to set the minimal requirements for passwords that will be saved in the entries.



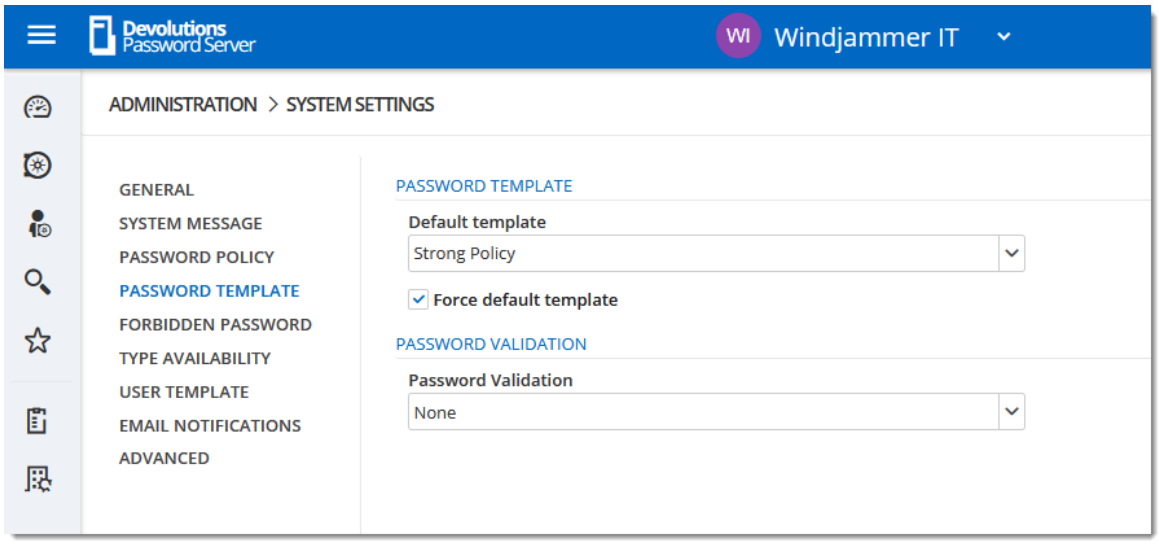
Administration - System Settings - Password Policy

PASSWORD	DESCRIPTION
Password History	Indicate the maximum saved password to keep in history.
Password strength calculator	Select the tool to use to analyze the password strength.
Pwned check	Verify if the used passwords have already been exposed to data breaches.

ADVANCED	DESCRIPTION
Disable password saving (shared)	Prevent users from saving passwords in entries.
Disable password saving (user specific settings)	Prevent users from saving passwords in the User Specific Settings.
Allow reveal credentials (if enabled in the entry)	Shows the credentials if the box "Allow show credentials (everybody)" is check inside the entry.
Allow password in macro (send keys)	Renders the **$MACRO_PASSWORD$** variable useless for this data source.
Disable password saving (tools)	Prevent users from saving passwords in the Tools tab of a session.
Disable password variable for all sessions	Renders the **$PASSWORD$** variable unusable for this data source.

5.5.2.1.4 Password Template

DESCRIPTION



Administration - System Settings - Password Template

SETTINGS

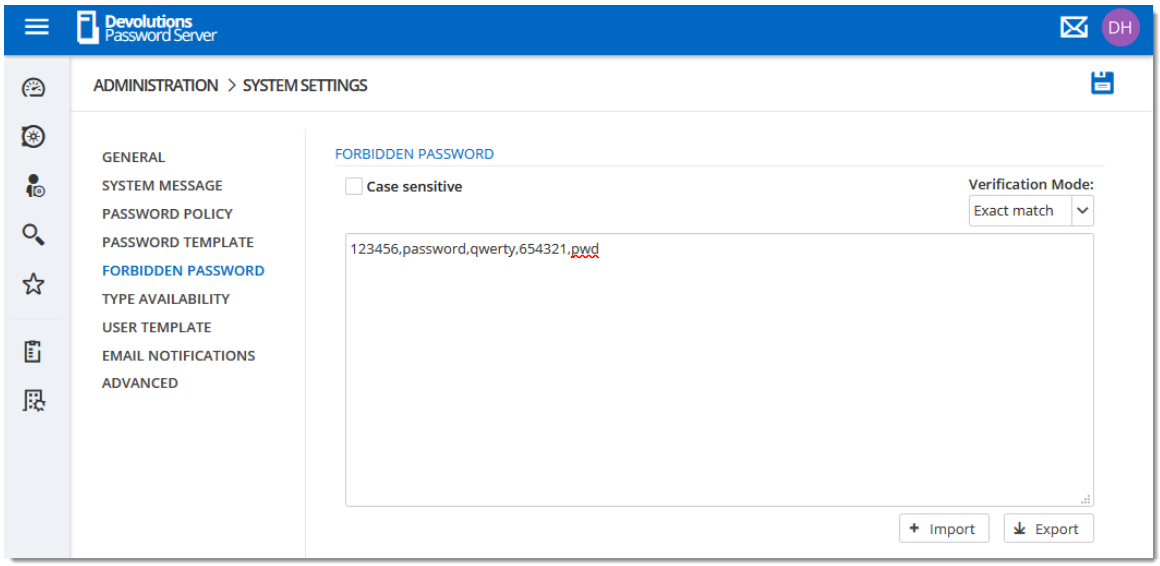
PASSWORD TEMPLATES	DESCRIPTION
Password Validation	Select a password template to use. Consult the Password Template page for more information.
Force default template	Enforce the default template.
Password Template	• **None** : No password templates will be used on password creation. • **Required** : On password creation, the user will get a warning that the password doesn't meet the Password Template rules. The user cannot save the password.

PASSWORD TEMPLATES	DESCRIPTION
	• **Warning** : On password creation the user will get a warning that the password doesn't meet the Password Template rules. The user can save the password.

5.5.2.1.5 Forbidden Passw ord

DESCRIPTION

Forbidden Passwords allow to create a list of blacklisted passwords to forbid usage in the application. Once set in this list, the password cannot be used anymore in the Devolutions Password Server data source.



Administration - System Settings - Forbidden Password

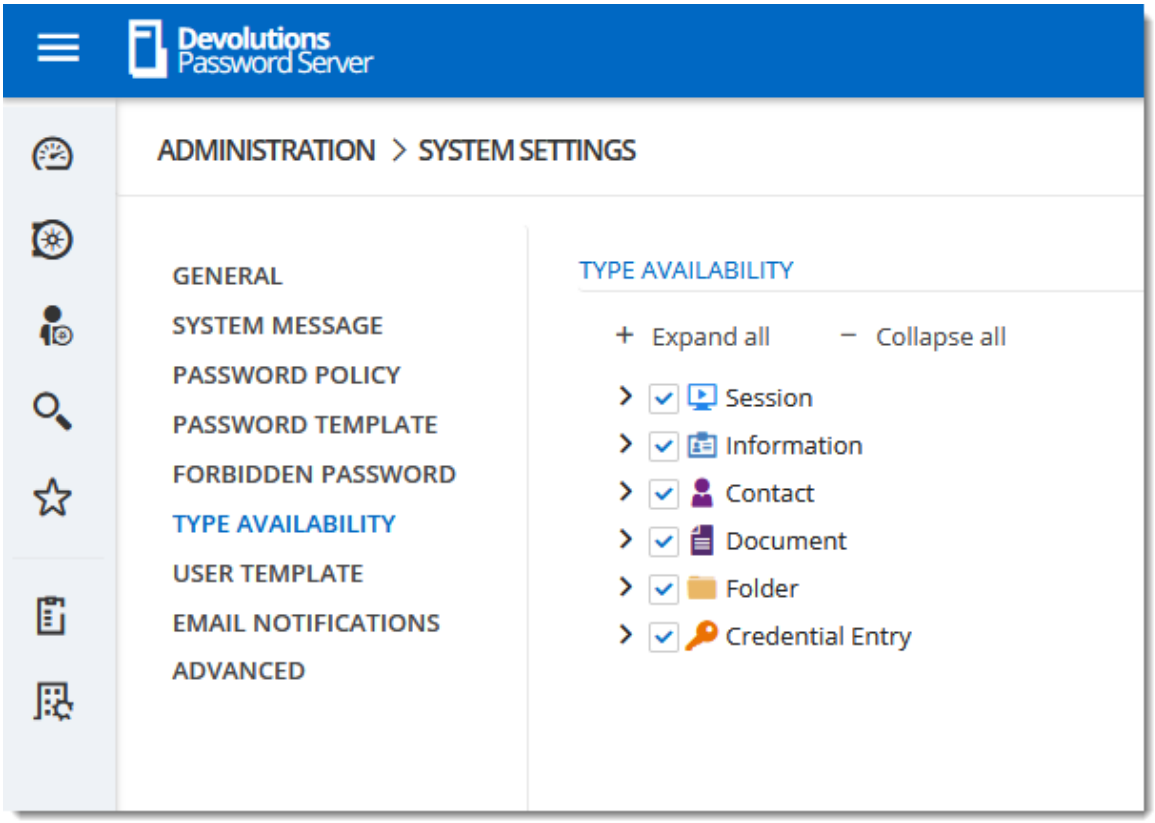
OPTION	DESCRIPTION
Case sensitive	Make the verification mode case sensitive.
Verification mode	Select the verification mode between:

OPTION	DESCRIPTION
	Contains: the password will be forbidden if it contains a word in the blacklist. **Exact match**: the password will be forbidden if it matches a word in the blacklist.
Import	Import a list from your computer (*.pwd or .txt).
Export	Export your forbidden password list. By default the list will be exported in a password file format (.pwd).

5.5.2.1.6 Type Availability

DESCRIPTION

This section will allow to control the availability of the session, information, contact, document, folder, credential entry in Devolutions Password Server data source. Each section contains different entry types you can choose to be available.

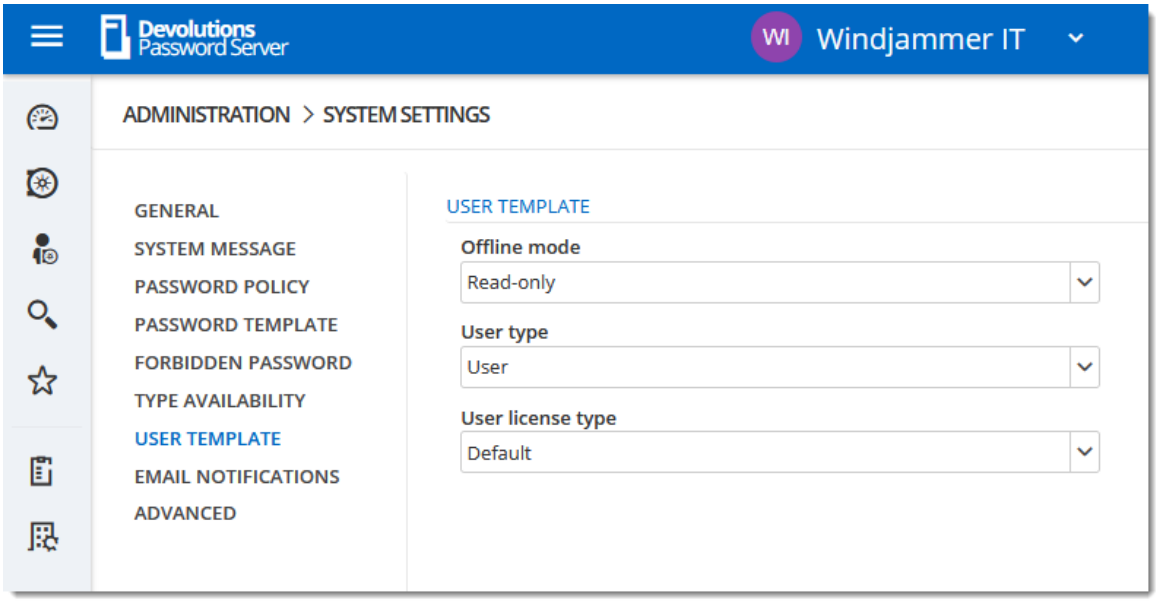


System Settings - Type Availability

5.5.2.1.7 User Template

DESCRIPTION

This section will set the user template for the Automatic User Creation feature.

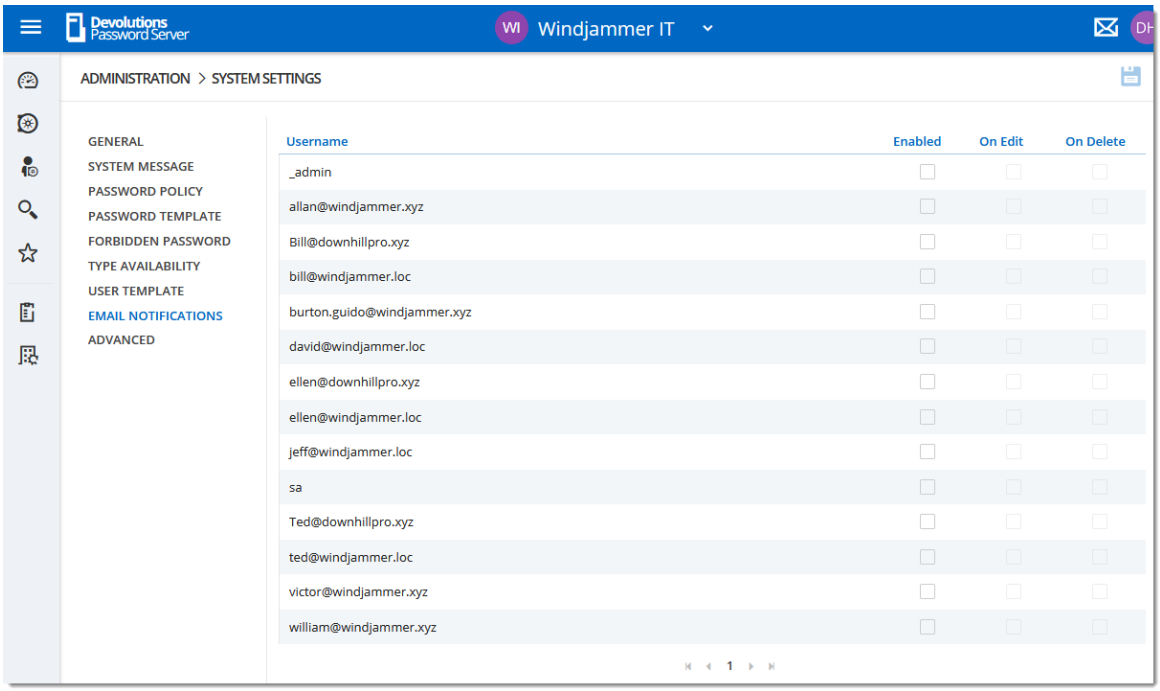


System Settings - User Template

OPTION	DESCRIPTION
Offline mode	This option will only affect Remote Desktop Manager application. The possible values are : • **Disabled** • **Read only** • **Read/write**
User type	The possible values are : • **Administrator** • **User** • **Read only user**
User license type	Select if users are prompted to choose a template when creating a new entry. Select between: • **Default** • **Connection Management** • **Password Management**

5.5.2.1.8 Email Notifications

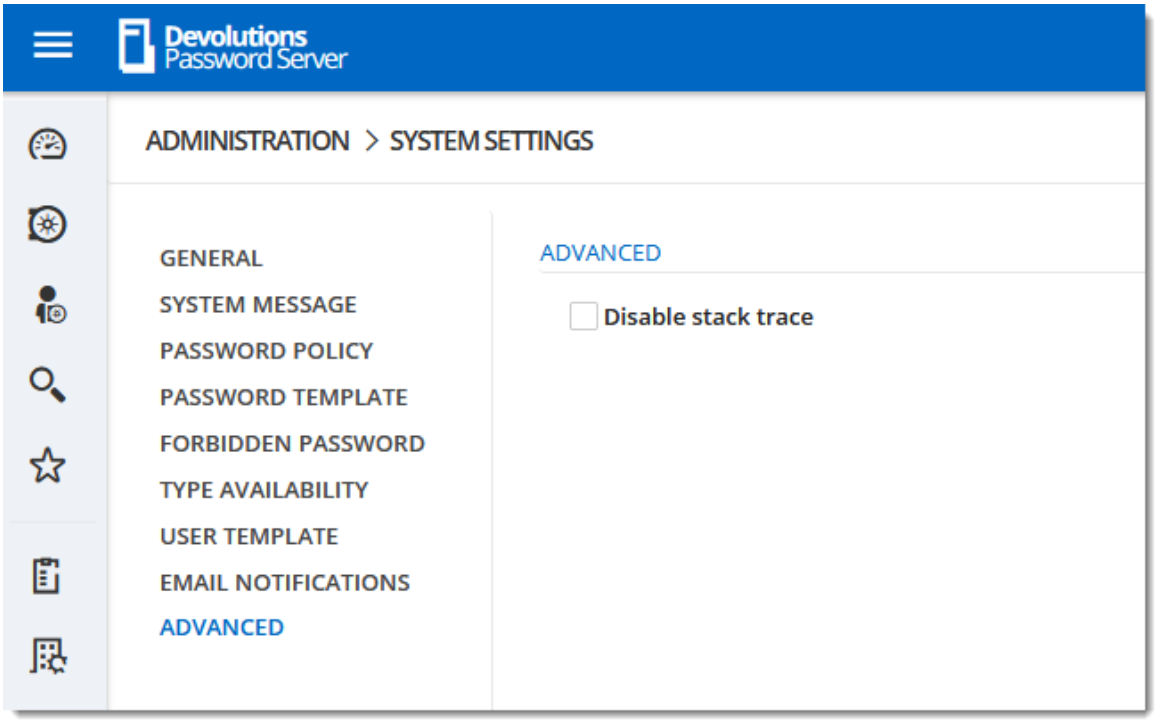
DESCRIPTION



Administration - System Settings - Email Notifications

5.5.2.1.9 Advanced

DESCRIPTION

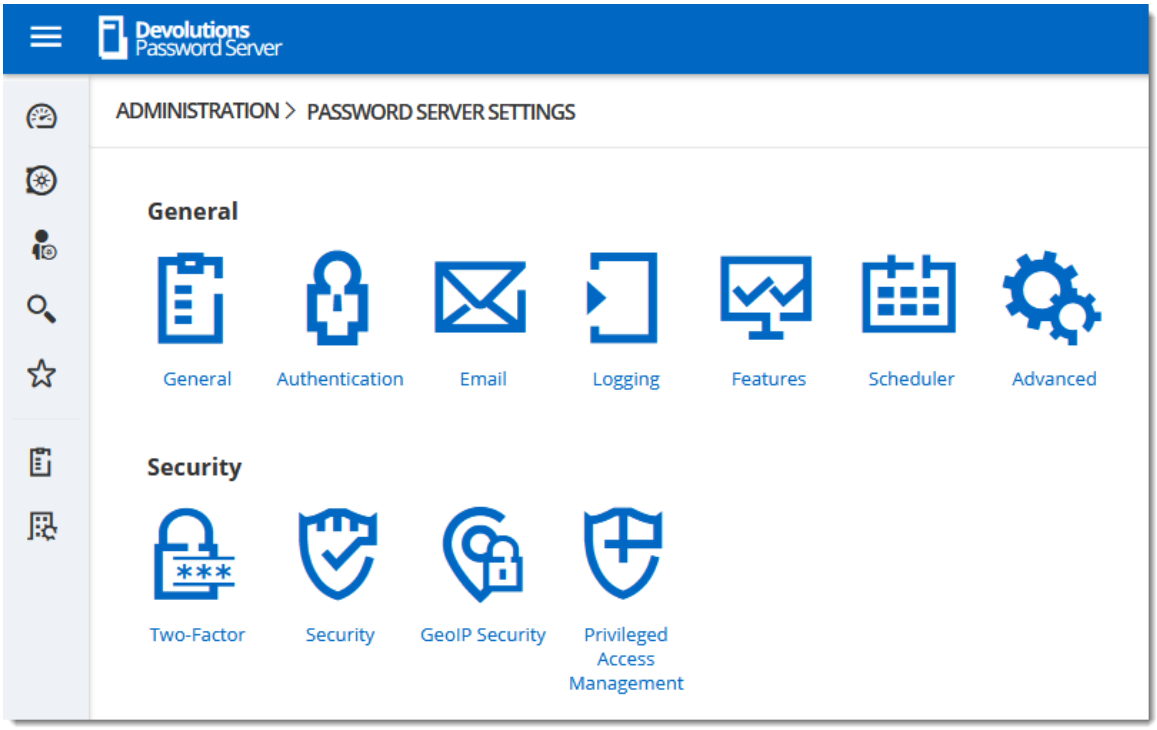


Administration - System Settings - Advanced

5.5.2.2 Password Server Settings

DESCRIPTION

The **Password Server Settings** page allows to manage the Devolutions Password Server configuration remotely.



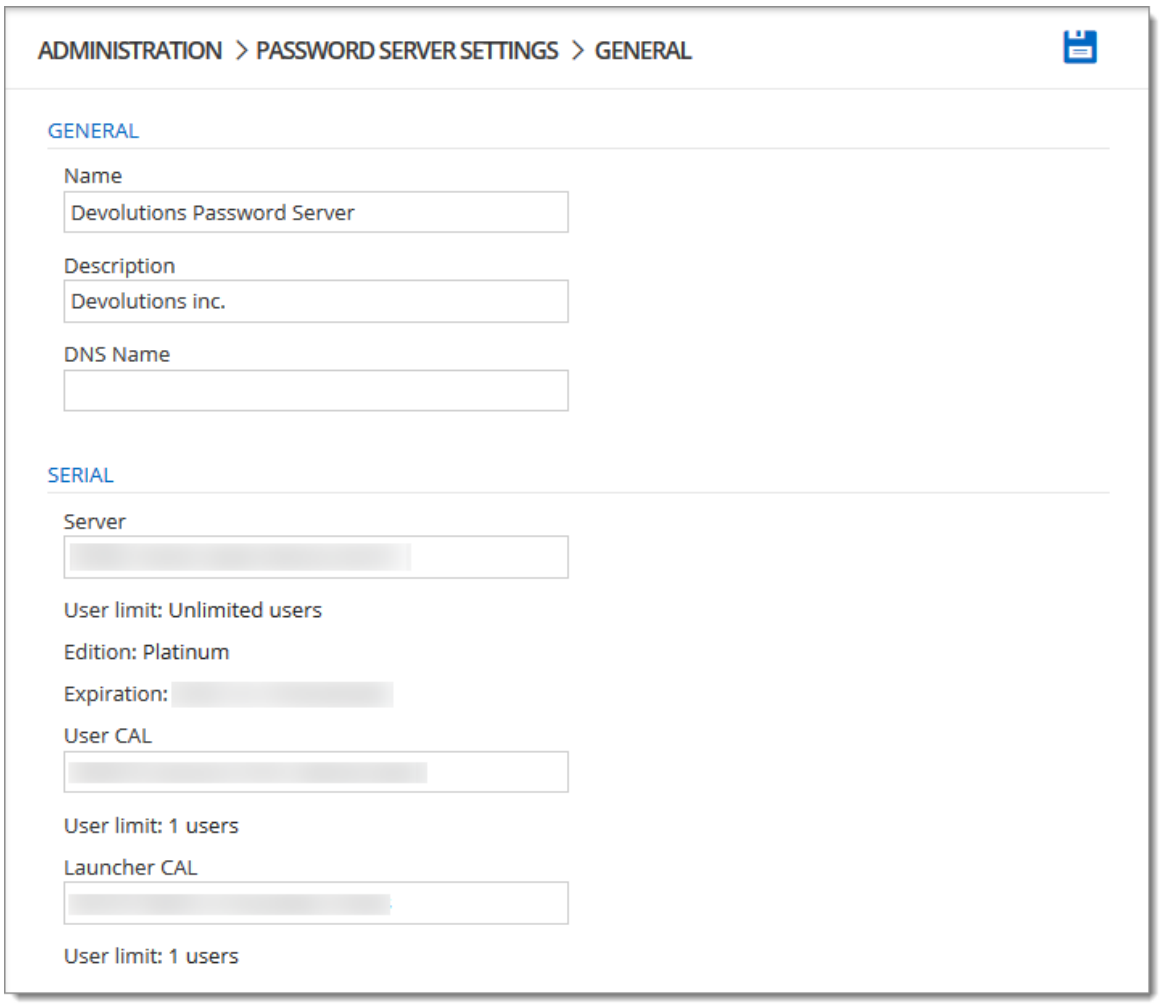
Administration - Password Server Settings

5.5.2.2.1 General

5.5.2.2.1.1 General

DESCRIPTION

The **General** section allows the Administrator to modify the name or the description of the Devolutions Password Server instance.



Administration - Password Server Settings - General

SETTINGS

GENERAL

OPTION	DESCRIPTION
Name	Enter the name for your server, it will be displayed in the Content area.
Description	Enter a short description or additional information.

OPTION	DESCRIPTION
DNS Name	Name of the DNS server.

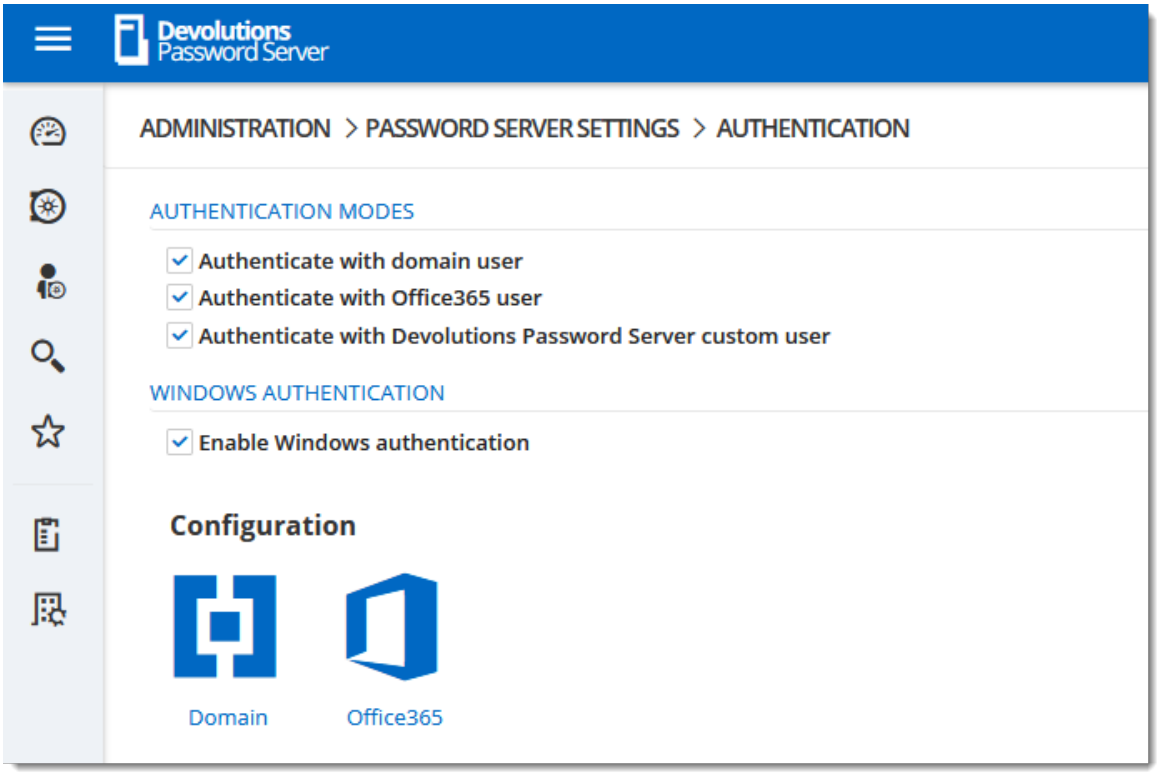
SERIAL

OPTION	DESCRIPTION
Serial	Insert your serial registration number.
User CAL	Insert your Client Access License keys.
Launcher CAL	Insert your Launcher License keys.

5.5.2.2.1.2 Authentication

DESCRIPTION

The **Authentication** section allows the Administrator to select which authentication types will be used



Adminsitration - Password Server Settings - Authentication

SETTINGS

AUTHENTICATION MODES

OPTION	DESCRIPTION
Authenticate with domain user	The domain is used to authenticate the user.
Authenticate with Office365 user	AzureAD is used to authenticate the user.
Authenticate with Devolutions Password Server custom user	The Devolutions Password Server is used to authenticate the user. You must create the initial user through the console.

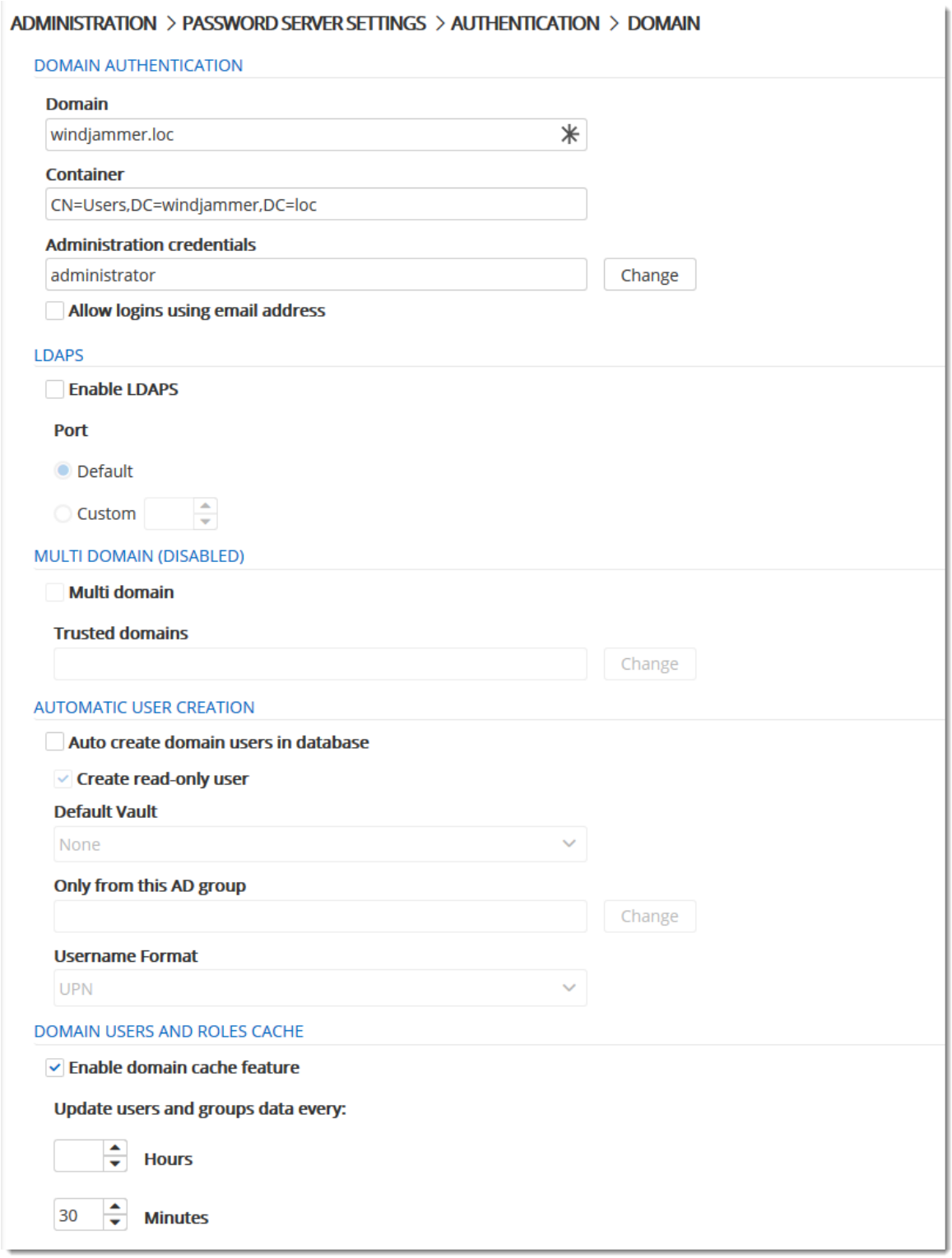
OPTION	DESCRIPTION
Enable Windows authentication	The application will use the current Windows authenticated user to authenticate to the Devolutions Password Server instance.

CONFIGURATION

OPTION	DESCRIPTION
Domain	Configure the Domain type.
Office365	Configure the Office365 type.

DESCRIPTION

The domain is used to authenticate the user. This is the most secure, flexible and easiest to manage. No need to sync users between the domain and Devolutions Password Server. On first use of the Devolutions Password Server data source, the user will be created and be given access rights according to their role in the organization as defined on the domain. You simply need to grant appropriate permissions to your roles in Devolutions Password Server. Upon authentication we will validate the AD groups to which the user belongs and for any that have a corresponding role we will grant the permissions to the user.



Authentication - Configure Domain

SETTINGS

DOMAIN AUTHENTICATION

OPTION	DESCRIPTION
Domain	Specify the remote computer domain name.
Container	Specify the Active Directory Organizational Unit (OU) or Group to restrict the search in a specific area in the Active Directory structure. The format must be the distinguished name (CN=Users,DC=windjammer,DC=loc).
Administration credentials	Add the credentials of a domain or service account to access the Active Directory forest and obtain user account information through LDAP queries. This is needed when the server hosting the instance is not located on the domain. This account needs to be a member of the Account Operators AD group in order to have enough permissions to retrieve user account information and group memberships.
Allow logins using email address	Allow users to use their email address to connect to the Devolutions Password Server instance. The email address field must be filled in the User Management.

LDAPS

OPTION	DESCRIPTION
Enable LDAPS	Enable the LDAP over SSL communication.

OPTION	DESCRIPTION
Port	**Default**: LDAPS default communication port. **Custom**: Set a specific port value.

MULTI DOMAIN (DISABLED)

The Multi Domain feature requires the Devolutions Password Server Platinum Edition license. Currently, it is only working with trusted domains that belong to the same AD Forest.

OPTION	DESCRIPTION
Multi domain	Enable the Multi domain feature.
Trusted domains	Add your trusted domains.

AUTOMATIC USER CREATION

OPTION	DESCRIPTION
Auto create domain users in database	Automatically create the domain user account in the the database on the first login attempt.
Create read-only user	When this option is enabled, the user account will be created as a Read only user type account.
Default Vault	Will give access to that Vault to the user.
Only from this AD group	Will create automatically the user only if he is a member of this AD group.

OPTION	DESCRIPTION
Username Format	Select the username format that will be created in the database. • **UPN :** The user will be created using the UPN format ex: bill@windjammer.loc. • **NetBios :** The user will be created using the NetBios format ex: WINDJAMMER\bill. • **Username :** The user will be created using the SAM account name.

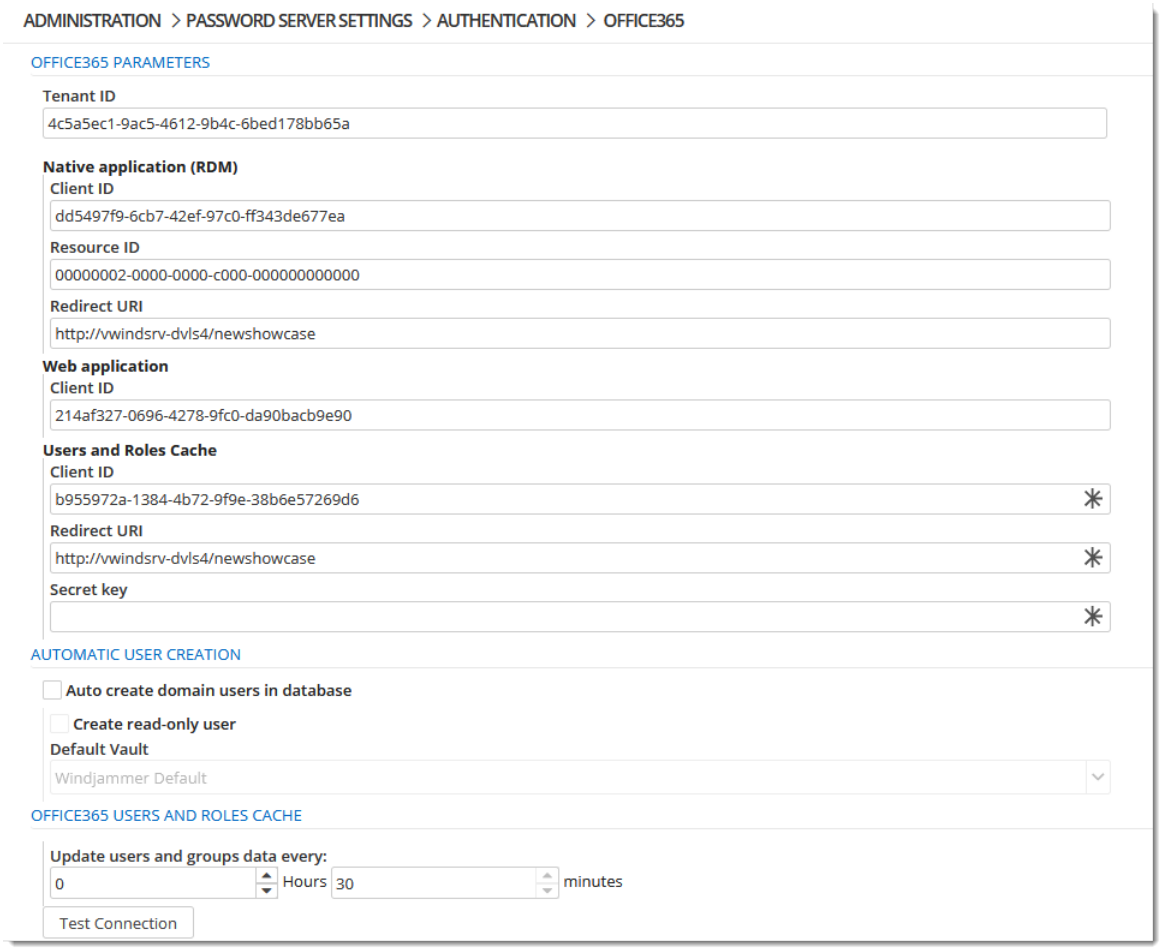
DOMAIN USERS AND ROLES CACHE

OPTION	DESCRIPTION
Enable domain cache feature	Activate the domain cache feature.
Update users and groups data every:	Set the hours and minutes period that the Domain Users and Roles Cache will be refreshed. When enable, the default value is set to 30 minutes.

DESCRIPTION

Microsoft Azure Active Directory subscription is required to configure Office365 authentication in Devolutions Password Server. You need to create three new app registrations in Microsoft Azure Active Directory before completing the authentication settings. For more information about the app registrations, see Azure portal configuration guide for Office 365 authentication.

The **Office365** tab allows Devolutions Password Server to authenticate users using **Office365 authentication**. All fields are mandatory.



Authentication - Configure Office365

SETTINGS

OFFICE365 PARAMETERS

OPTION	DESCRIPTION
Tenant ID	The TenantID is the Directory ID of the Azure Active Directory.

NATIVE APPLICATION (RDM)

OPTION	DESCRIPTION
Client ID	Application ID of the Azure AD application.
Resources ID	resourceAppid from the Manifest of the Azure AD application.
Redirect URI	Redirect URI from the Azure AD application.

WEB APPLICATION

OPTION	DESCRIPTION
Client ID	Application ID from the web app section of the Azure AD application.

USERS AND ROLES CACHE

OPTION	DESCRIPTION
Client ID	Application ID of the Azure AD application.
Redirect URI	Redirect URI from the Azure AD application.
Secret Key	Key from the Password generated in Settings - Keys of the Azure AD application.

AUTOMATIC USER CREATION

OPTION	DESCRIPTION
Auto create domain users in database	Automatically create the Office365 user account in the database on the first login attempt.
Create read-only user	Set the user account as a read-only account.
Default Vault	Will give access to that Vault to the user.

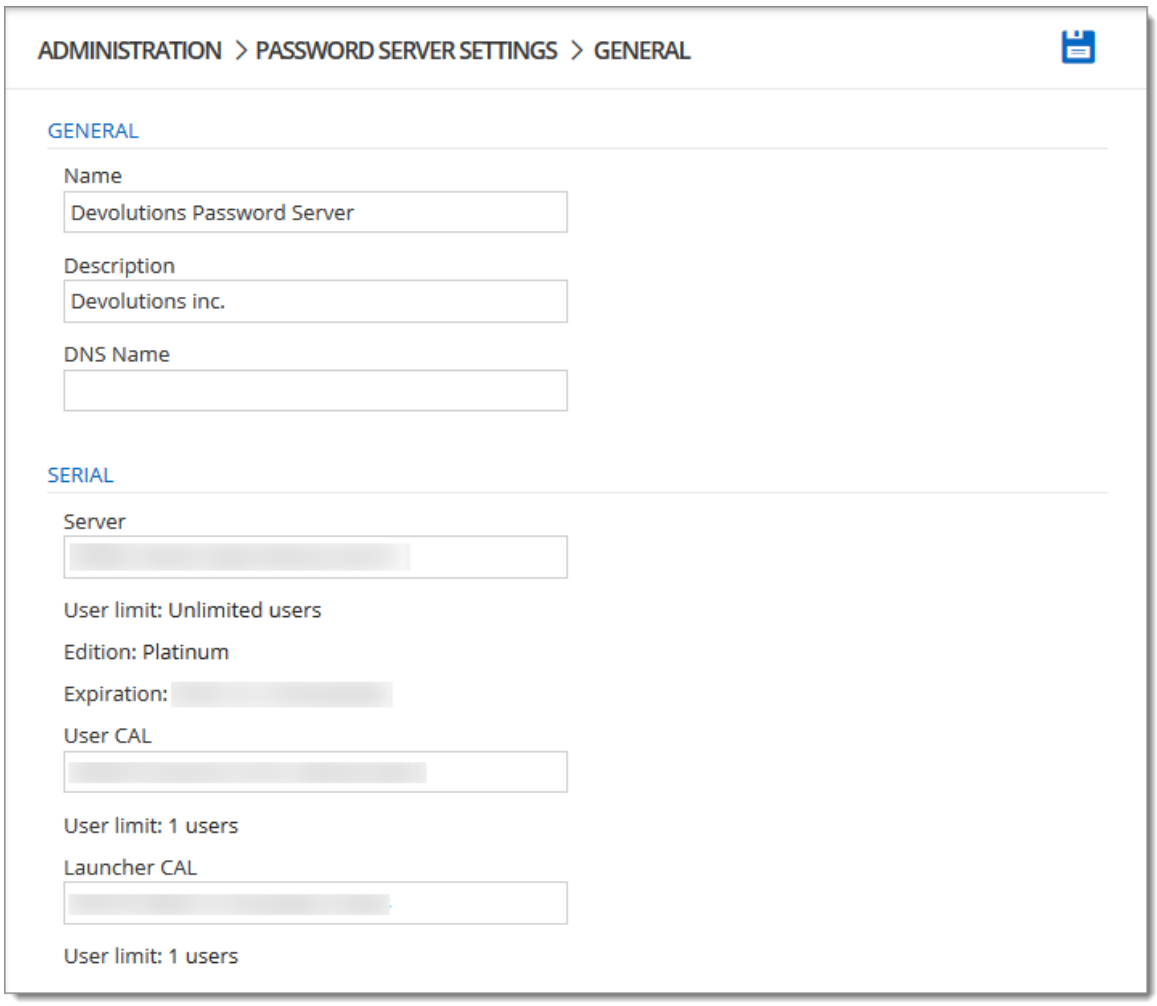
OFFICE365 USERS AND ROLES CACHE

OPTION	DESCRIPTION
Update users and groups data every:	Set the hours and minutes period that the Office365 Users and Roles Cache will be refreshed. Default value is set to 30 minutes.

5.5.2.2.1.3 Email

DESCRIPTION

Emails are sent by our Notification engine and by some of our 2 factor authentication providers.



Administration - Password Server Settings - Email

SETTINGS

GENERAL

OPTION	DESCRIPTION
Email enabled	Enable the Email feature.

SMTP CONFIGURATION

OPTION	DESCRIPTION
Host	Name or IP address of the SMTP server.
Port	Set the SMTP server port.
SSL enabled	Specifies whether to use Secure Sockets Layer (SSL) to encrypt the connection. Please see Note 1 for important information.
Username	Enter your username to connect to your SMTP server.
Password	Enter your password to connect to your SMTP server.
Send email as	Sender email address.
Email administrator	Recipient email address that will receive the errors.
Test Email	Test your email settings.

NOTE 1

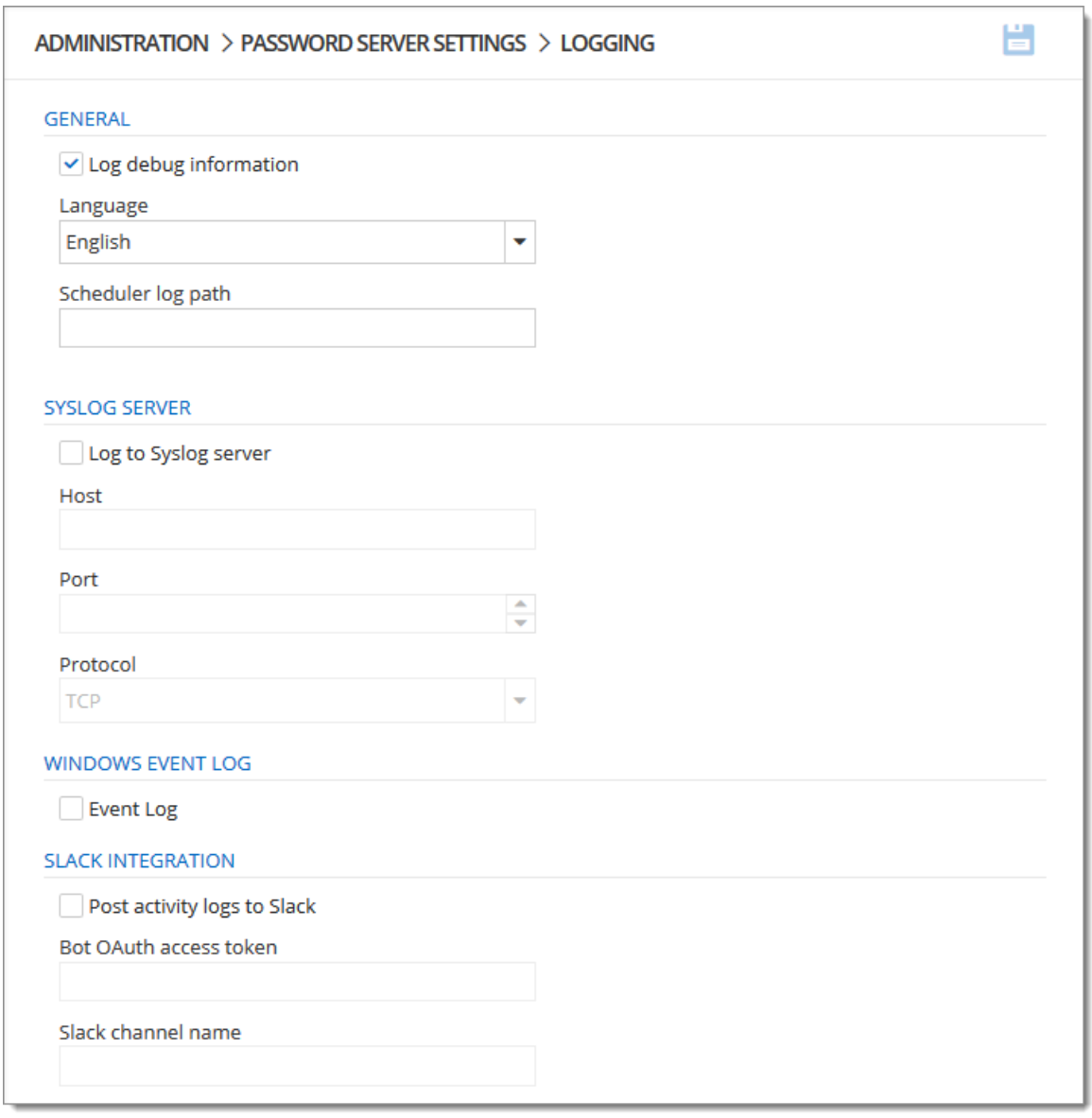
Devolutions Password Server only supports the **SMTP Service Extension for Secure SMTP over Transport Layer Security** as defined in RFC 3207. In this mode, the SMTP session begins on an unencrypted channel, then a **STARTTLS** command is issued by the client to the server to switch to secure communication using SSL.

An alternate connection method is where an SSL session is established up front before any protocol commands are sent. This connection method is sometimes called **SMTP/SSL**, **SMTP over SSL** or **SMTPS** and by default uses port 465. This alternate connection method using SSL is not currently supported.

5.5.2.2.1.4 Logging

DESCRIPTION

The **Logging** section allows the administrator to configure the logging features.



Administration - Password Server Settings - Logging

SETTINGS

GENERAL

OPTION	DESCRIPTION
Log debug information	Enable the Devolutions Password Server instance logs. When enabled, this will raise the debug level and provide more log entries.
Language	Choose the language of the logs.
Scheduler log path	Set the destination path of the log file.

SYSLOG SERVER

OPTION	DESCRIPTION
Log to Syslog server	Send the logs to a Syslog Server.
Host	Enter your Syslog Server host to connect.
Port	Enter your Syslog Server port to connect.
Protocol	Select your preferred Protocol mode between: • **TCP** • **UDP**

WINDOWS EVENT LOG

OPTION	DESCRIPTION
Event Log	Send the logs to Windows Event Log.

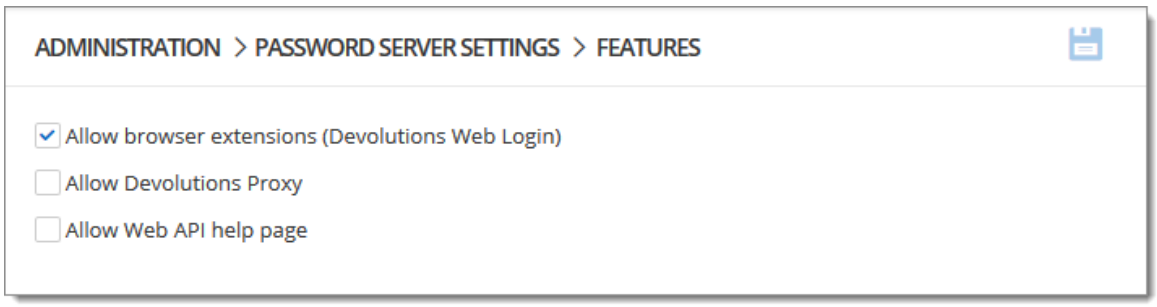
SLACK INTEGRATION

OPTION	DESCRIPTION
Post activity logs to Slack	Post the logs in a Slack channel.
Bot OAuth access token	Slack authentication access token.
Slack channel name	Name of the Slack channel where the logs will be posted.

5.5.2.2.1.5 Features

DESCRIPTION

The **Features** section section allows the administrator to configure the web interface features.



Administration - Password Server Settings - Features

SETTINGS

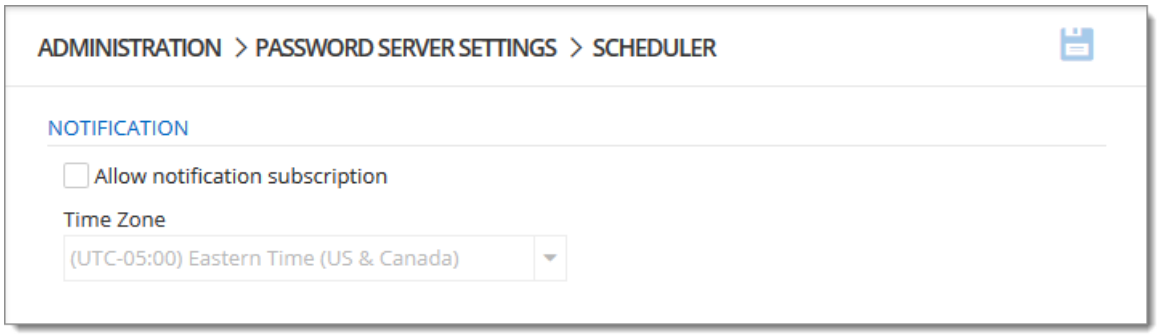
OPTION	DESCRIPTION
Allow browser extensions Devolutions Web Login)	Allow to save credentials in the Devolutions Password Server instance with Devolutions Web Login.
Devolutions Proxy	Enable the Devolutions Proxy feature.
Allow Web API help page	

5.5.2.2.1.6 Scheduler

DESCRIPTION

The **Scheduler** is used to enable automated tasks in Devolutions Password Server. Some further configurations are needed to be done before enabling these options.

The Email settings must be configured in the Devolutions Password Server instance in order for notifications to be sent.



Administration - Password Server Settings - Scheduler

NOTIFICATION

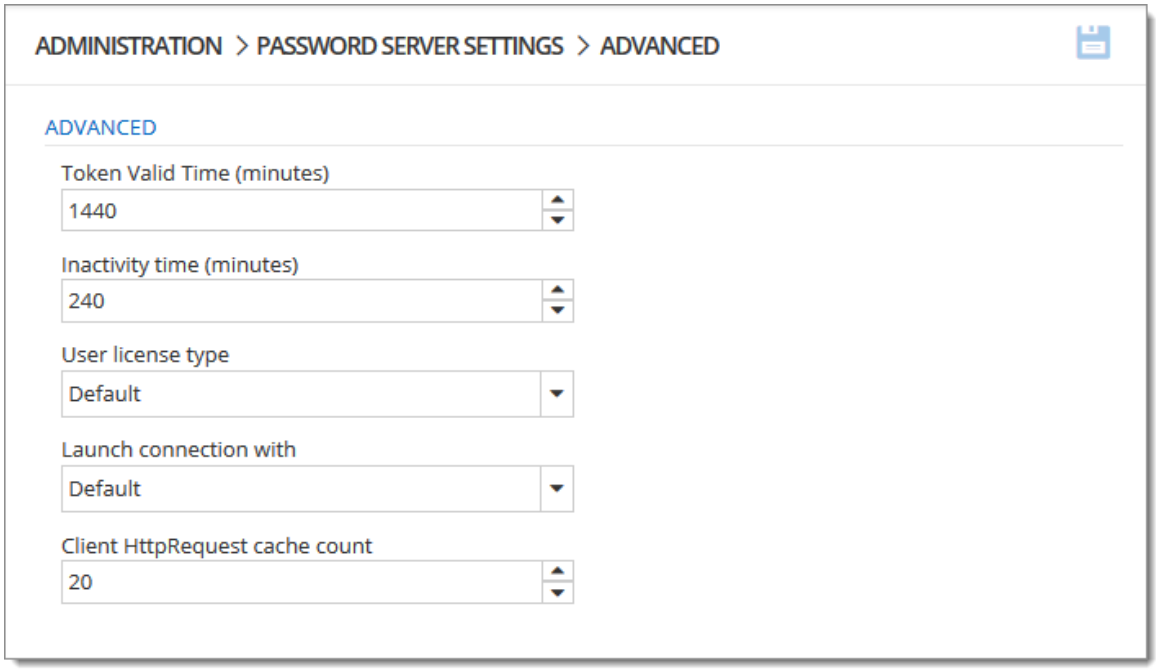
The **Notifications** settings are used to send email notifications to specific users. These notifications include any activities on sessions, roles, users, etc.

CATEGORY	DESCRIPTION
Allow notification subscription	Enable the notifications of the Devolutions Password Server instance.
Time Zone	Time zone used to display the time stamp in the notification email.

5.5.2.2.1.7 Advanced

DESCRIPTION

The **Advanced** section allows the administrator to configure the **Token Valid Time** parameter.



Administration - Password Server Settings - Advanced

SETTINGS

FEATURES

CATEGORY	DESCRIPTION
Token Valid Time (minutes)	This the duration time of the token. At the expiration of the token, the user must again authenticate himself on the Devolutions Password Server instance. The maximal value is 1440 minutes which is 24 hours.
Inactivity time (minutes)	Enter the delay for the user to be disconnected from the server if inactive. This value must be lower than the Toke Valid Time parameter. This parameter is applied on the web interface or with the Devolutions Web Login browser companion tool. It has no effect on Remote Desktop Manager.
User license type	Select the license type. **Default** is **Connection Management**.
Launch connection with	Sets the application that opens remote connections: Remote Desktop Manager or Devolutions Launcher. **Default** refers to Devolutions Launcher.
Client HttpRequest cache count	For internal use. Do not modify this value unless specified for support situation.

5.5.2.2.2 Security

5.5.2.2.2.1 Two-Factor

DESCRIPTION

This feature is only available with Devolutions Password Server Enterprise or Platinum licenses.

Configure **Two-Factor Authentication** in Devolutions Password Server to add an extra layer of security to the application.

Devolutions Password Server supports 9 types of 2FA. You can configure a default 2FA type for your entire organization or configure 2FA by user. When 2FA is configured, users log in with their username/password as well as a 2FA product.

HOW TO CONFIGURE 2FA FROM THE WEB INTERFACE

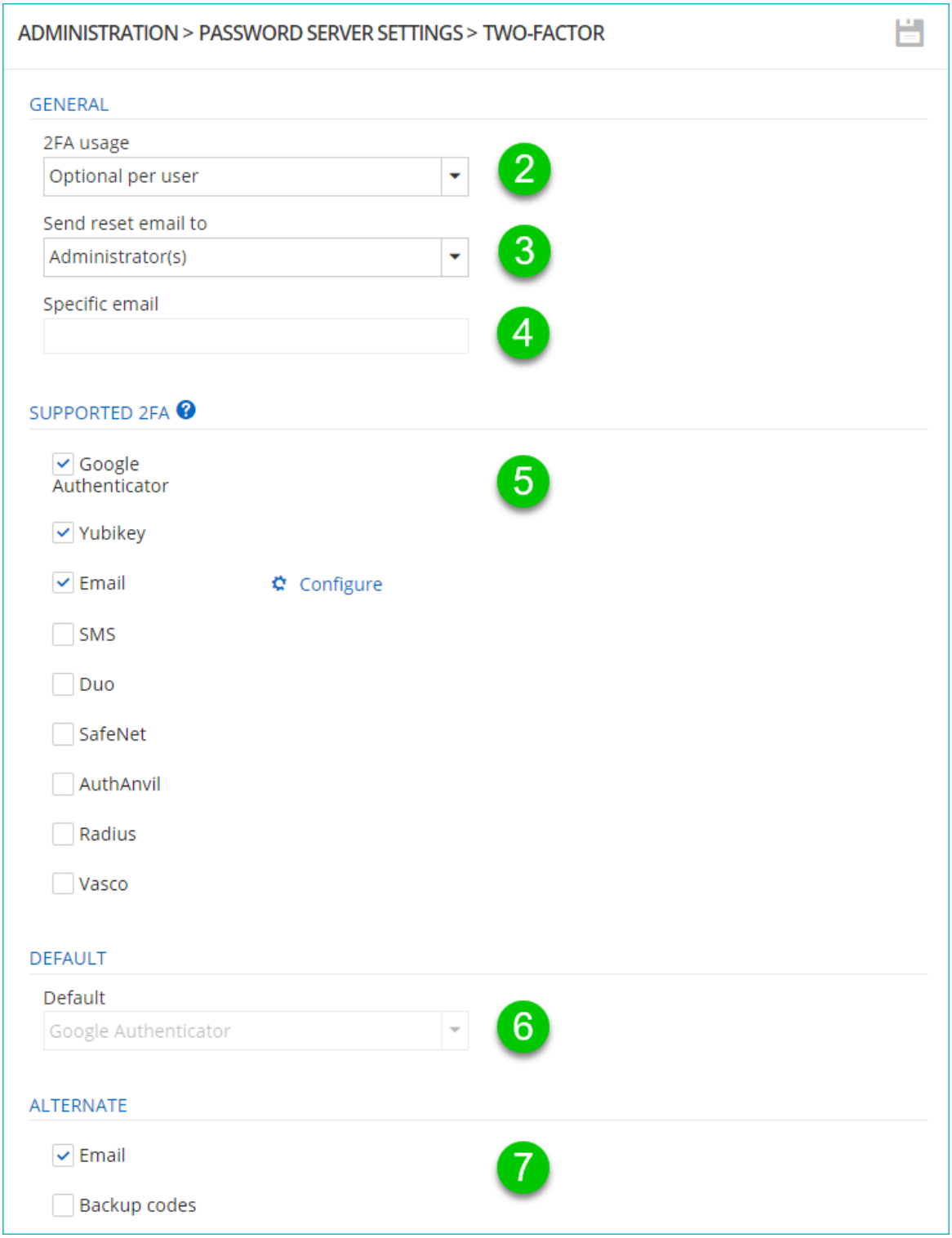
SETTINGS

1. To access the 2FA configuration, go to ***Administration – Password Server Settings – Two-Factor***
2. Choose how you want to enforce two-factor authentication in **2FA usage**.

OPTION	DESCRIPTION
None	2FA is not enforced.
Optional per user	2FA is enforced on an individual basis. The administrator chooses who uses 2FA and what product or technology they use. Choose this option if not all users are set up for two-factor authentication.
Required	2FA is enforced for all users. A default 2FA type is set for all users.

3. Select who receives 2FA reset requests from users. You can choose to send the email to all Devolutions Password Server **administrators** or a **specific email**.
4. If you chose to send reset requests to an email address instead of the Devolutions Password Server administrators, enter the email address in **specific email**.

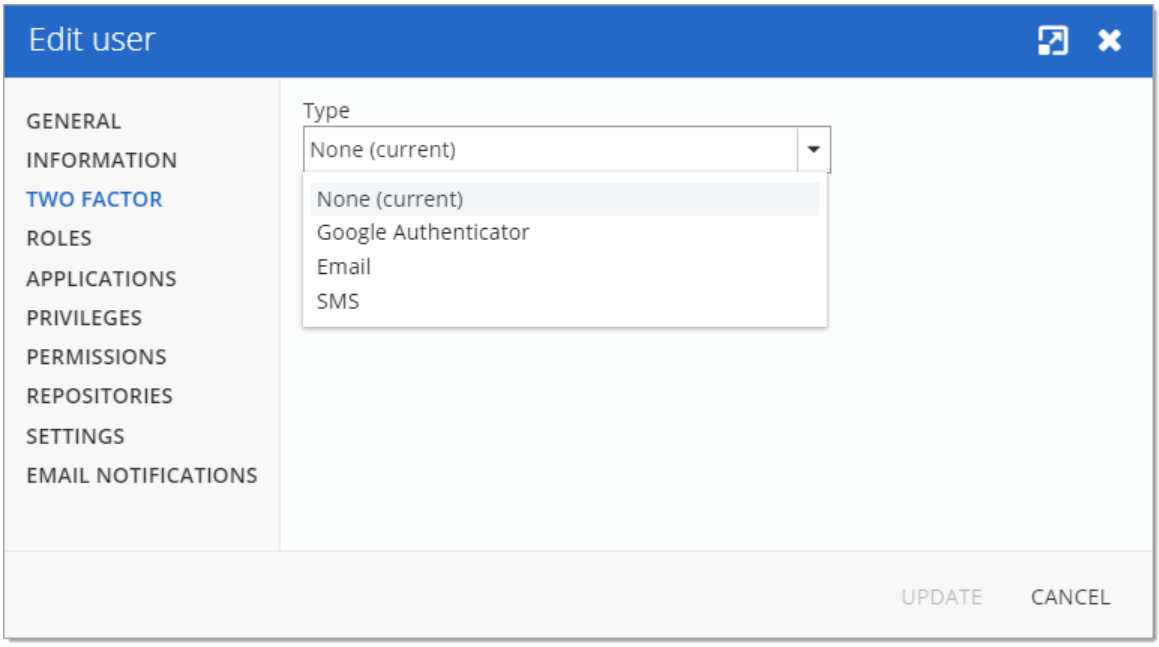
5. Select the 2FA types users can authenticate with. Choose as many as necessary.
6. If you chose 2FA usage as **Required** in **step 3**, choose the **Default** 2FA type.
7. Select **alternate** ways to log in. These options will be offered when users do not have access to the usual method.



Administration - Password Server Settings - Two-Factor

8. When 2FA usage is set to **Optional per user**, the 2FA method must be configured in ***Administration – Users – Two Factor*** for each user. You can

also set a 2FA type on the user if they are using a product different than the default method. See Edit Users for more information.



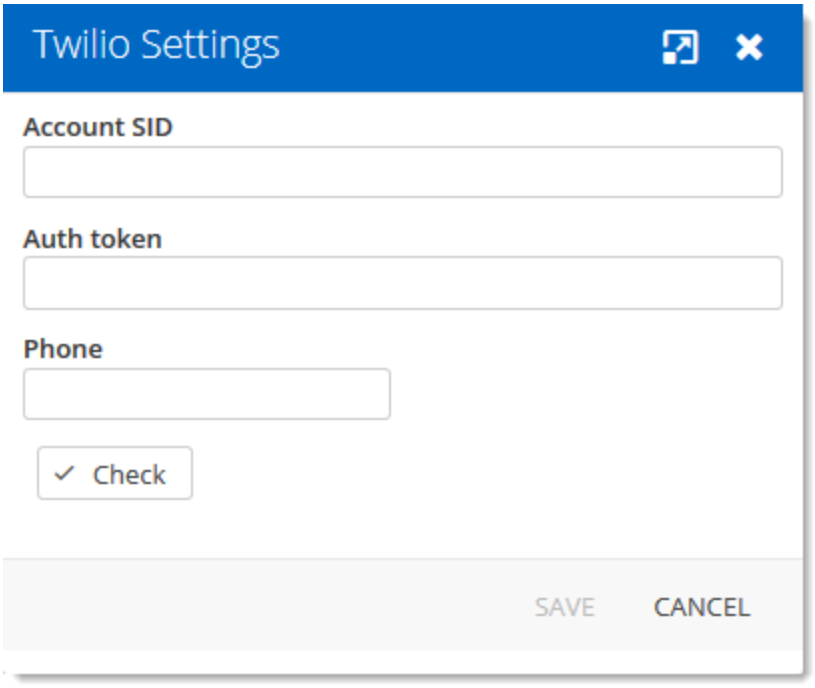
Edit User - Two Factor

OVERVIEW

The 2FA SMS will request the user to enter a code he has received on his mobile phone as its second component to access the data source.

There are two possible configuration available. To use the free version, do not fill in the Twilio settings.

The other available configuration is to configure Twilio. Please fill in the appropriate fields with the information from your Twilio subscription.



Twilio Settings dialog

OPTION	DESCRIPTION
Account SID	Account SID of your Twilio account.
Auth token	Authorization toke from your Twilio account.
Phone	Phone number.

DESCRIPTION

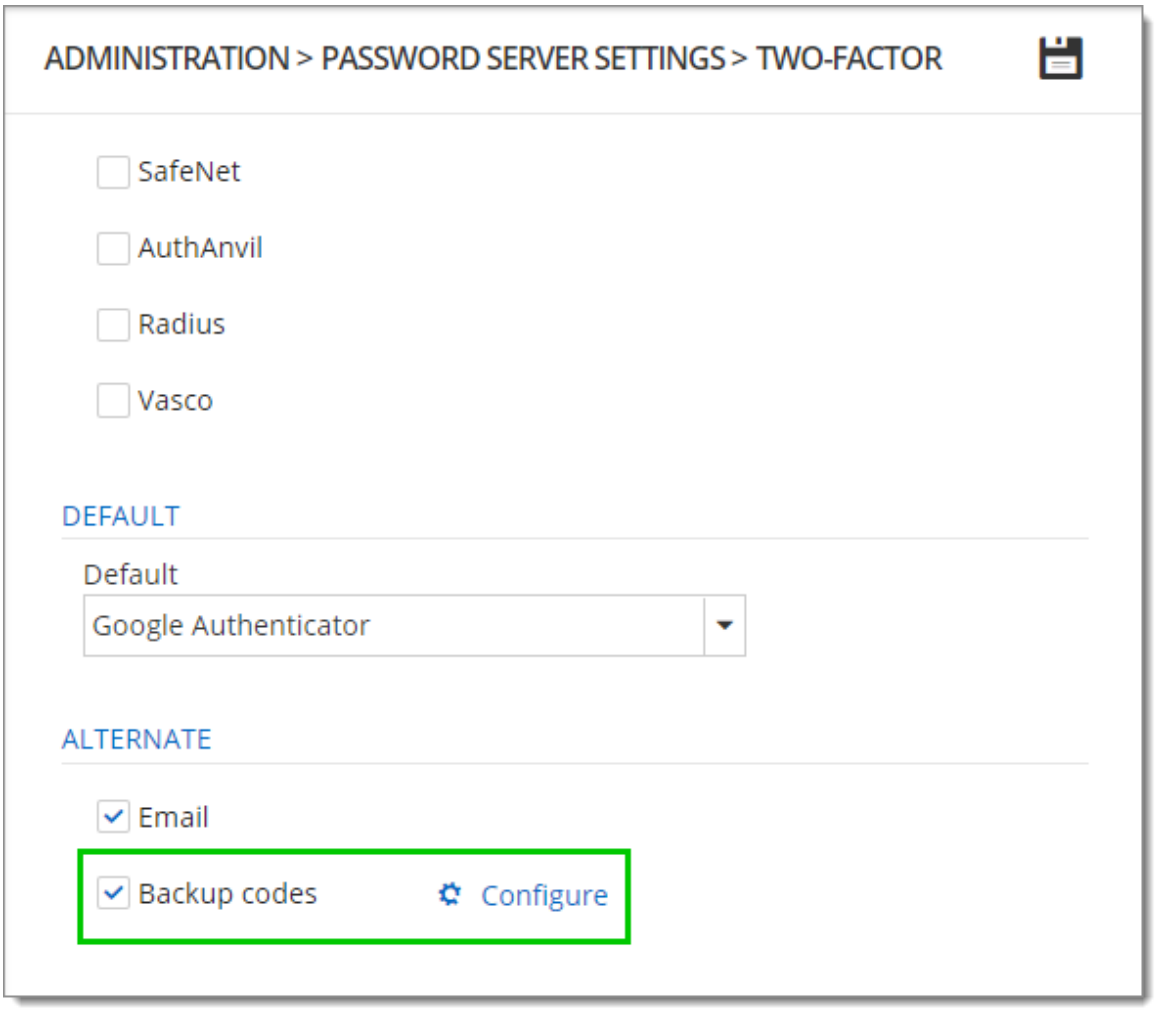
Backup codes are validation codes that provide users with one time access to Devolutions Password Server when they do not have access to their usual 2FA product or device. These must be generated before and kept safe in case of emergencies.

The **Administrator** enables the option and then users can generate their backup codes.

SETTINGS

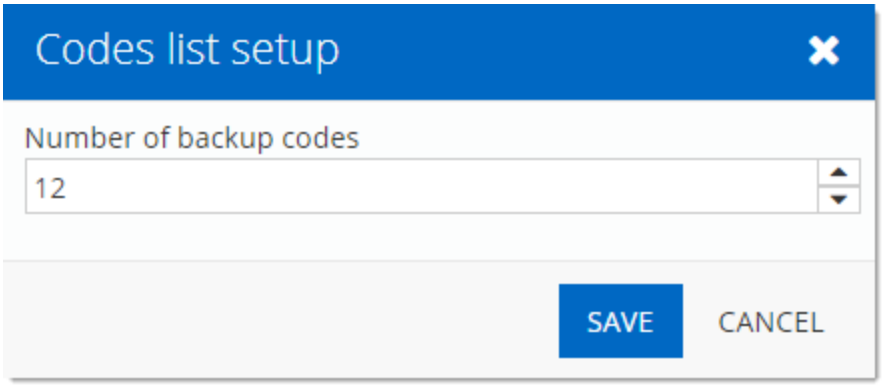
ADMINISTRATOR - ENABLE BACKUP CODES

An administrator must enable backup codes as an alternate method of two-factor authentication. To turn on the option, go to ***Administration – Password Server Settings – Two-Factor***.



Backup Codes - Two-Factor Authentication

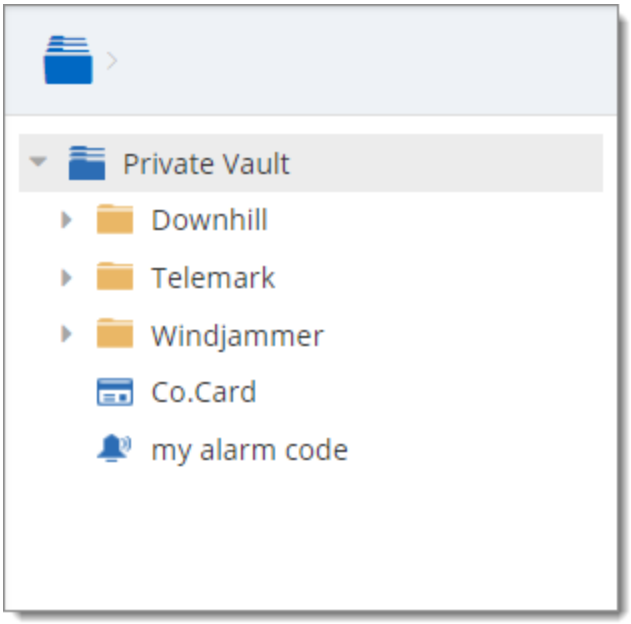
Click **Configure** to set how many backup codes a user can generate.



Configure the number of Backup Codes

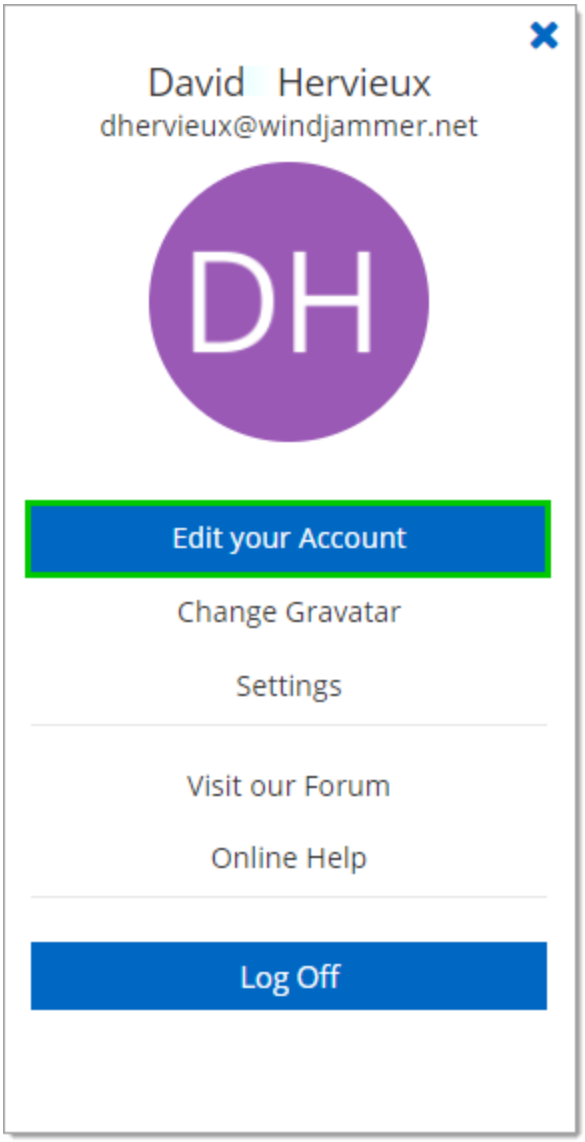
USER - GENERATE BACKUP CODES

1. To generate your backup codes, click your **avatar** in the top right corner.



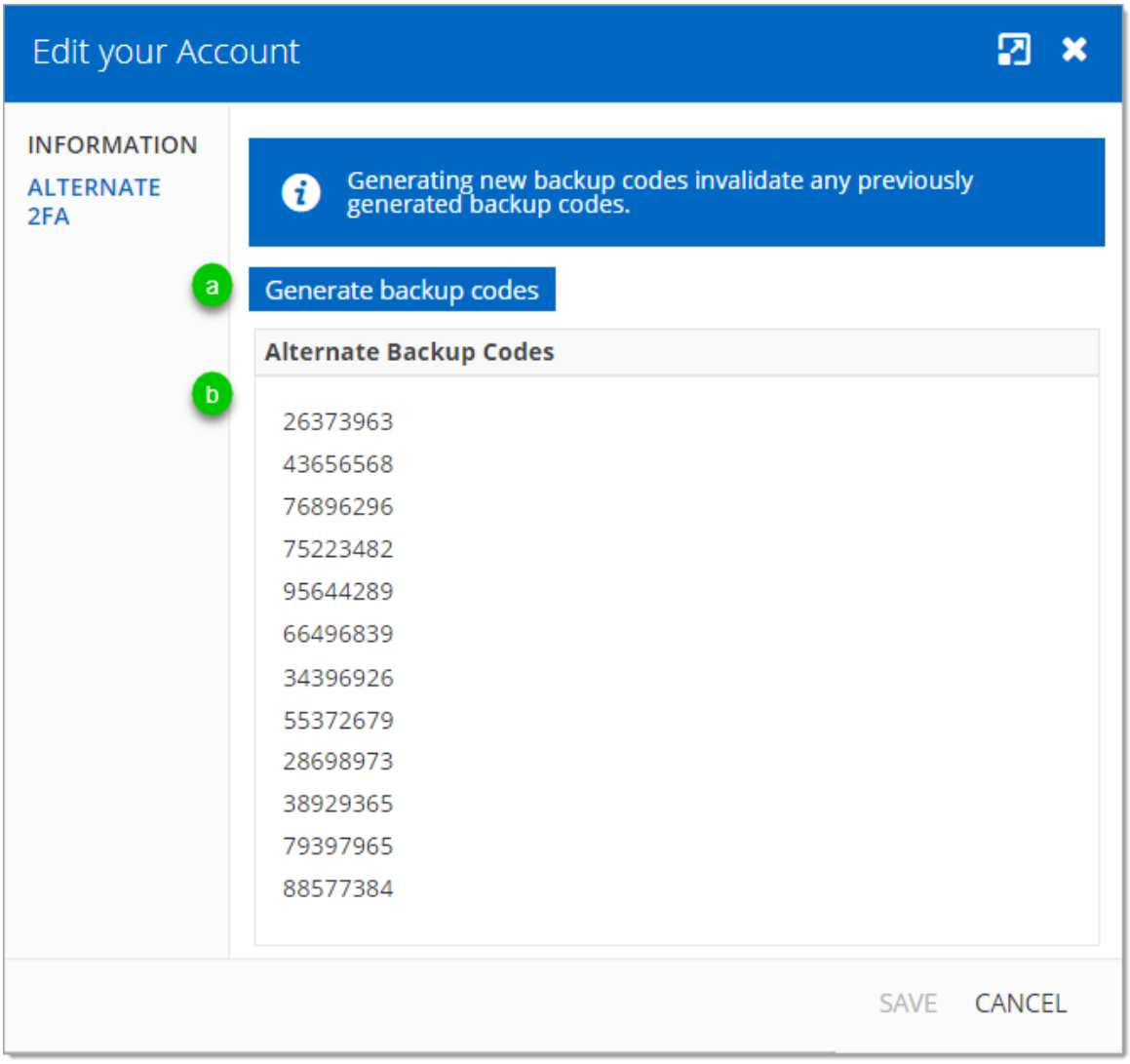
Click user avatar

2. Click **Edit your Account**



Edit your Account - Account Settings

3. Click **Alternate 2FA** and then **(a)** click **Generate backup codes**. A list of backup codes are displayed **(b)**. The user can copy and paste the codes and store them elsewhere.

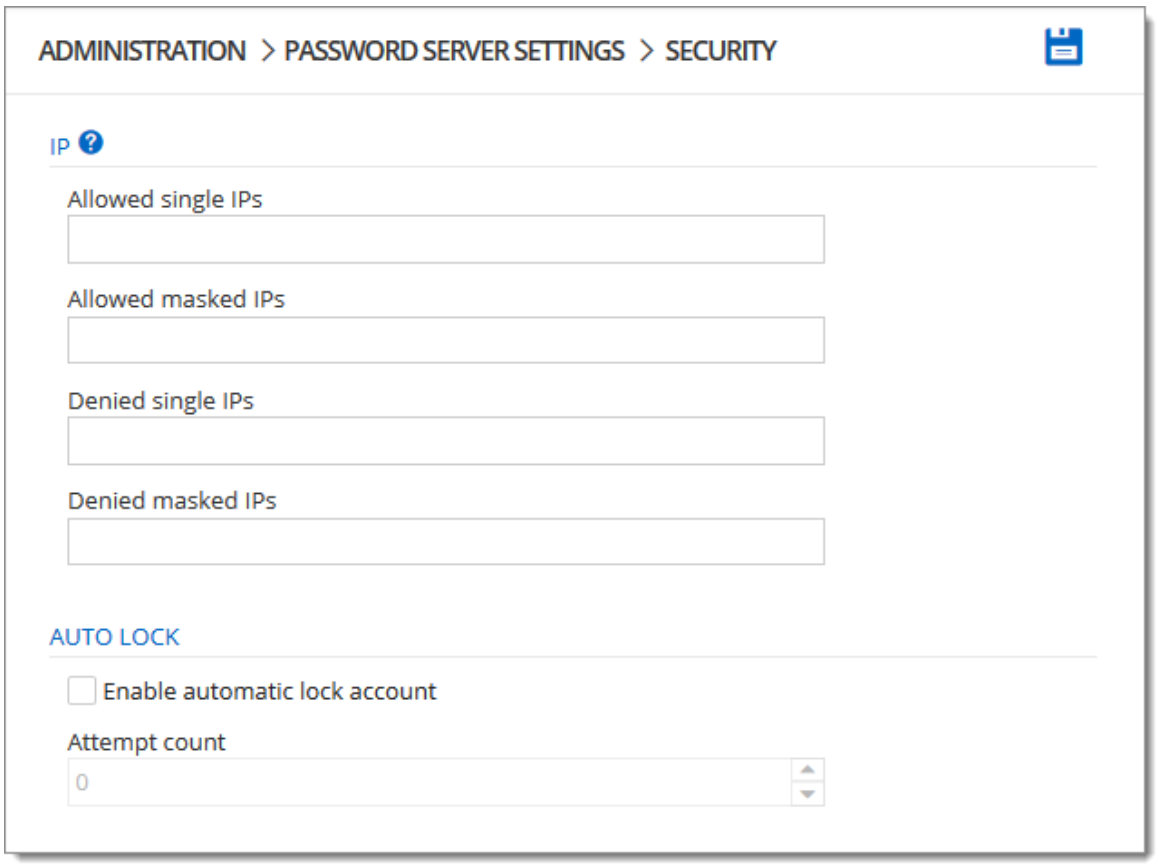


Alternate 2FA - Generate Backup Codes

5.5.2.2.2.2 Security

DESCRIPTION

The Security section allows the administrator to configure the allowed and denied IPs addresses.



Administration - Password Server Settings - Security

SETTINGS

IP

OPTION	DESCRIPTION
Allowed Single IPs	If you wish to restrain the access to the Devolutions Password Server to only certain IPs address enter those here. If nothing is entered in this field all IPs address will be allowed to connect to the Devolutions Password Server.
Allowed Masked IPs	If you wish to restrain the access to only certain Masked IPs (dividing the host part of an IP address into a subnet

OPTION	DESCRIPTION
	and host address) on the Devolutions Password Server, enter those Masked IP address here.
Denied Single IPs	If you wish to deny access to the server from certain IPs address enter those in this field.
Denied Masked IPs	If you wish to deny access to the server from certain Masked IPs address (dividing the host part of an IP address into a subnet and host address) enter those in this field.

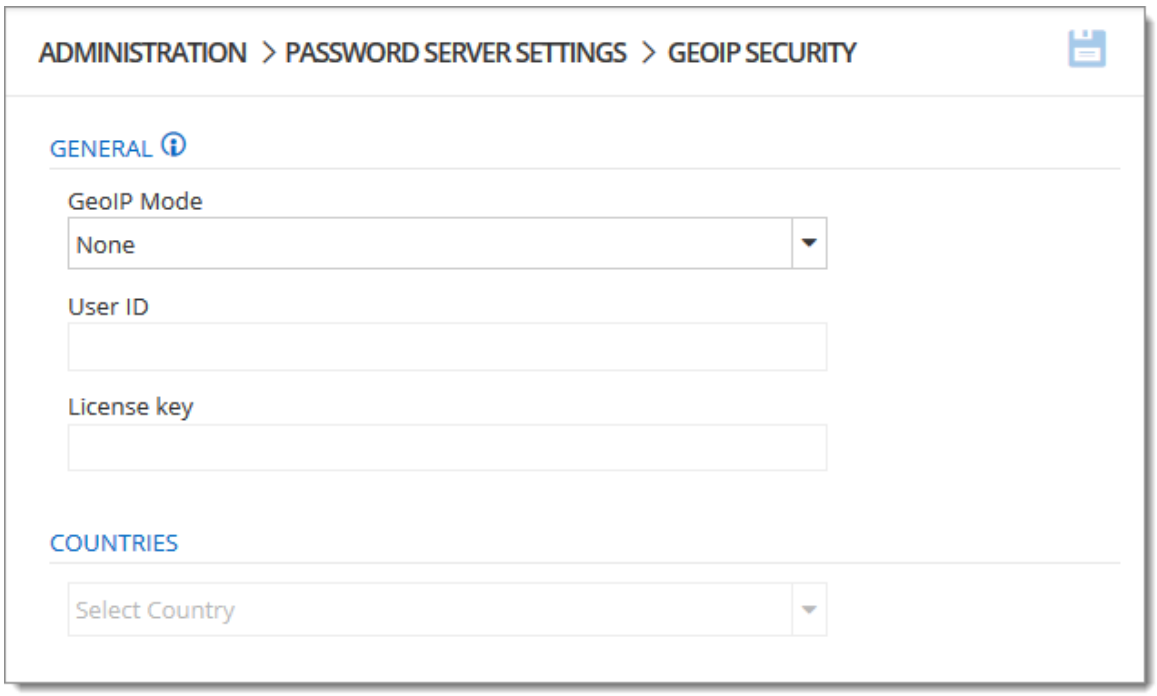
AUTO LOCK

Option	Description
Enabled auto lock	Automatically locks down the access to the Server after a predetermine number of failed attempt.
Attempt Count	Enter the number of failed attempts before locking down the Server.

5.5.2.2.2.3 GeoIP Security

DESCRIPTION

The **GeoIP Security** section section allows the administrator to set IPs restriction based on the geographical location.



Administration - Password Server Settings - GeoIP Security

SETTINGS

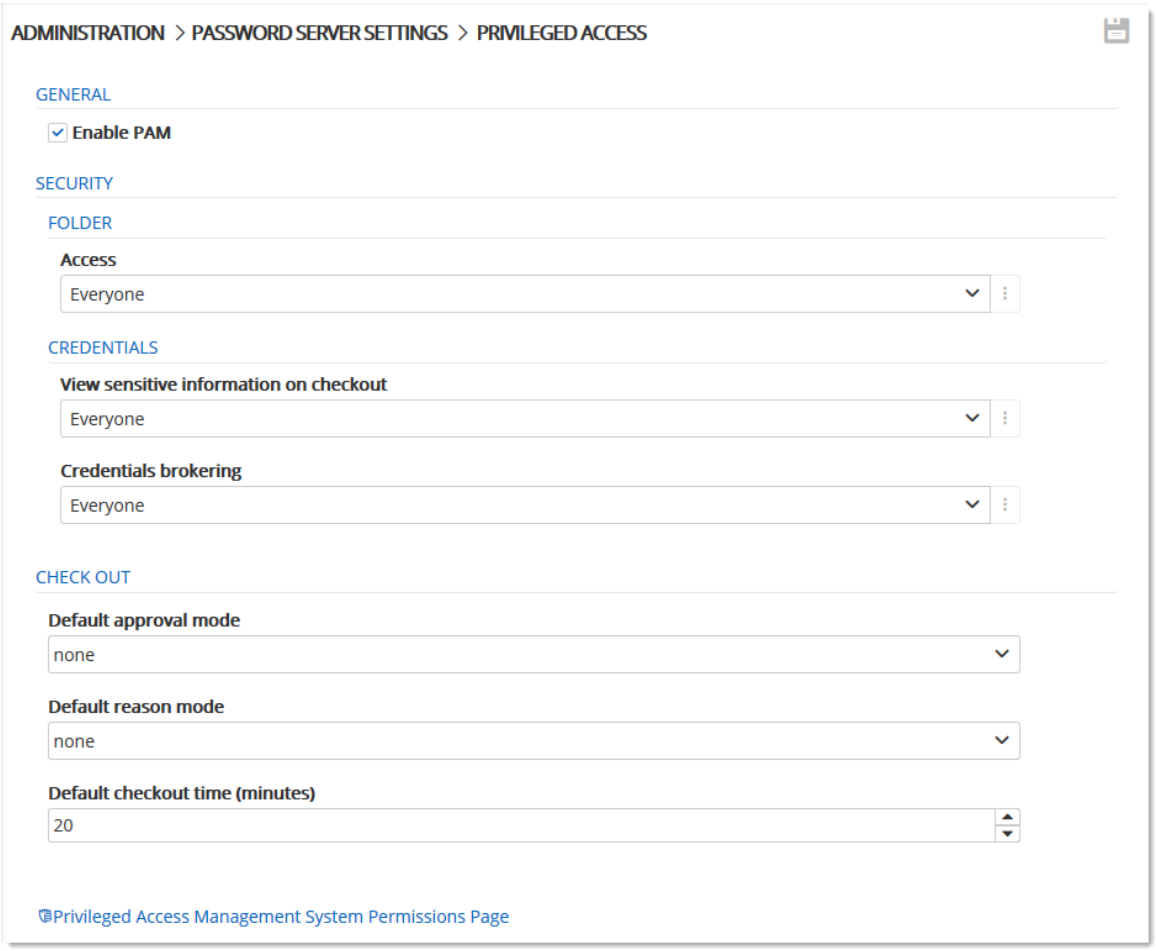
OPTION	DESCRIPTION
GeoIP Mode	Choose your method of GeoIP between: **None**: Will not be using GeoIP security **MaxMind**: Use the MaxMind's GeoIP database to look up the city, AS number and other information for an IP address. Connect to your account by entering your User ID and License Key in the appropriate field and then select the countries you wish to grant access to your Devolutions Password Server.
User ID	User ID to connect on MaxMind.
License key	License key to connect on MaxMind.

OPTION	DESCRIPTION
Countries	Select all authorized countries to connect to the Devolutions Password Server instance.

5.5.2.2.2.4 Privileged Access Management

DESCRIPTION

This section is dedicated to enable and configure the Privileged Access Management.



Administration - Password Server Settings - Privileged Access Management

SETTINGS

GENERAL

OPTION	DESCRIPTION
Enable PAM (Preview)	Enable the Privileged Access Management functionality.

SECURITY - FOLDER

OPTION	DESCRIPTION
Access	Possible values : • **Custom** • **Everyone** • **Never**

SECURITY - CREDENTIALS

OPTION	DESCRIPTION
View sensitive information on checkout	Possible values : • **Custom** • **Everyone** • **Never**
Credentials brokering	Possible values : • **Custom**

OPTION	DESCRIPTION
	• **Everyone** • **Never**

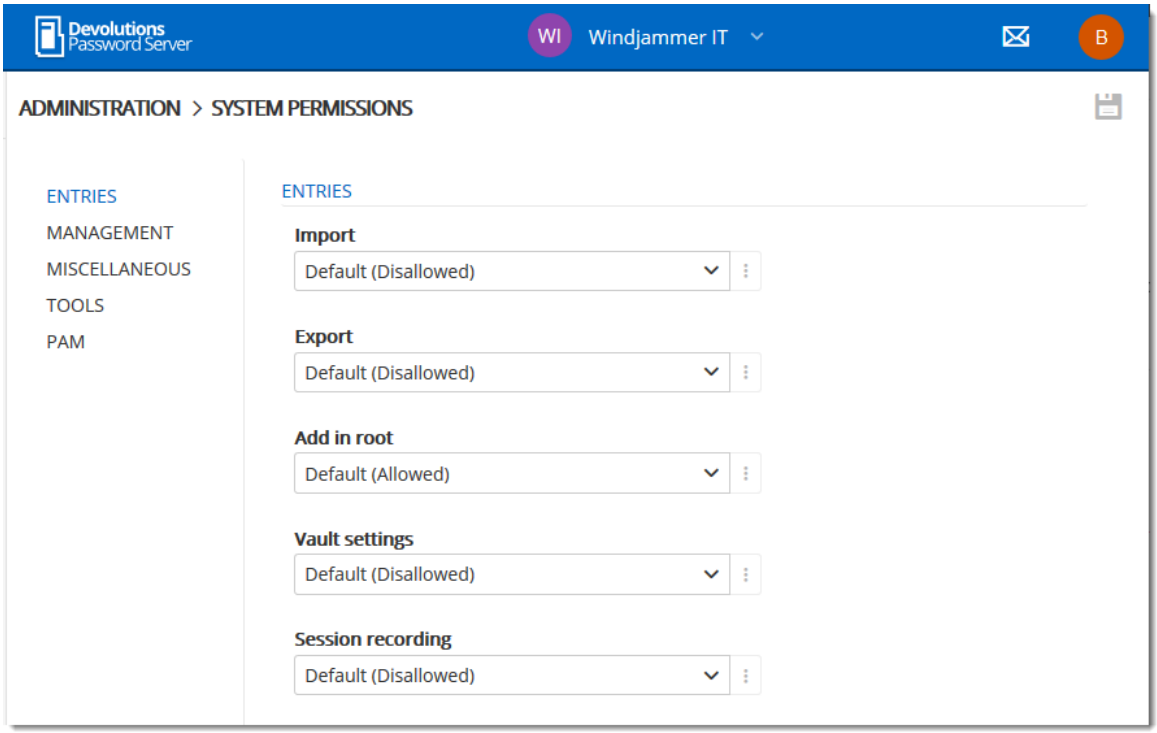
CHECK OUT

OPTION	DESCRIPTION
Default approval mode	Possible values : • **none** • **mandatory**
Default reason mode	Possible values : • **none** • **mandatory** • **optional**
Default checkout time (minutes)	

5.5.2.3 System Permissions

DESCRIPTION

The **System Permissions** allows to grant some administrative permissions to standard users without making them administrators. The **Default** setting inherits the permission set on the user or role. These are handled as you would permissions in an entry.



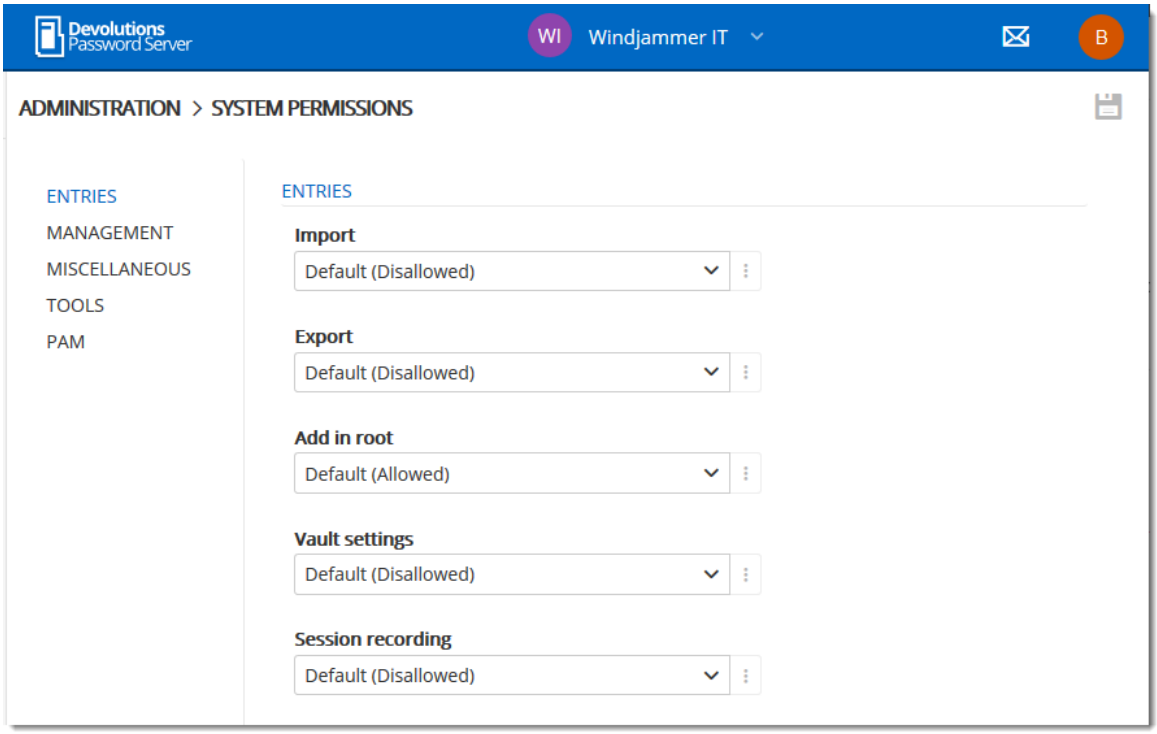
Administration - System Permissions

SYSTEM PERMISSIONS

- Entries
- Management
- Miscellaneous
- Tools
- Privileged Access Management (PAM)

5.5.2.3.1 Entries

DESCRIPTION

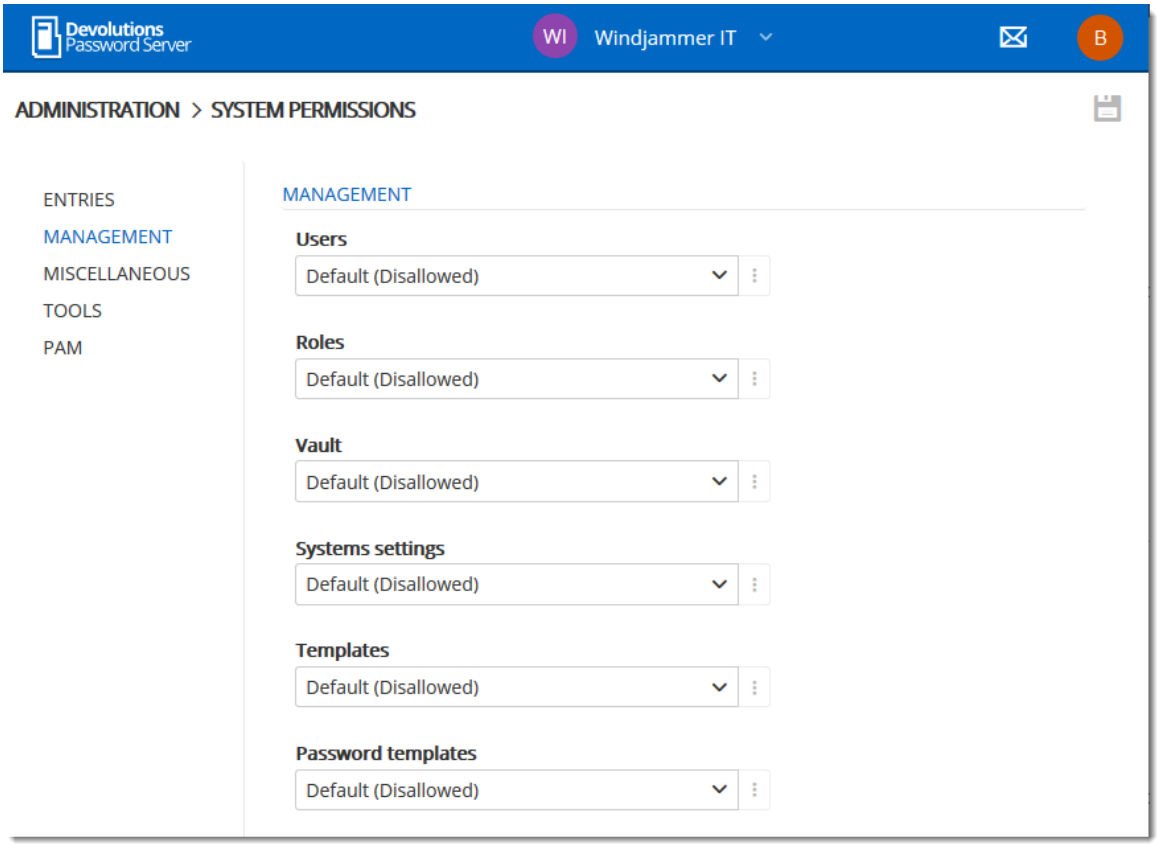


Administration - System Permissions

OPTION	DESCRIPTION
Import	Restrain the import privilege to certain users.
Export	Restrain the export privilege to certain users.
Add in root	Restrain creating entries in root to certain users.
Vault settings	Restrain access to vault settings to certain users.
Session recording	Restrain access to the session recording feature.

5.5.2.3.2 Management

DESCRIPTION

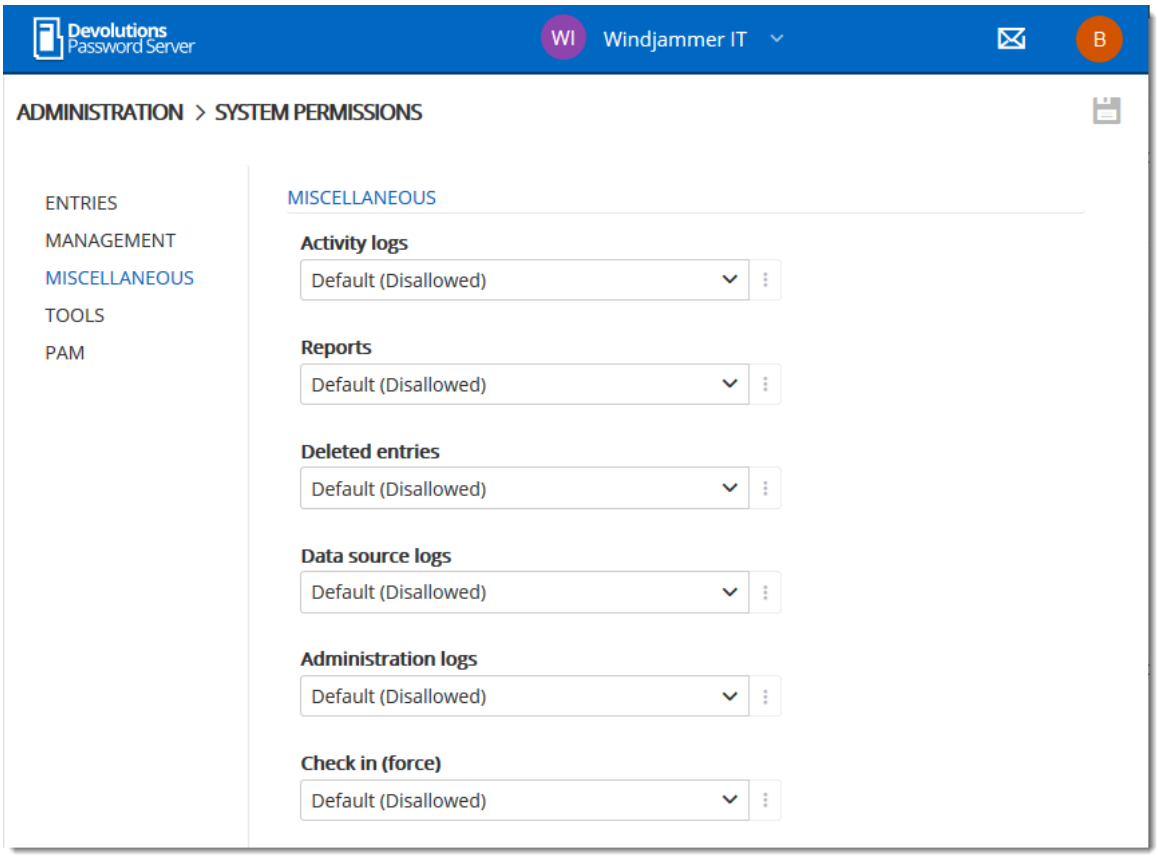


Administration - System Permissions - Management

OPTION	DESCRIPTION
Users	Allow users/roles to access the user management.
Roles	Allow users/roles to access the roles management.
Vault	Allow users/roles to access the Vault management.
System Settings	Allow users/roles to access System Settings.
Templates	Allow users/roles to create and manage templates.
Password templates	Allow users/roles to create and manage password templates.

5.5.2.3.3 Miscellaneous

DESCRIPTION



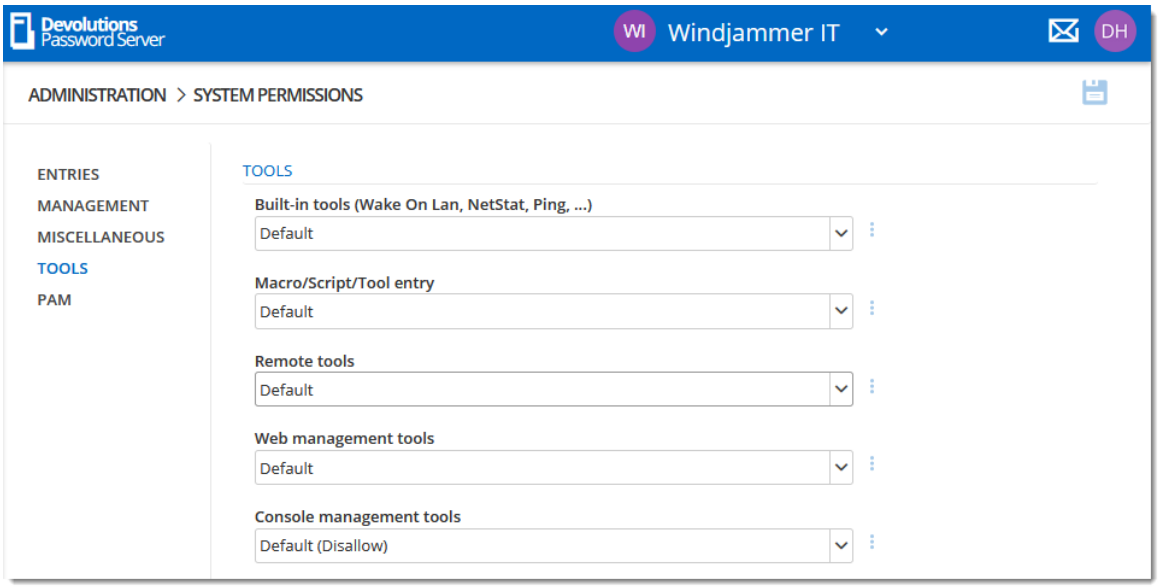
Administration - System Permissions - Miscellaneous

OPTION	DESCRIPTION
Activity logs	Allow users/roles to view the activity logs.
Reports	Allow users/roles to generate and view reports.
Deleted entries	Allow users/roles to view and restore deleted entries.
Data source logs	Allow users/roles to view the data source logs.

OPTION	DESCRIPTION
Administration logs	Allow users/roles to view the administration logs.
Check in (force)	Allow users/roles to be able to check in entries.

5.5.2.3.4 Tools

DESCRIPTION



Administration - System Permissions - Tools

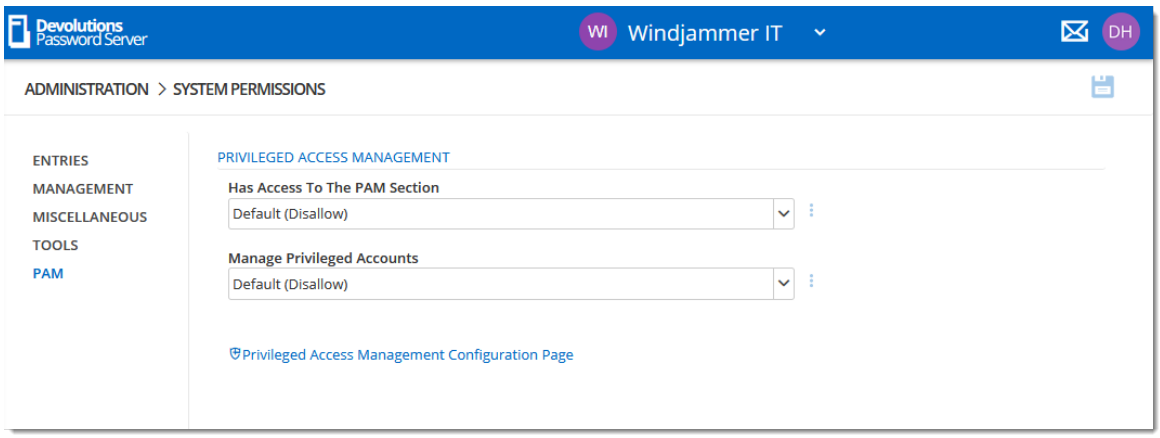
OPTION	DESCRIPTION
Buit-in tools (Wake On Lan, NetStat, Ping, ...)	Allow users/roles to use session related tools.
Macro/Script/Tool entry	Allow users/roles to use Macro/Script/Tool entries.

OPTION	DESCRIPTION
Remote tools	Allow users/roles to use remote tools.
Web management tools	Allow users/roles to use web management tools.
Console management tools	Allow users/roles to use console management tools.

5.5.2.3.5 Privileged Access Management

DESCRIPTION

To use these features you must first ensure they are enabled in the Privileged Access Management in the **Password Server Settings**.



Administration - System Permissions - PAM

OPTION	DESCRIPTION
Has Access to the PAM Section	Determine who has access to the PAM section.

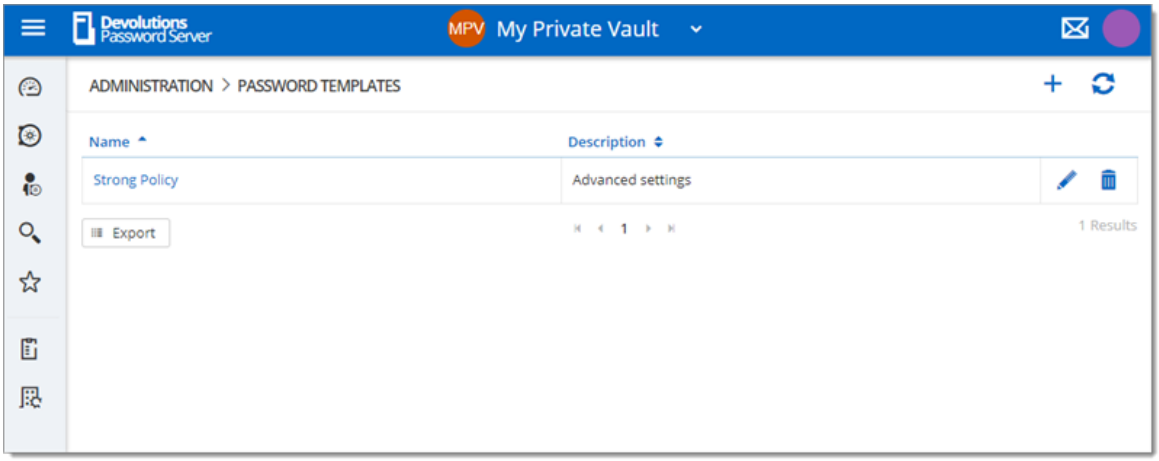
OPTION	DESCRIPTION
Manage Privileged Accounts	Determine who can managed the Privileged accounts.
Privileged Access Management Configuration Page	Links you to the Configuration page of the PAM.

5.5.3 Templates

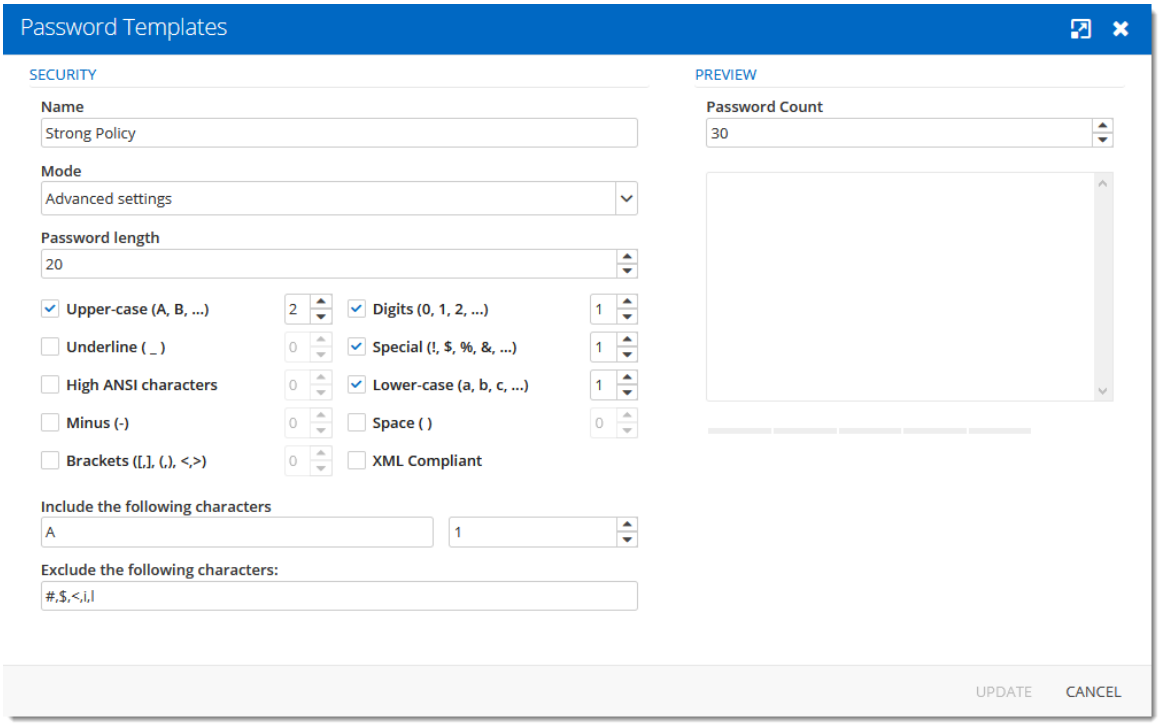
5.5.3.1 Password Templates

DESCRIPTION

The **Password Templates** allow administrators to manage password templates.



Administration - Password Templates



Password Templates

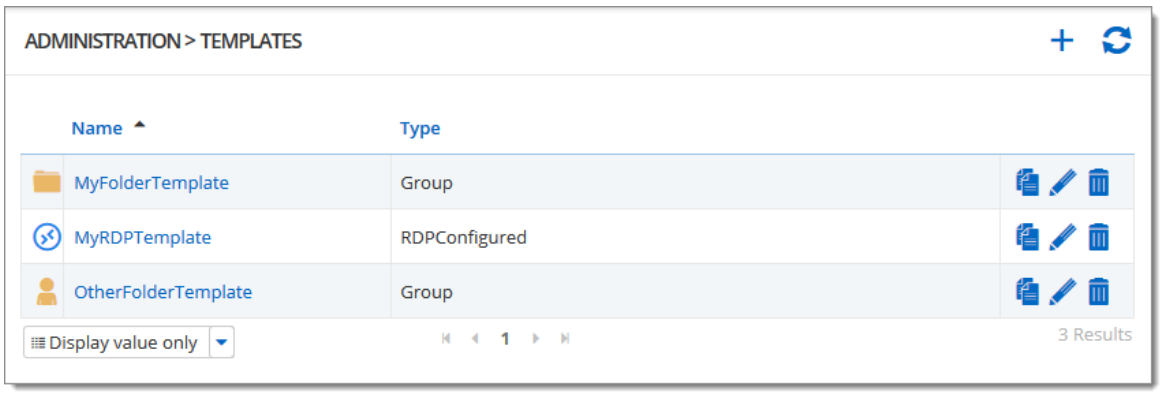
OPTION	DESCRIPTION
Name	Name of the Password Template.
Mode	• **Default** • **Advanced settings** • **Readable password** • **Use a pattern** • **Pronounceable password** • **Strong password**
Upper-case (A, B, C, ...)	Will include uppercase letters for password generation.
Underline (_)	Will include the underline (_) character for password generation.

OPTION	DESCRIPTION
High ANSI characters	Will include characters form '-' to U255 (excluding U255) for password generation.
Minus (-)	Will include the minus (-) character for password generation.
Brackets ([,], (,), <,>)	Will include brackets characters for password generation.
Digits (0, 1, 2, ...)	Will include digits for password generation.
Special (!, $, %, &, ...)	Will include special characters for password generation.
Lower-case (a, b, c, ...)	Will include lowercase letters for password generation.
Space ( )	Will include the space character for password generation.
XML Compliant	Will generate XML compliant passwords.
Also include the following characters	Add any other characters to be include for password generation.
Exclude the following characters	The characters listed in this field will not be used for password generation.
Password count	Number of passwords that will be generated.
Include the following characters	Forcefully including characters inside the password.
Exclude the following characters	Forcefully excludes characters from the password.

5.5.3.2 Templates

DESCRIPTION

The **Templates** allow administrators to manage entry templates. With this you can set preferences to how entries information will be filled when creating them.

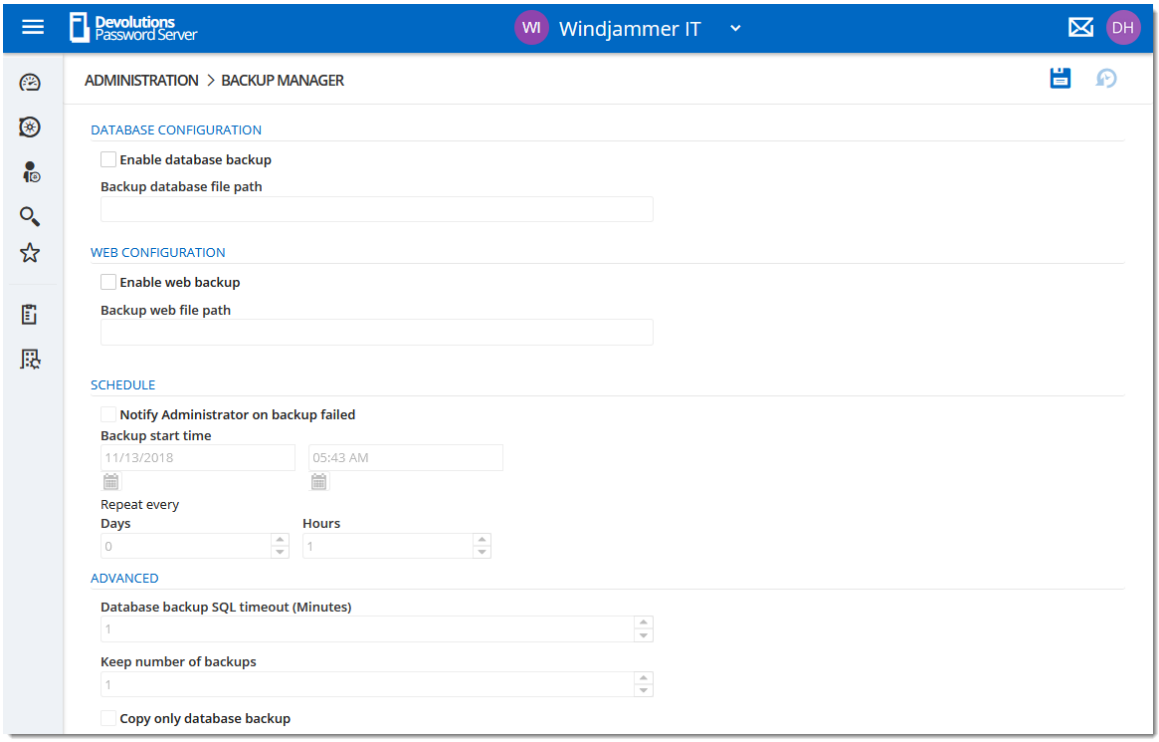


5.5.4 Backup

5.5.4.1 Backup Manager

DESCRIPTION

The **Backup Manager** section allow administrators to configure the parameters to backup the database and the web application folder.



Administration - Backup Manager

SETTINGS

BUTTON	DESCRIPTION
Save	Save the latest modifications of the **Backup** schedule options.
Backup Now	Create immediately a backup of the SQL database and/or the web application folder.

DATABASE CONFIGURATION

OPTION	DESCRIPTION
Enable database backup	Activate the backup of the SQL database.
Backup database file path	The path to the folder where the backup of the SQL database will be saved. We recommend to use a shared network folder with proper permissions set on it to be able to save the backup file. **Note: As the backup command is running on the SQL Server, this path must exist on the SQL Server or accessible from that SQL Server.**

WEB CONFIGURATION

OPTION	DESCRIPTION
Enable web backup	Activate the backup of the web application.
Backup web file path	The path to the folder where the backup of the web application will be saved. We recommend to use a shared network folder with proper permissions set on it to be able to save the backup file.

SCHEDULE

OPTION	DESCRIPTION
Notify Administrator on backup failed	Will send an email when the backup fails. The Email feature must be enabled in the Server Settings in order to work. For more information, please see Email Settings.

OPTION	DESCRIPTION
Backup start time	Date and time when the backup will be automatically started.
Repeat every	The time interval when the backup will be repeated.

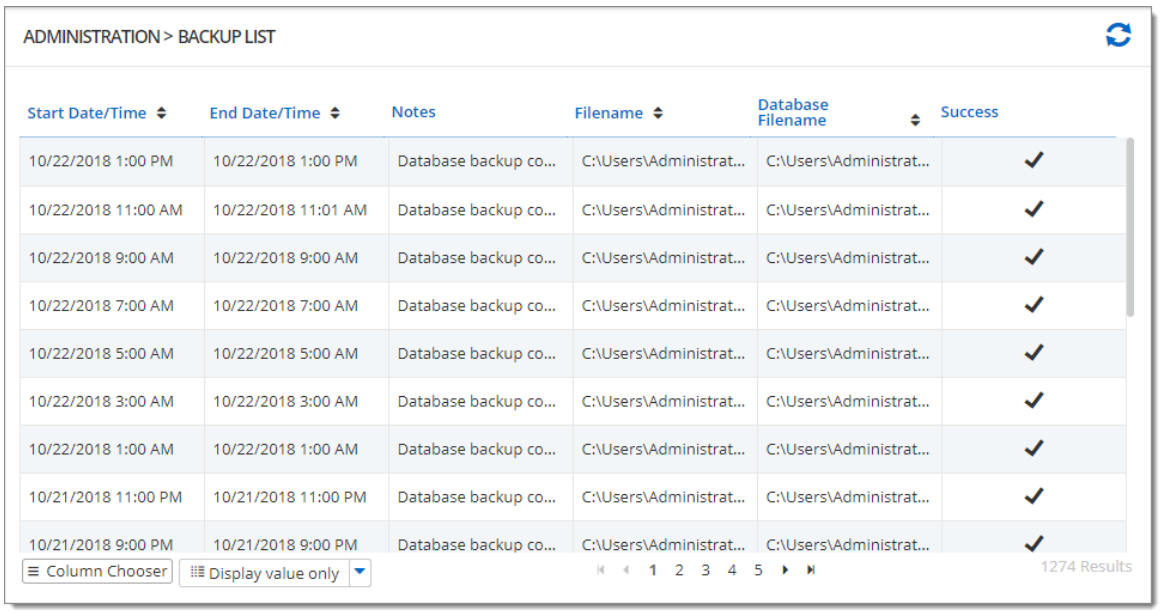
ADVANCED

OPTION	DESCRIPTION
Database backup SQL timeout (Minutes)	Number of minutes before a timeout in the SQL instance.
Keep number of backups	Number of the backup that will be kept in the backup folder.
Copy only database backup	A SQL Server backup that is independent of the sequence of conventional SQL Server backups. For more information, please see https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/copy-only-backups-sql-server.

5.5.4.2 Backup List

DESCRIPTION

The **Backup List** section displays the list of the backup that have been taken.



Administration - Backup List

COLUMN	DESCRIPTION
Start Date/Time	Date and time when the backup process was started.
End Date/Time	Date and time when the backup process was stopped.
Notes	Message to inform the completion or the fail of the backup.
Filename	Path and name of the web application backup file.
Database Filename	Path and name of the SQL database backup file.
Success	A check mark will indicate a successful backup. An X will indicate that the backup has failed.

5.6 Role Based Security

DESCRIPTION

Devolutions Password Server role-based security allows to create a granular protection system that is quite flexible. However, flexibility comes at a price and sometimes making the wrong choices could increase the time involved in managing the system.

The following recommendations are based on our experience with the system and the ideas shared by our community. Follow these guidelines, as they will help you to use the Devolutions Password Server role-based security efficiently.

Here are the main key points of the role based security:

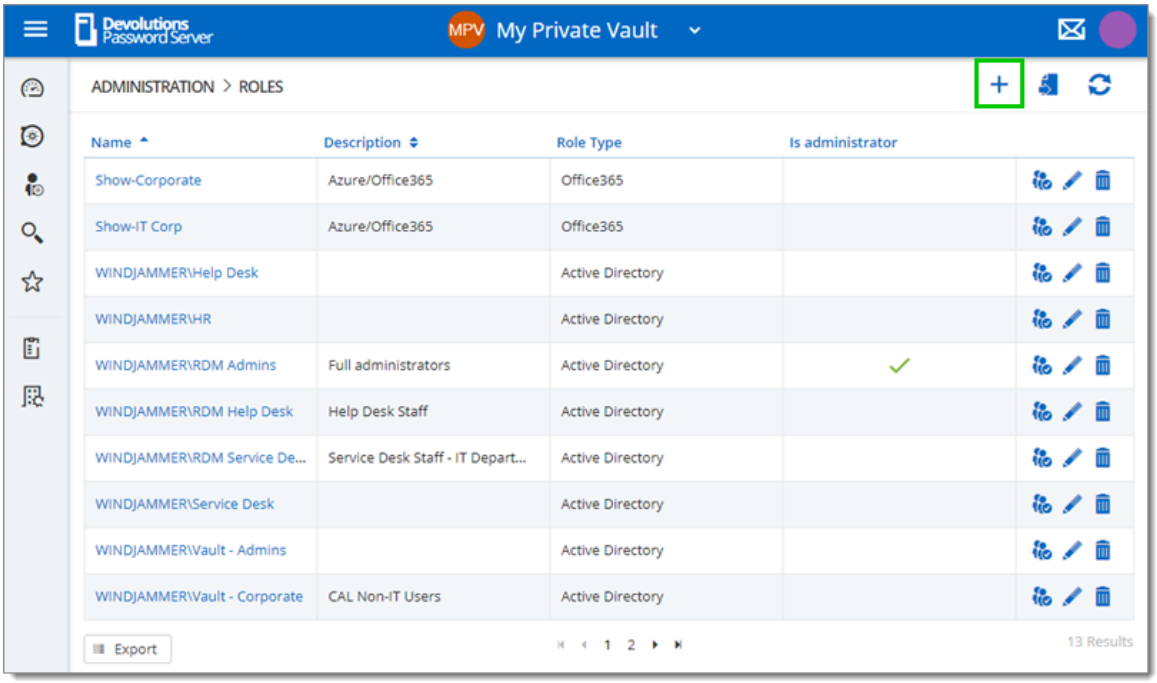
- **Security is inherited**: child items and folders are covered by a parent folder's security.
- **Permissions can be overridden**: a permission set on a sub folder will override the parent item's permission.
- **Permissions are granular**: multiple permissions can be set on entries at once.

ROLE CONFIGURATION

When using Devolutions Password Server role-based security, roles are mostly used to control user access for multiple users at once.

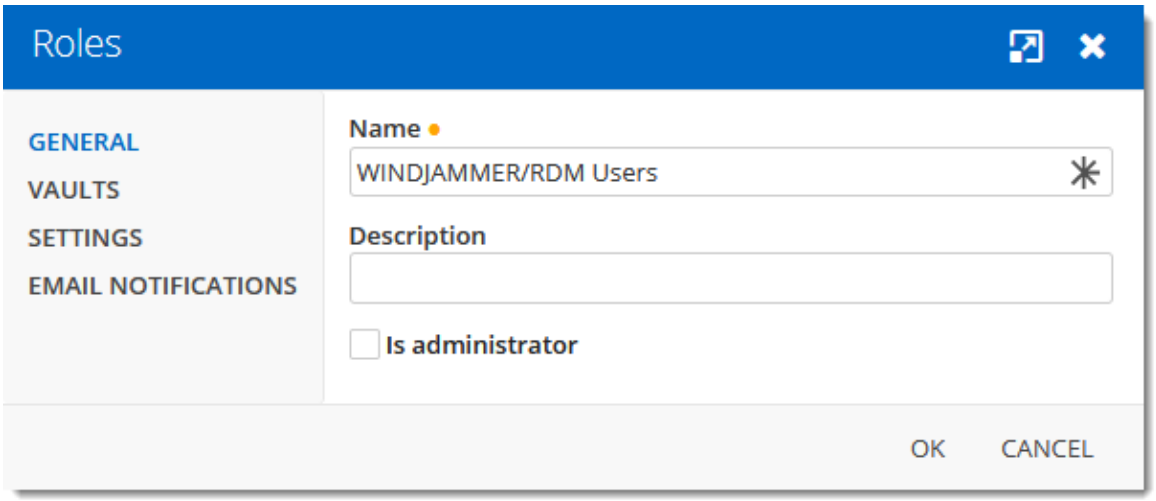
CREATE THE ROLE

To create roles, navigate to ***Administration – Roles***, then click + Add Role.



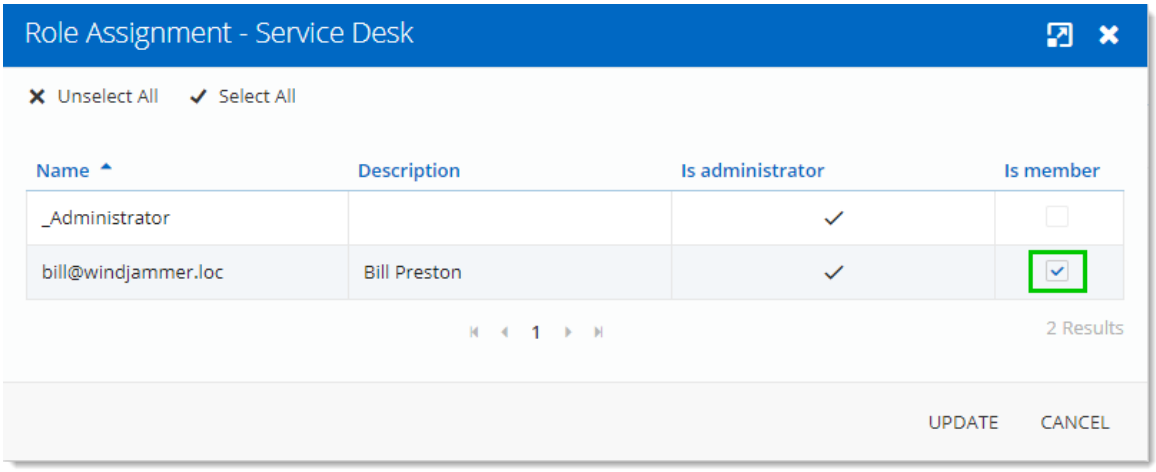
Create a Role

All settings can be left to default unless the role contains only administrators. In this case, check the **Administrator** box when configuring the role. Enter a name for the role, then click **OK**. For Active Directory groups, the domain must be provided like the following.



Configure a Role

To assign users to the role, click , then check the Is Member box of the respective user. With a role created from an Active Directory group, there is no need to assign users as it is automatically managed by Devolutions Password Server.



Assign a user to the Role

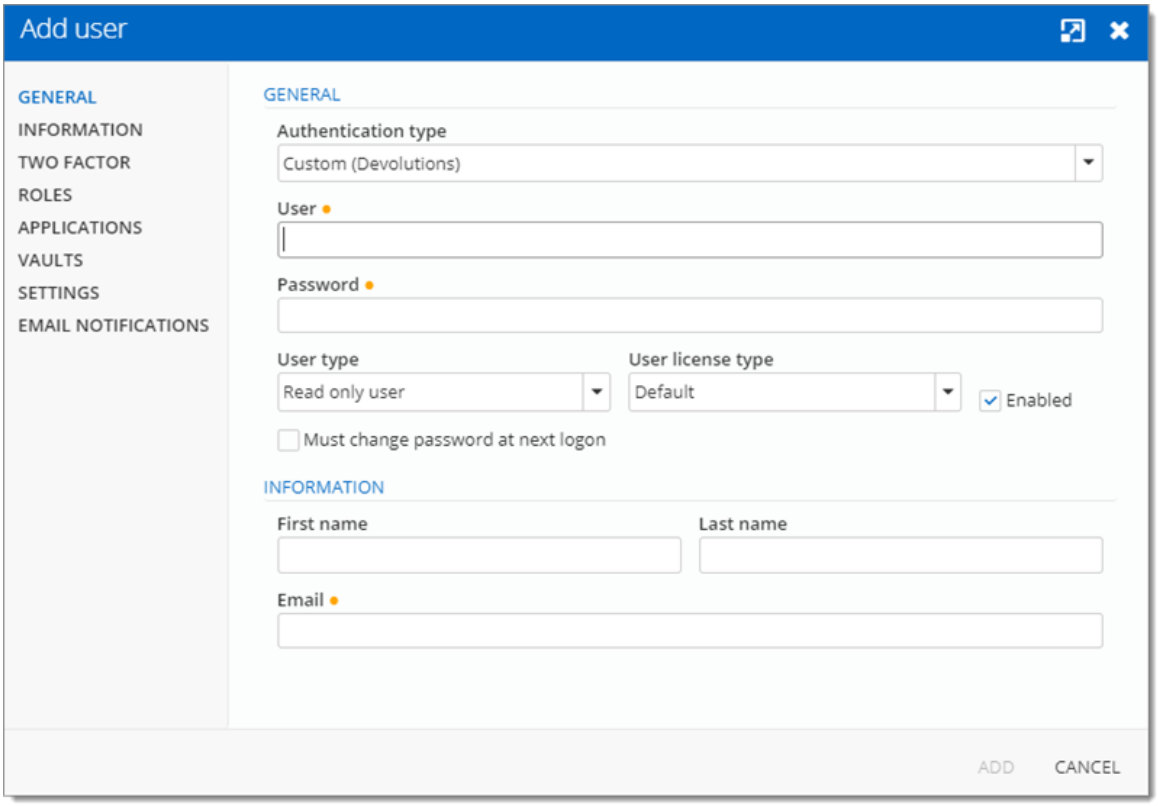
USER CONFIGURATION

USER TEMPLATE

It is possible to change the default user template. To do so, navigate to ***Administration – System Settings – User Template***. These settings control the default settings of a new user. The best practice is to disable all privileges.

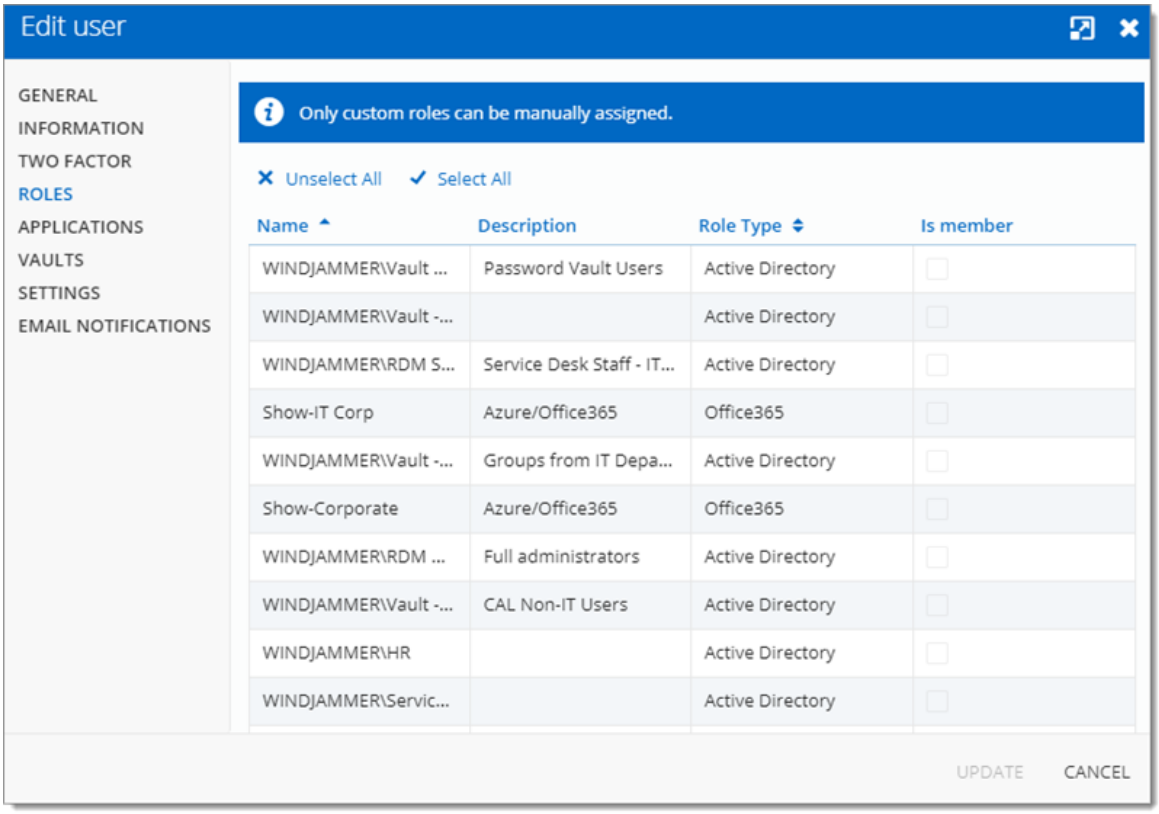
CREATE THE USER

To create users, navigate to ***Administration – Users***, then click **Add User**. Enter a **Login** for the user, select the **User** type and enter an email address.



Create a user

A user can be assigned to multiple roles at once by checking the **Is Member** box of the respective roles in the **Roles** section of the **User Management**. As part of the Active Directory integration, there is no need to assign users to those roles as it is automatically managed by Devolutions Password Server.



ADMINISTRATORS

Administrators can do everything, regardless of the security. These users are usually the chief officers and senior management.

RESTRICTED USERS

Restricted users have limited access to resources. They usually have the **Add** and **Edit** rights only. These users can be mid or first level executives, such as service desk and help desk.

USERS

Users also have limited access to resources much like **Restricted users**. However, **Users** have by default the **Add**, **Edit** and **Delete** rights and can perform these actions on all unsecured entries.

READ ONLY USERS

Read only users can only view and use resources, but cannot edit them. These users are usually external consultants.

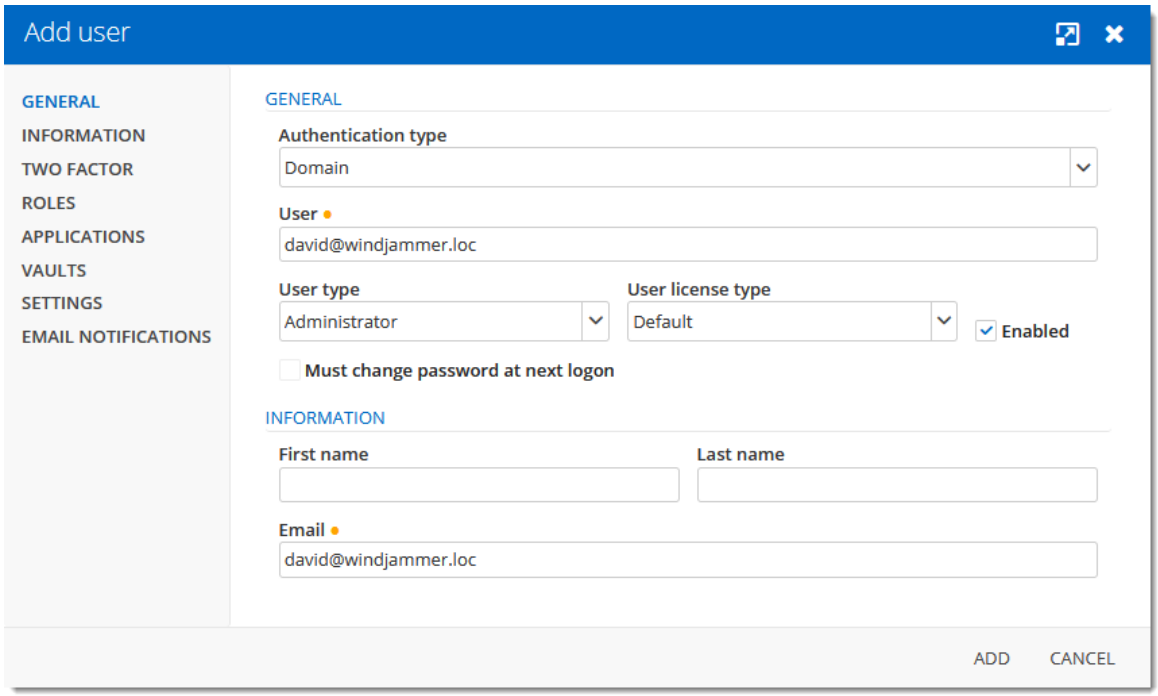
SELECT THE APPROPRIATE USER TYPE

When creating users, some key points must be taken into consideration. Ask yourself the following questions while configuring a new user:

➢**Should they be able to access any resource without restriction?**

✓**Administrators** can access any resource without restriction.

✓Make a user administrator by selecting **Administrator** as the **User type** when creating the user.

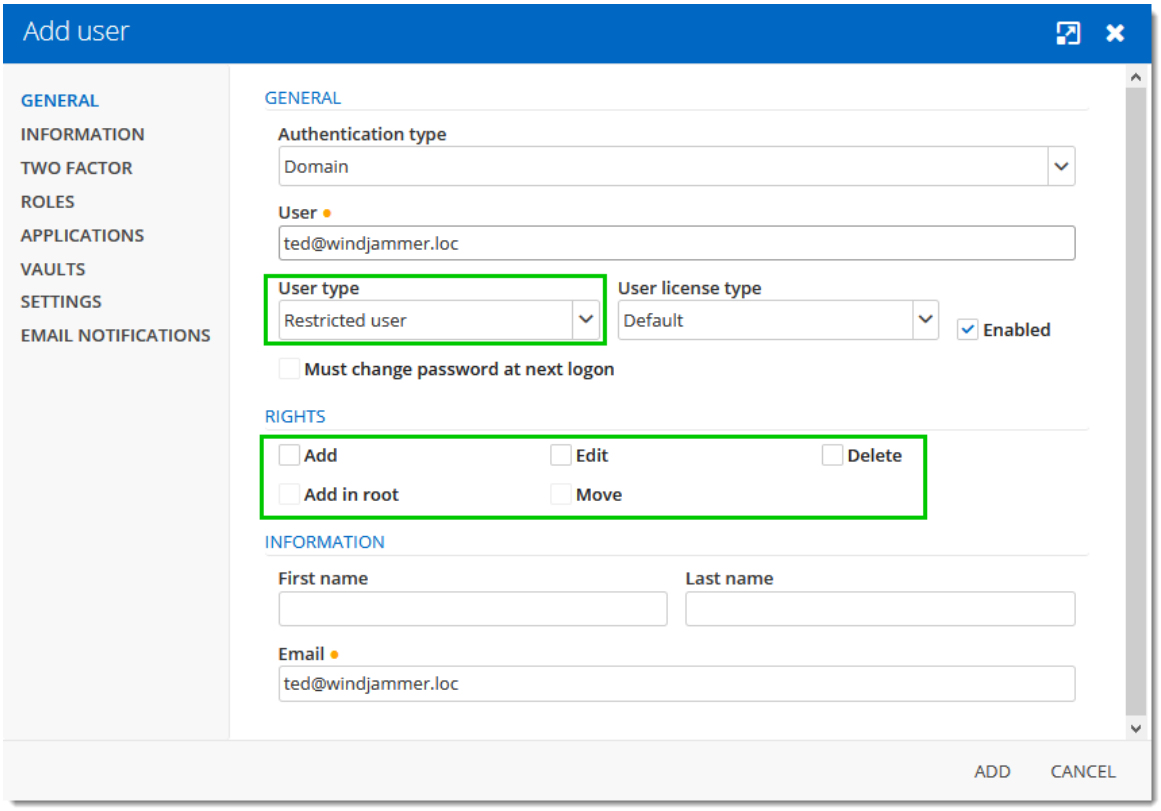


Administrator user

➢**Should they be able to add, edit, or delete entries?**

✓Make a **Restricted user** by selecting **Restricted user** as the **User type** when creating the user.

✓Set up manually which rights are granted to the user.

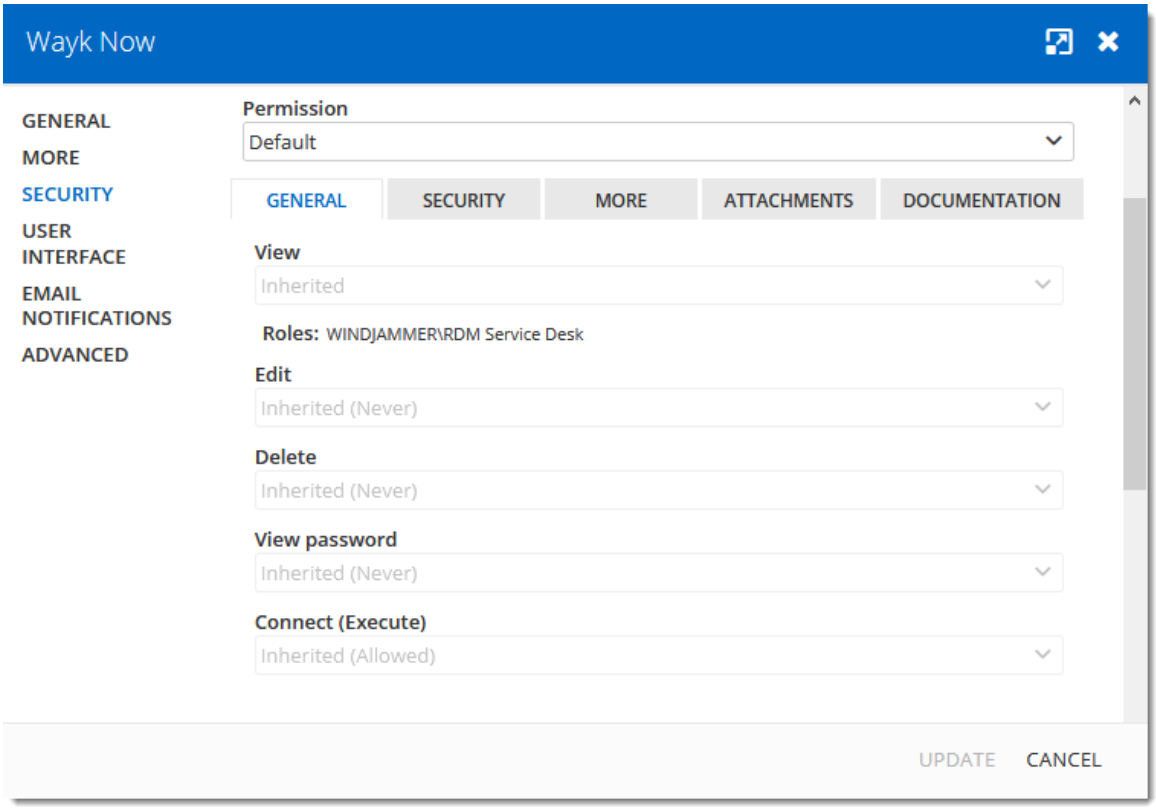


Restricted user

ENTRY CONFIGURATION

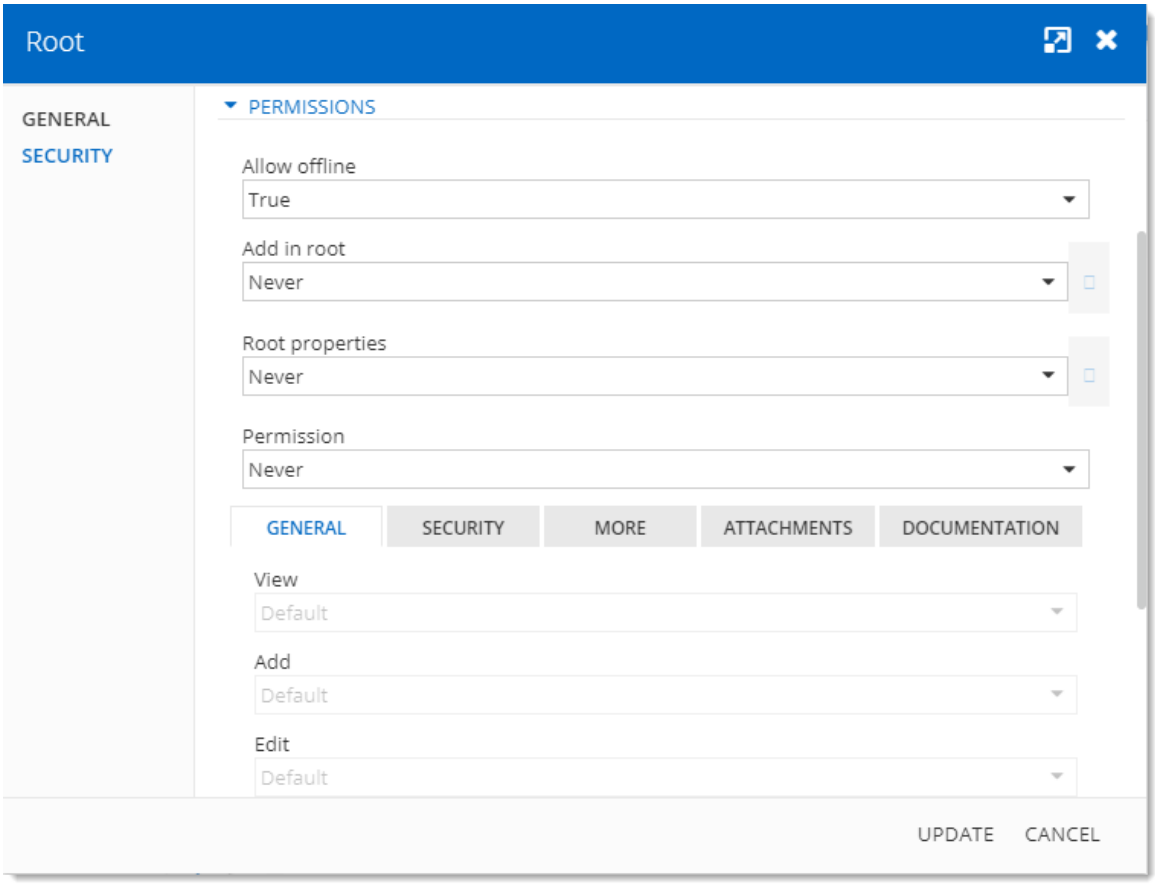
Access is granted or denied to users by setting permission on entries. **Permissions** can be set to users or roles. The best practice is to grant permissions to roles to control access for multiple users at once.

To set permissions on an entry, edit any entry, then navigate to the ***Security – Permissions*** section.



Entry's Permissions

Permissions are usually set on folders, and apply to all child entries. A best practice is to set all the permissions of the root folder to **Never**. As a result, all permissions of all entries are denied by default.

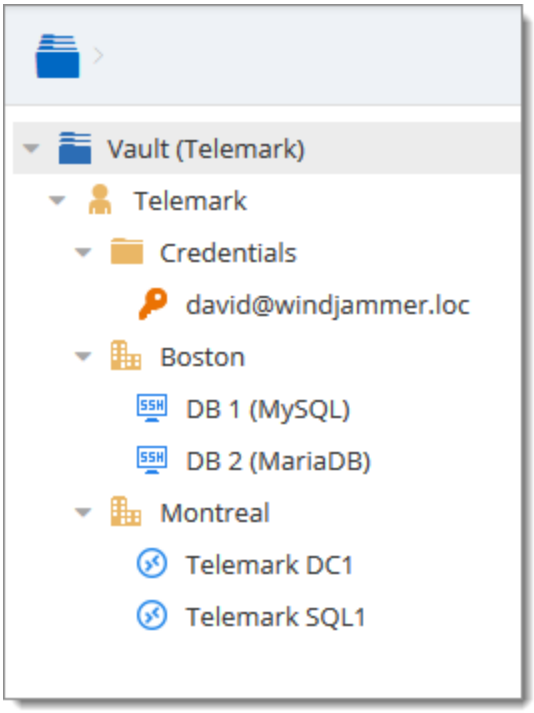


Root Permissions

Access is denied to users by expressly granting the access to other users. In other words, all users that are not on the list of a permission have the access denied.

For a user to have access to a sub folder, the user must have at least the **View** permission on all parent folders.

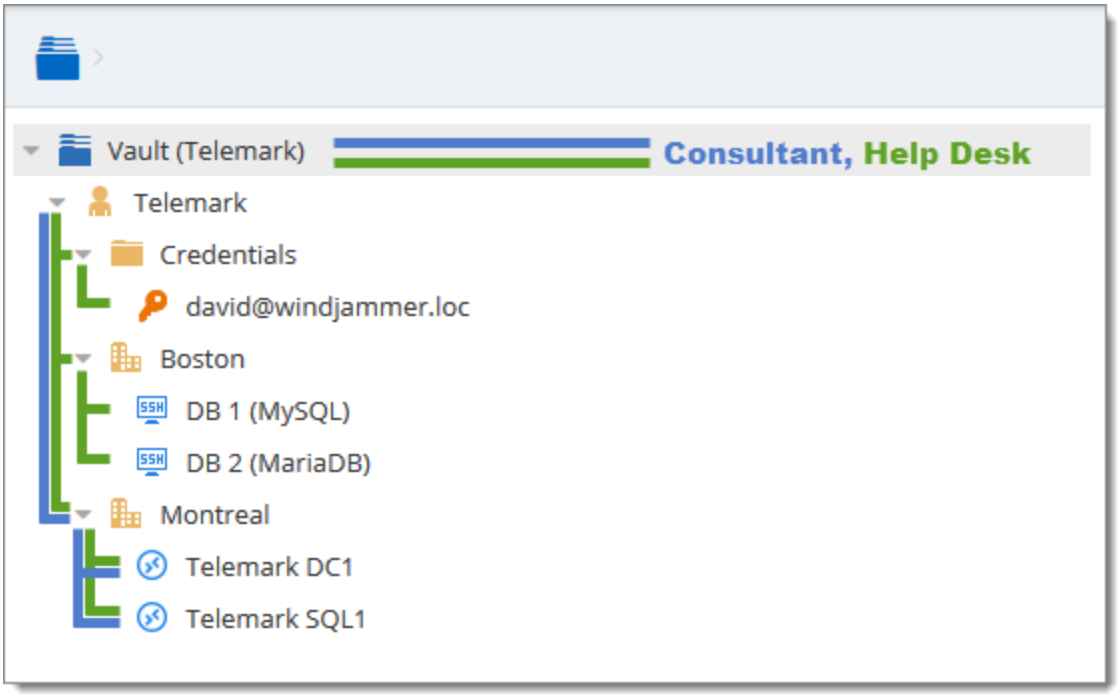
Consider the following structure:



Sample Structure

There are three levels of folders: the root, Telemark, and child items of Telemark.

Suppose that a user, such as a consultant, must have access to the Montreal folder only. The consultant must be granted the **View** permission on the Telemark folder as well. However, granting the **View** access to the Telemark folder gives to the consultant the permissions to view all child items of Telemark. To deny the **View** permissions for the consultant on specific child items, the **View** permissions of these items must be expressly set for other users.



Permissions Structure

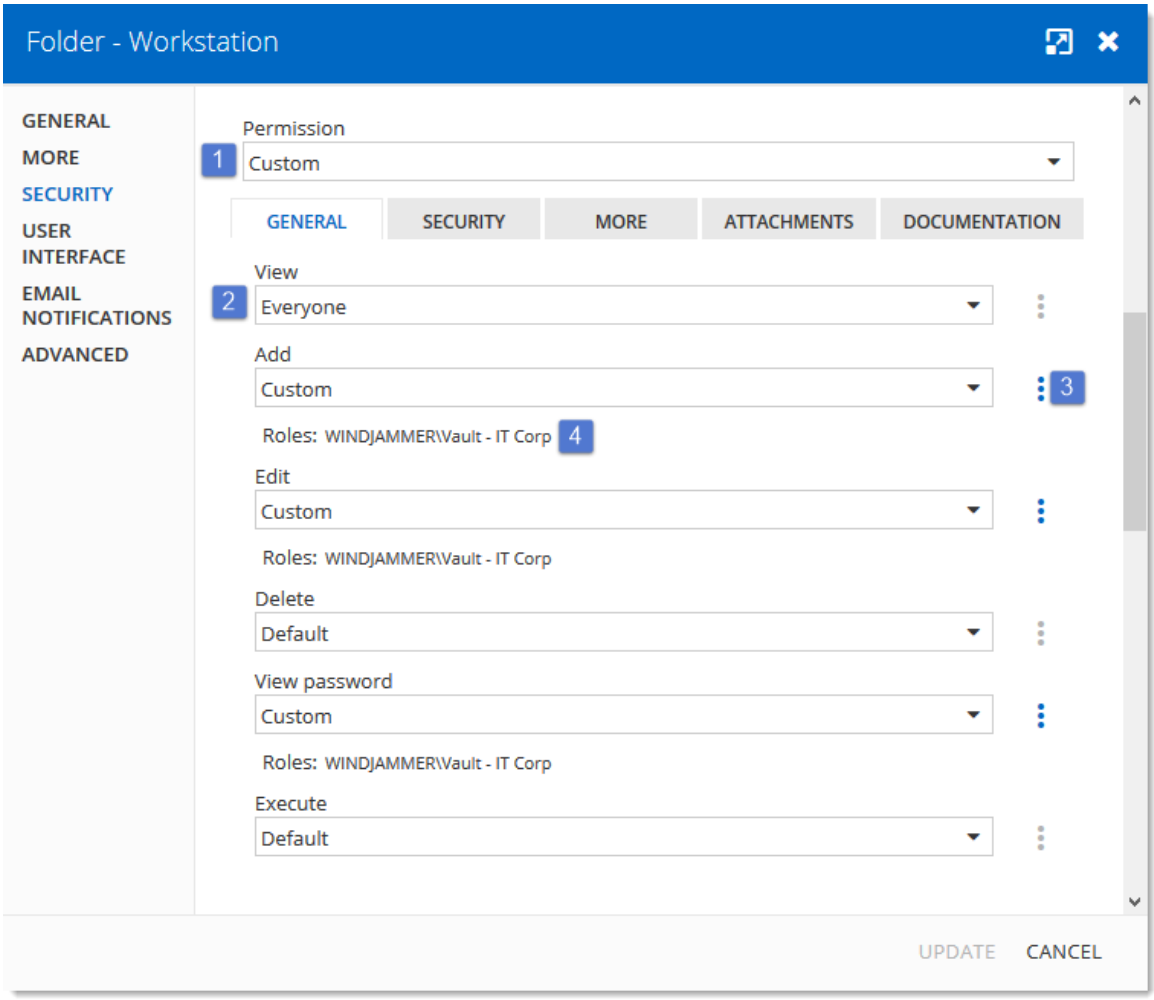
5.6.1 Permissions

DESCRIPTION

The **Permissions** panel can be found in every entry properties in the ***Security - Permissions*** section.

It is also possible to allow administrators to grant administrative permissions to standard users without making them administrators with System Permissions.

The role-based permissions system can give a very accurate control of the security. Here is an overview of the permissions window:

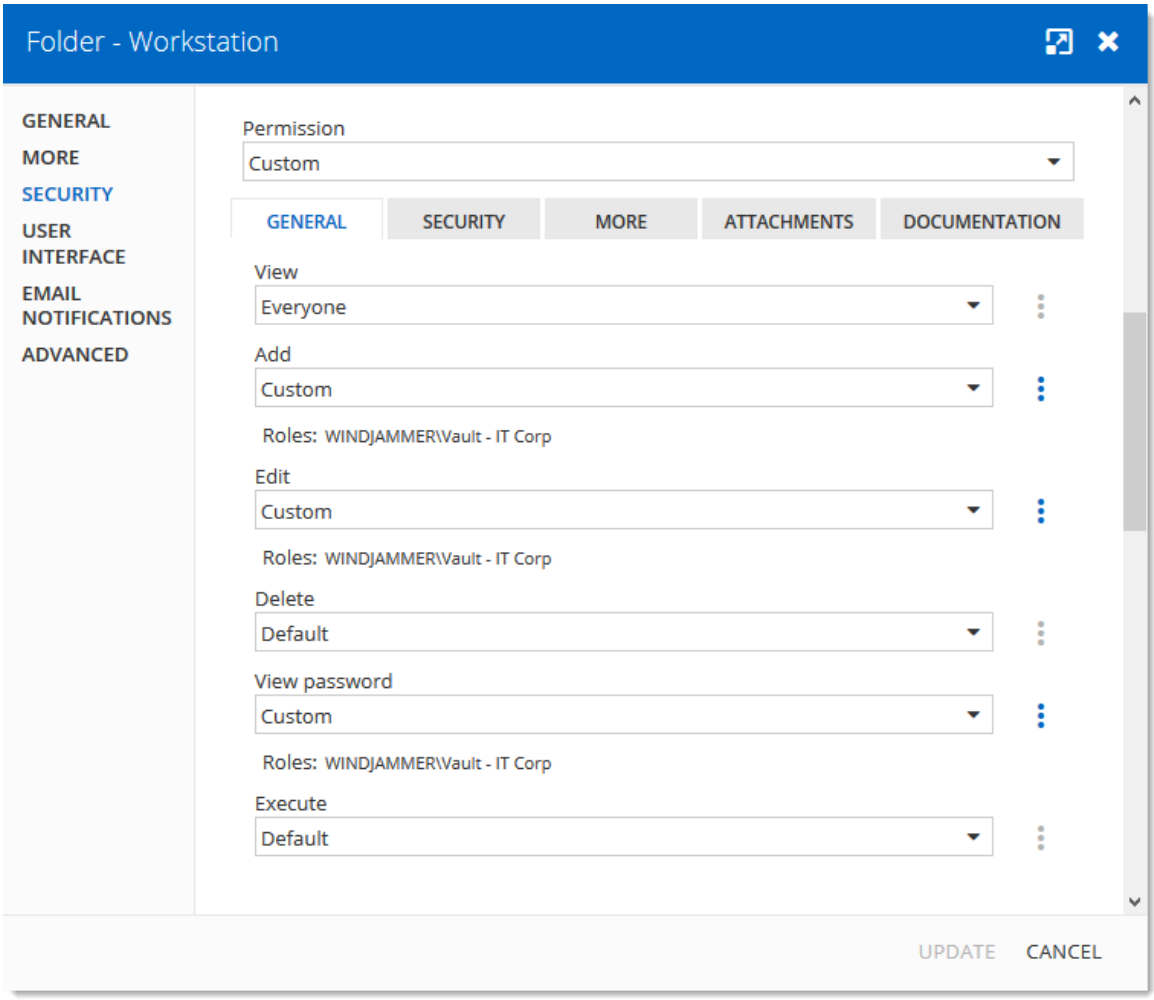


Permissions Panel

OPTION	DESCRIPTION
1. Permission	Sets the permission mode. This must be set to **Custom** in order to change the discrete permissions below. Select between: • **Inherited (Default)**: will inherit the permissions from the parent groups. • **Custom**: lets you specify a custom value for each of the permission. • **Everyone**: everyone will be granted all the permissions below.

OPTION	DESCRIPTION
	• **Never**: no one but the administrators will be granted the permissions
2. Discrete permissions	Lets you choose who you want to grant permissions to. These combo boxes are available only if the above **Permission** combo box is set to **Custom**. Select between: • **Inherited (Default)**: will inherit the permissions from the parent groups/folders. • **Custom**: lets you specify a custom value for the permission. • **Everyone**: everyone will be granted the permission • **Never**: no one but the administrators will be granted the permission.
3. Users / Roles selector	Lets you select **Users / Roles** to be granted the permission. Available only if the permission is set to **Custom**.
4. Current permission	Displays the granted permission for the current entry.

GENERAL

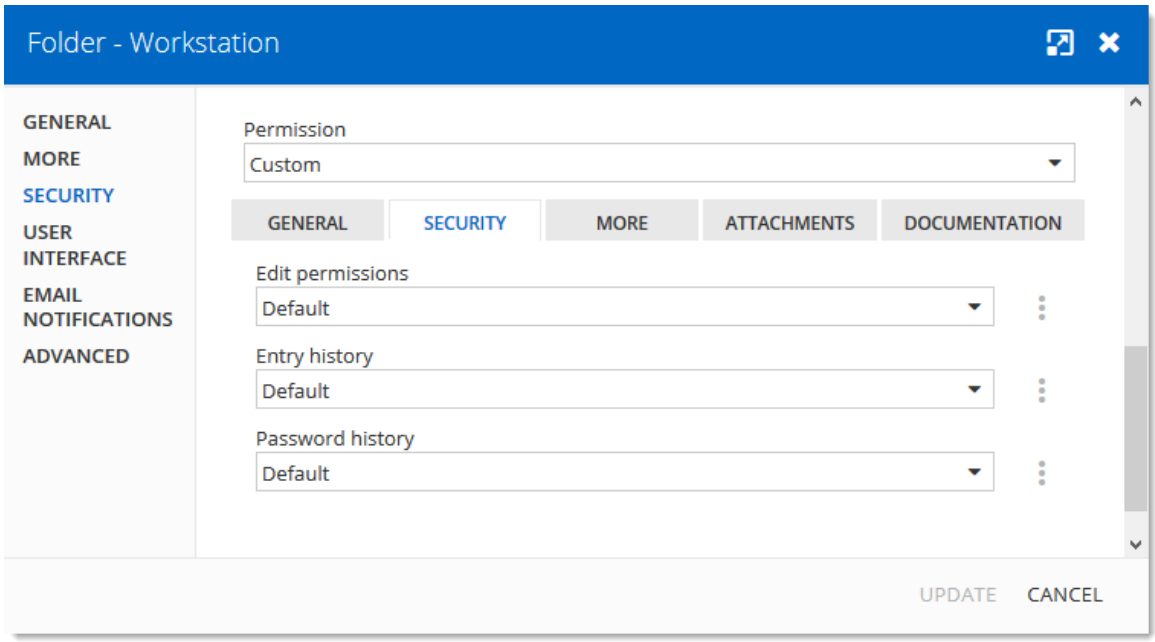


Permissions - General

OPTION	DESCRIPTION
Permission	Sets the permission mode. It must be set to **Custom** in order to change the permissions individually.
View	Allow users/roles to **view** entries.
Add	Allow users/roles to **add** entries
Edit	Allow users/roles to **edit** entries.
Delete	Allow users/roles to **delete** entries.

OPTION	DESCRIPTION
View password	Allow users/roles to **view entry password**.
Connect (Execute)	Allow users/roles to **open** entries.

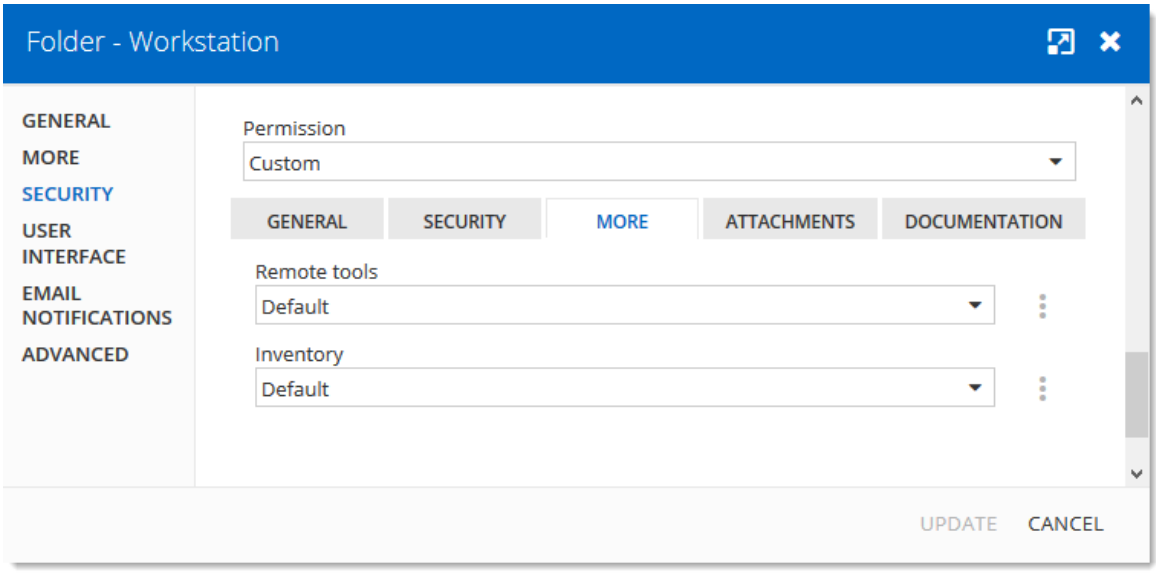
SECURITY



Permissions - Security

OPTION	DESCRIPTION
Edit permissions	Allow users/roles to **edit** permissions.
Entry history	Allow users/roles to **view and use entry history**.
Password History	Allow users/roles to **view** the **Password History**.

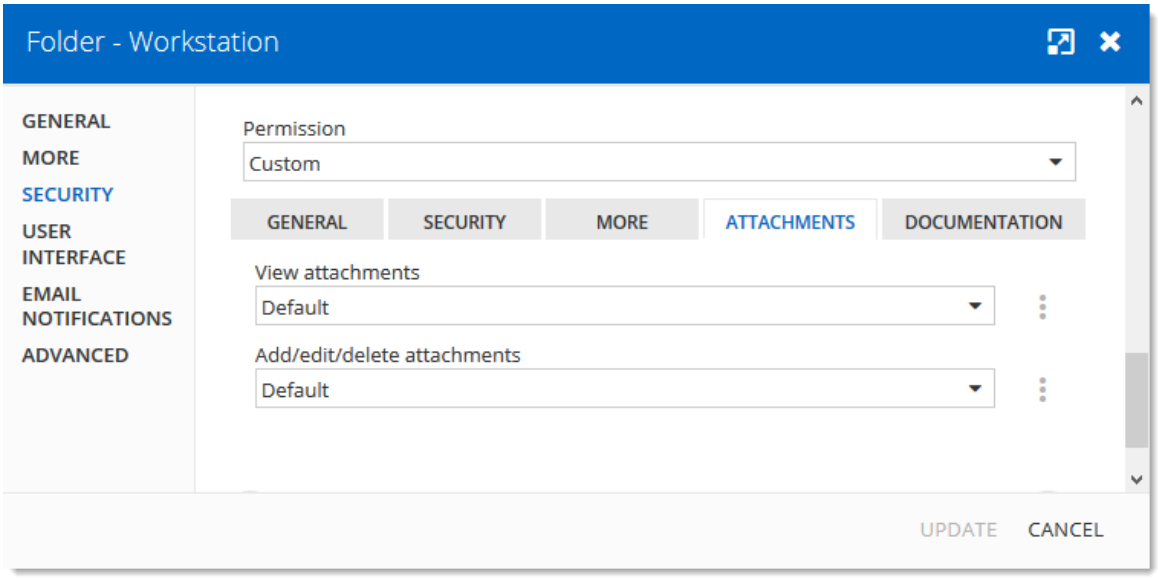
MORE



Permissions - More

OPTION	DESCRIPTION
Remote tools	Allow users/roles to use **Remote Tools**.
Inventory	Allow users/roles to use the **Inventory Report** tool.

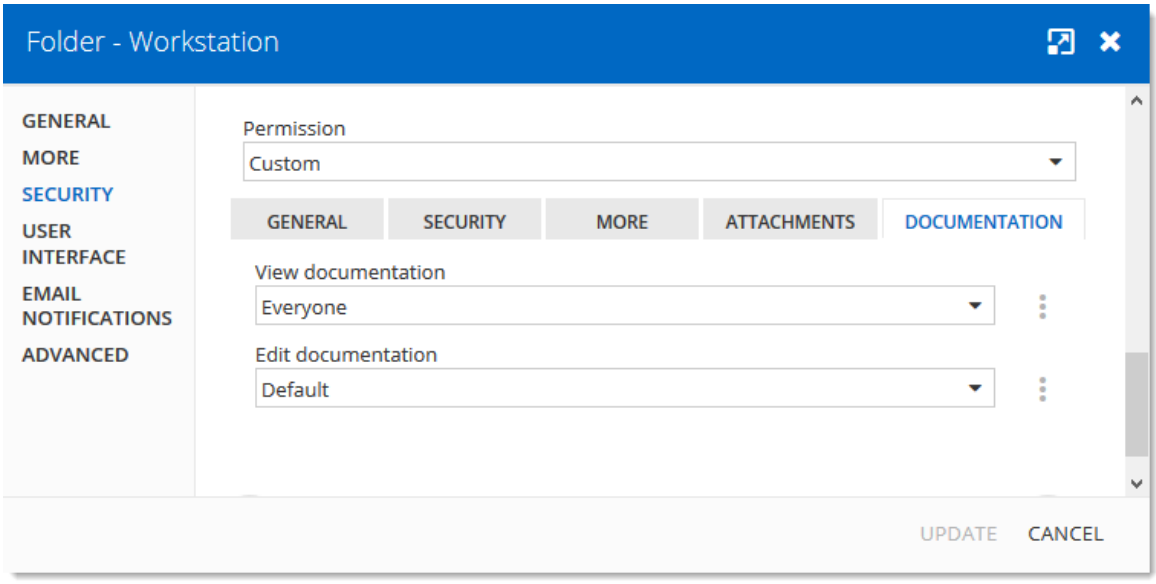
ATTACHMENTS



Permissions - Attachment

OPTION	DESCRIPTION
View attachments	Allow users/roles to **view** attachments.
Add/edit/delete attachments	Allow users/roles to **add/edit/delete** attachments.

DOCUMENTATION



Permissions - Documentation

OPTION	DESCRIPTION
View documentation	Allow users/roles to **view** documentation.
Edit documentation	Allow users/roles to **edit** documentation.

Privileged Access Management

Part VI

6 Privileged Access Management

DESCRIPTION

Devolutions Privileged Access Management solution provides all the following features. It is specifically designed to meet the needs of SMBs, providing enterprise-grade features to bring a level of protection usually only afforded to large organizations while at the same time being robust, easy to deploy and affordable.

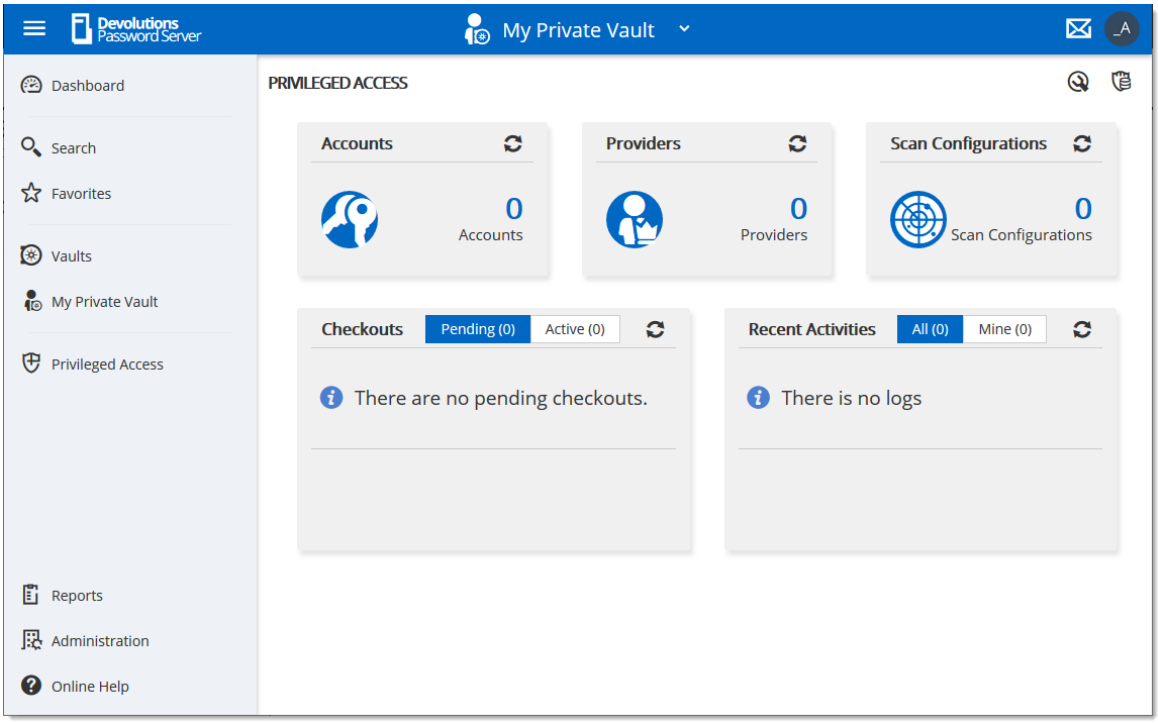
1. Ease of deployment and management
2. Secure password vault
3. Logging and reporting
4. Built-in two-factor authentication
5. Access brokering
6. Role-based access control

For an overview of the Devolutions Privileged Access Management, please watch the following video.

PAM Preview

PRIVILEGED ACCESS DASHBOARD

The Privileged Access Dashboard provides a quick overview of the available **Accounts**, **Providers**, **Scan Configurations**, current **Checkouts** and the **Recent Activities**.



Privileged Access Management Dashboard

6.1 Getting Started

DESCRIPTION

In this topic, you will find the steps on how to get started with the ***Privileged Access Management*** features in Devolutions Password Server.

First, you will need to be logged as an administrator in your DPS.

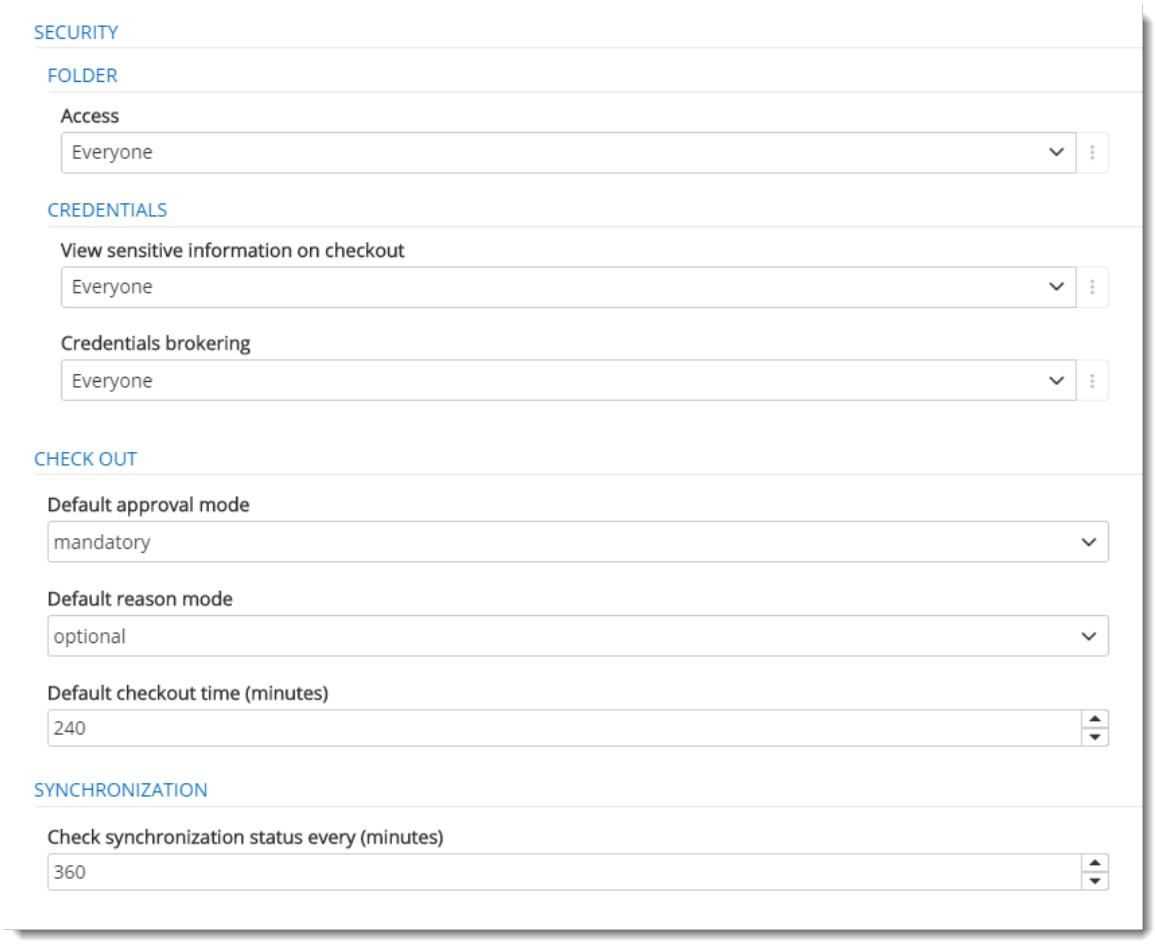
PAM SETTINGS CONFIGURATION

1. Head to ***Administration -> Password Server Settings -> PAM***.

2. Check ***Enable PAM*** and click the ***Save*** button in the top right to make the PAM side-panel appear on the left.

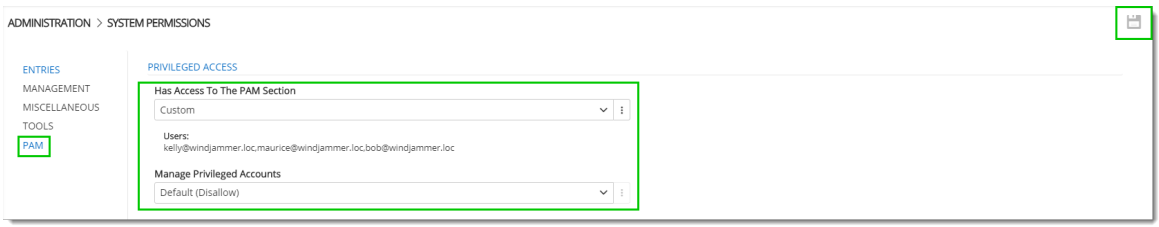
Enabling PAM

3. Configure the default settings for the checkout system, credentials brokering, sensitive information access, default checkout times and synchronizations. The ***Custom*** setting allows role-based access control.



4. Next, head to ***Administration -> System Permissions -> PAM***.

5. Configure the accesses to the PAM system for the users/admins and manage privileged accounts rights on who can edit the privileged entries. Then, click ***Save***.

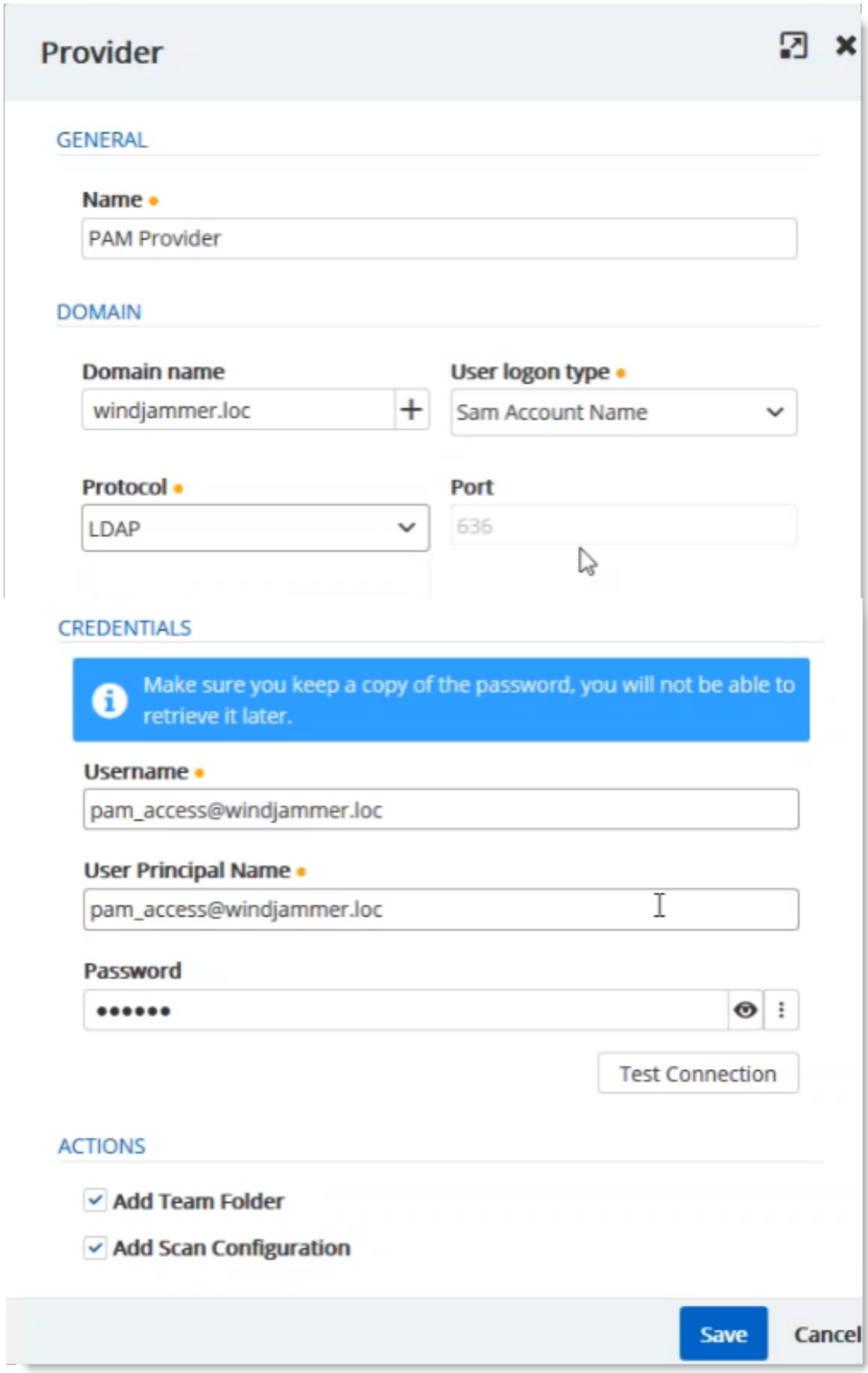


PAM Access configuration

ADD A PROVIDER

Back to the PAM section, add a provider of any of the 3 types : ***Domain User*** (AD), ***Local User*** (SSH) or ***SQL User***.

When adding the provider, make sure you keep the ***Add Team Folder*** and ***Add Scan Configuration*** options checked.



PAM Provider Configuration

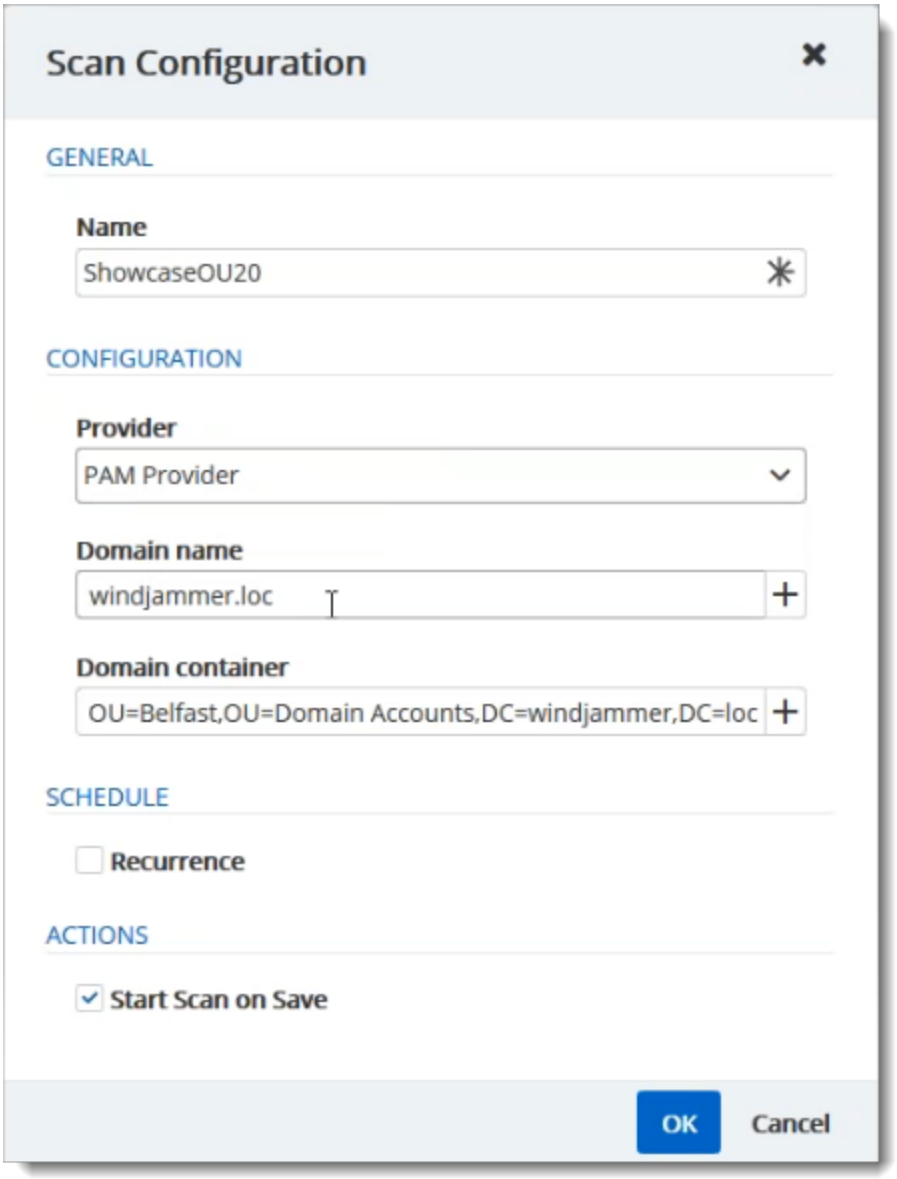
For more information, please consult the Providers topic.

ADD A SCAN CONFIGURATION

1. Confirm that it is the good provider, domain and domain container (where the accounts are located).

2. Make sure the ***Start Scan on Save*** checkbox is selected.

3. Click ***OK***.

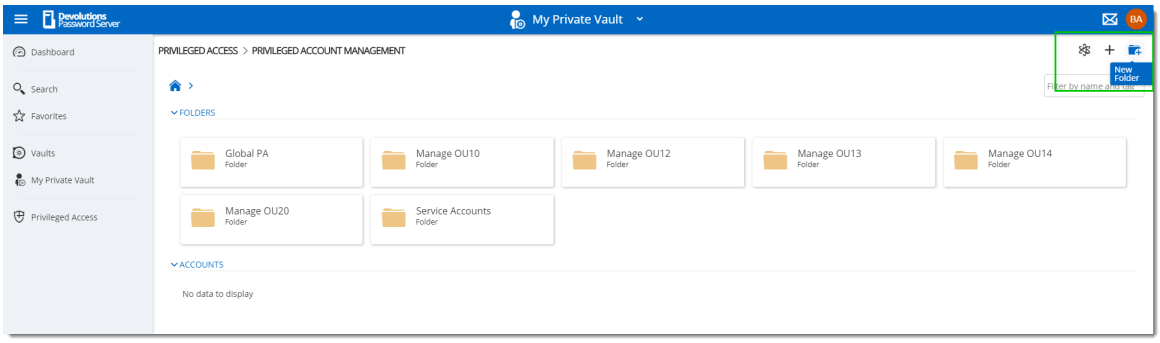


PAM Scan Config

For more information, please refer to the Scan Configurations topic.

ADD FOLDERS IN THE ACCOUNTS SECTION

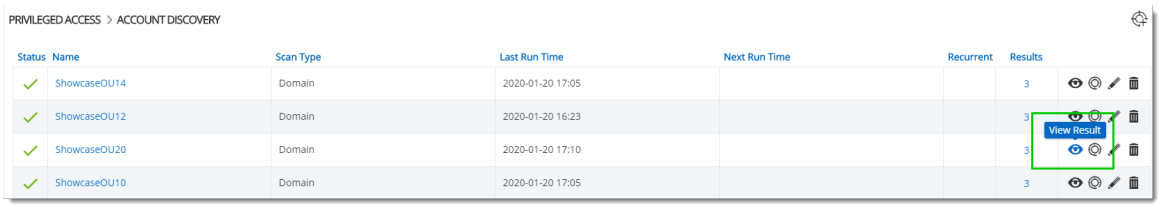
In the ***Accounts*** section of the PAM tab, you need to create a ***Folder*** to contain the accounts. You can customize that particular folder's security options if you don't want to give them the defaults you set during the initial configuration. You can also customize the approvers on the folder directly which will give you a list of the administrators.



PAM Create Folder

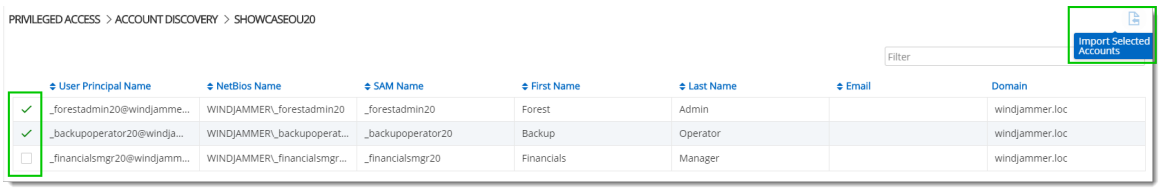
IMPORT ACCOUNTS FROM A SCAN

1. In the ***Scan Configuration*** section, click the result of your initial search.



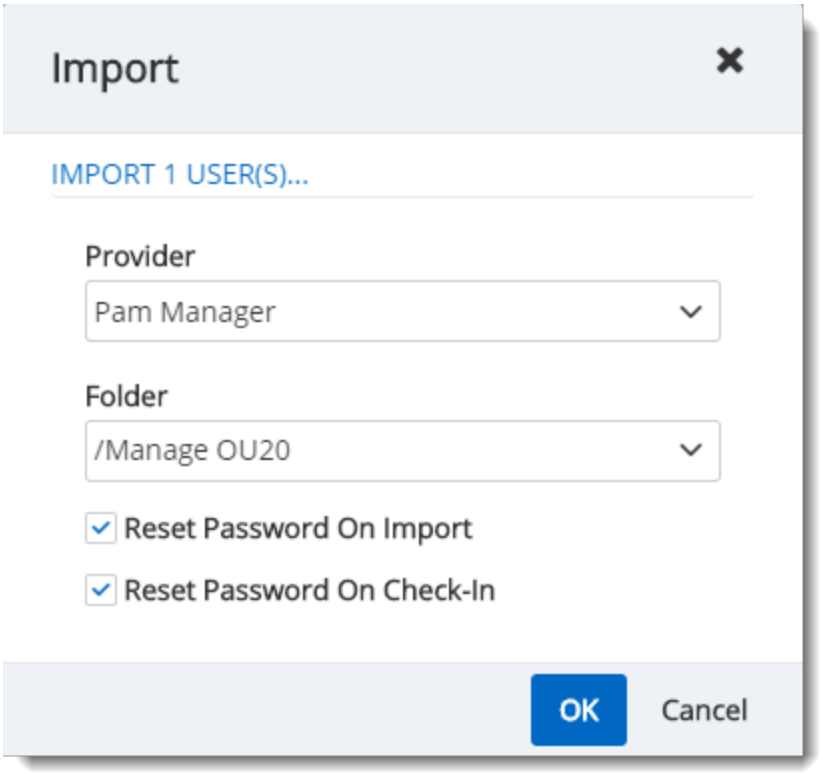
View Scan Results

2. Select all the accounts you want to import, and on the top right, click the ***Import*** button.



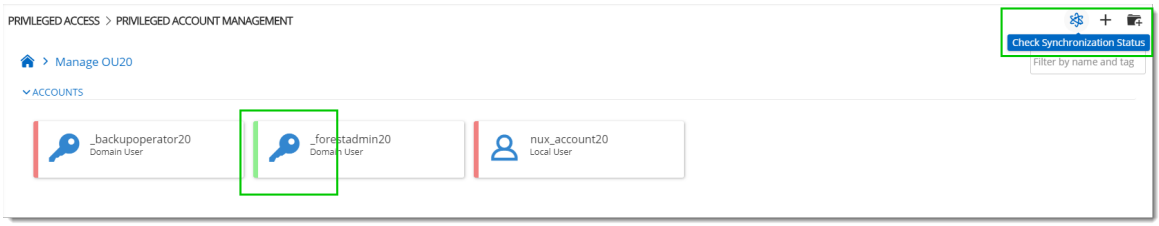
Import Selected Entries

3. You can put them in the folder of your choice. You can also choose whether to reset password on import or on check-in (recommended). That way, the password is safe the moment the user checks it back in.



Import Users

Once imported, you can click into the folder and manually check the ***Synchronization Status*** in the top right of the screen. You will know the accounts are well synchronized when the credentials have a green bar on the left.



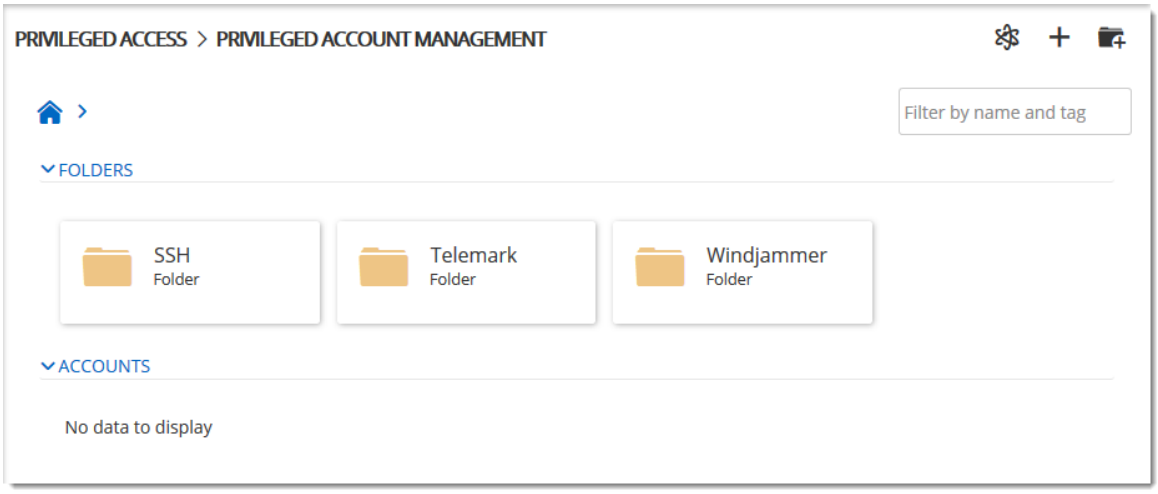
PAM Account Sync Check

You are now ready to use the privileged access management portion of Devolutions Password Server!

6.2 Accounts

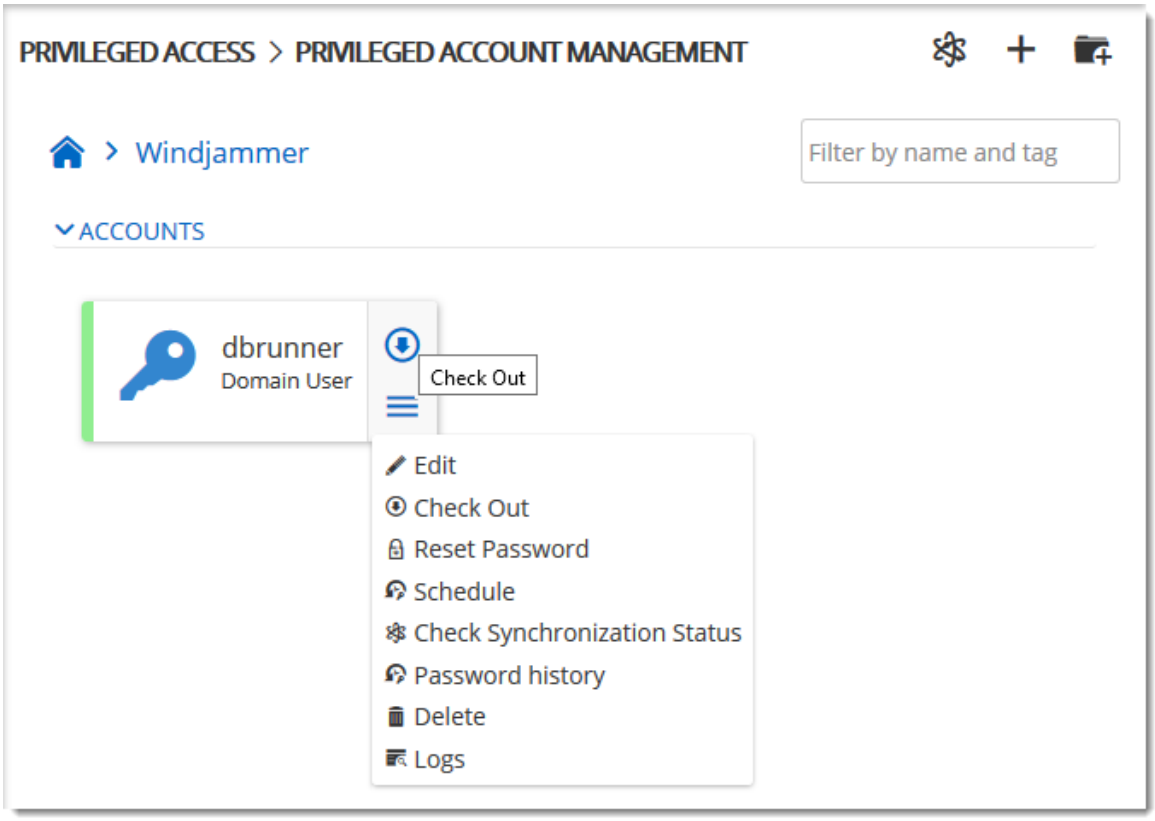
DESCRIPTION

The Accounts section allows to manage all privileged accounts within the Privileged Access Management solution. The accounts can be organized within folders or directly saved in the Root.



Accounts dashboard

For every privileged account, it is possible to manage the checkout/check-in process or to have access to many options described below.



Privileged Accounts folder content

MORE

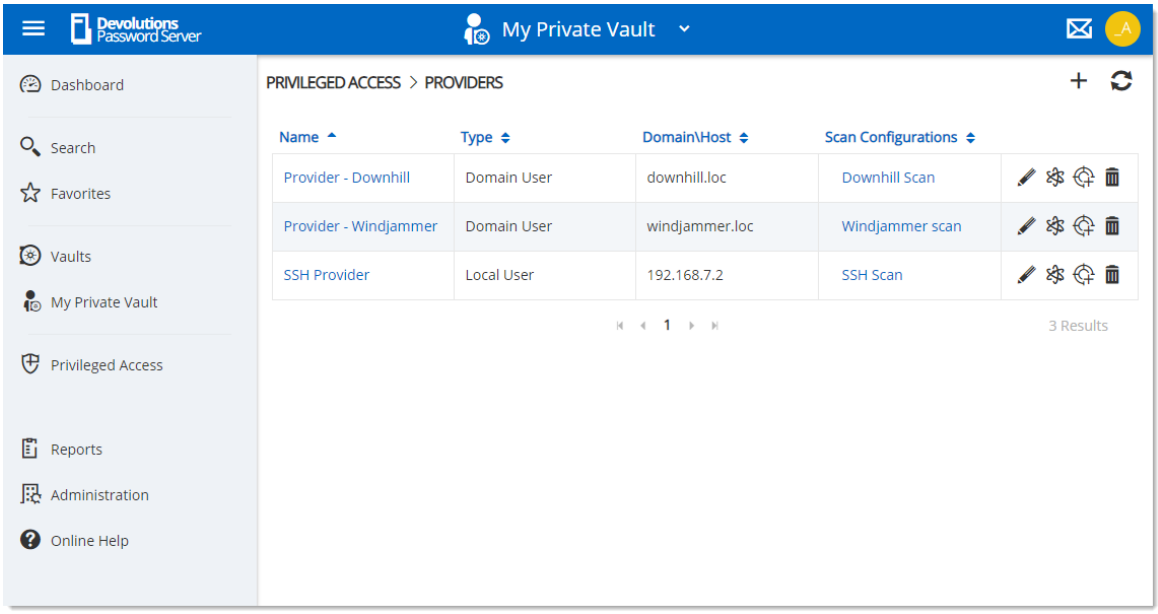
OPTIONS	DESCRIPTION
Edit	Edit the privileged account properties.
Check Out	Access and lock the privileged account.
Reset Password	Reset the password in Devolutions Password Server and in Active Directory or on the Local SSH machine.
Schedule	Reset the password based on a automated schedule.
Check Synchronization	Verify if the Provider can still access the account in the Domain or the Local SSH machine.

OPTIONS	DESCRIPTION
Status	
Password history	Open the Password history dialog.
Delete	Remove the account from the Privileged Account Management system without deleting it in the Domain or the Local SSH machine.
Logs	Open the Logs dialog which contains the account's activity.

6.3 Providers

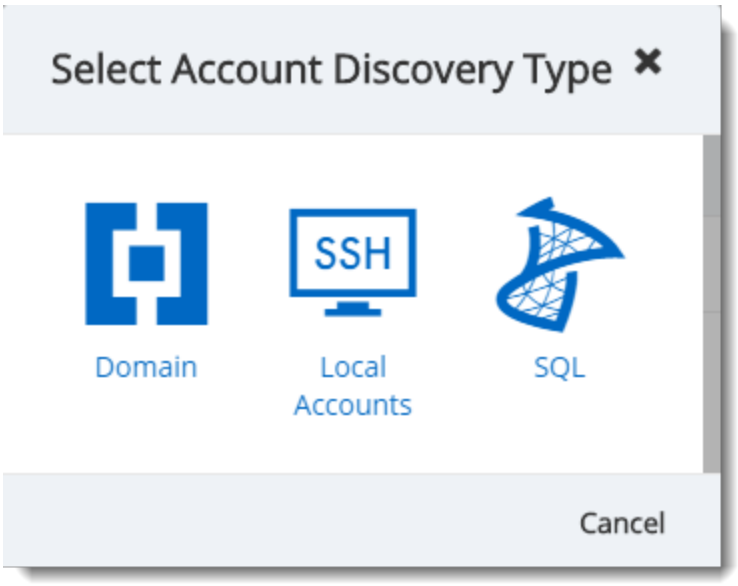
DESCRIPTION

The usage of Providers is required to scan the Active Directory structure, your local network for SSH discovering, and SQL.



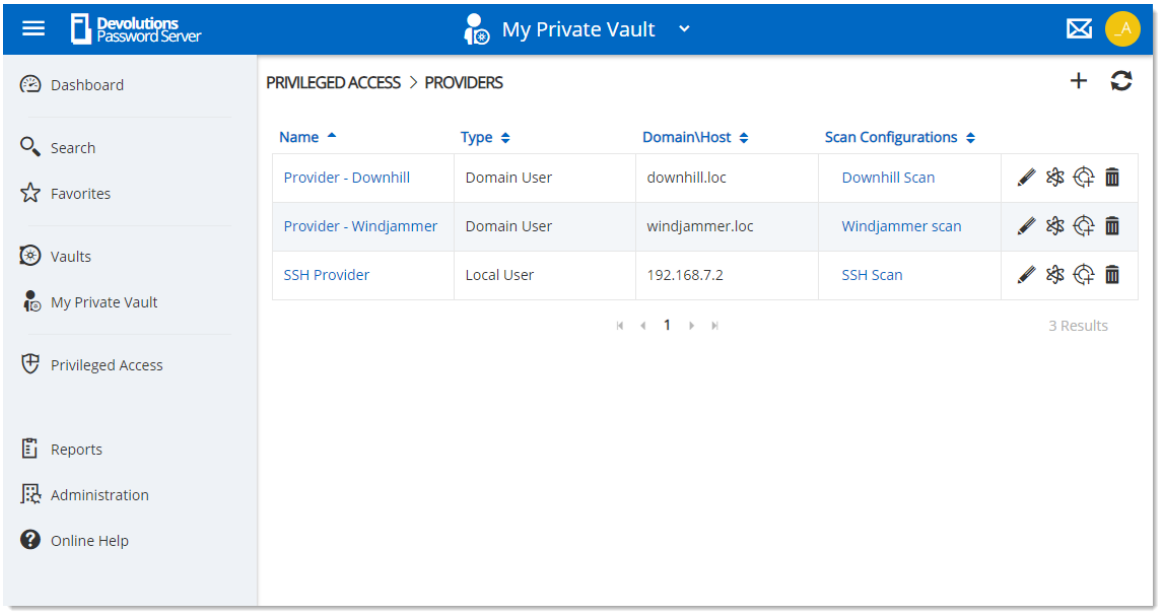
Providers dashboard

On the creation of a Provider, two choices are available: Domain User, SSH Local User, and SQL User. Multiple Providers can be created and can reach different domains as long as the Devolutions Password Server instance can communicate with the domain controller.



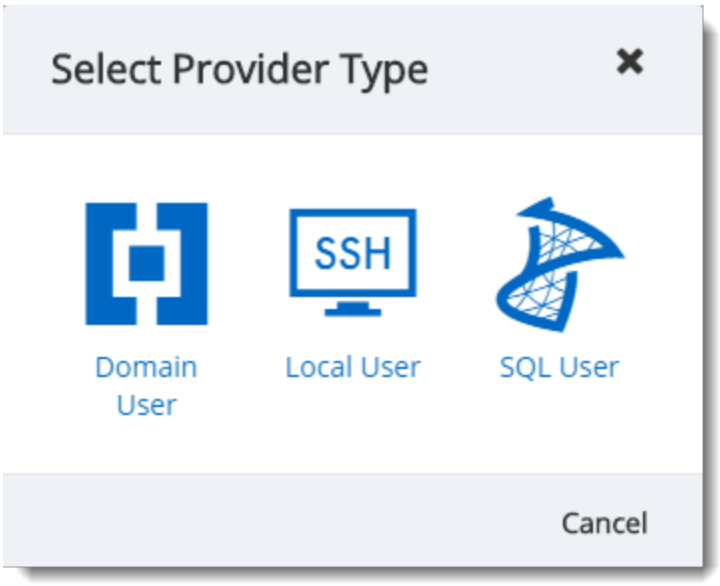
Provider Type dialog

The usage of Providers is required to scan the Active Directory structure, your local network for SSH discovering or your SQL Server accounts.



Providers dashboard

On the creation of a Provider, three choices are available: Domain User, SQL Server or SSH Local User. Multiple Providers can be created and can reach different domains as long as the Devolutions Password Server instance can communicate with the domain controller.

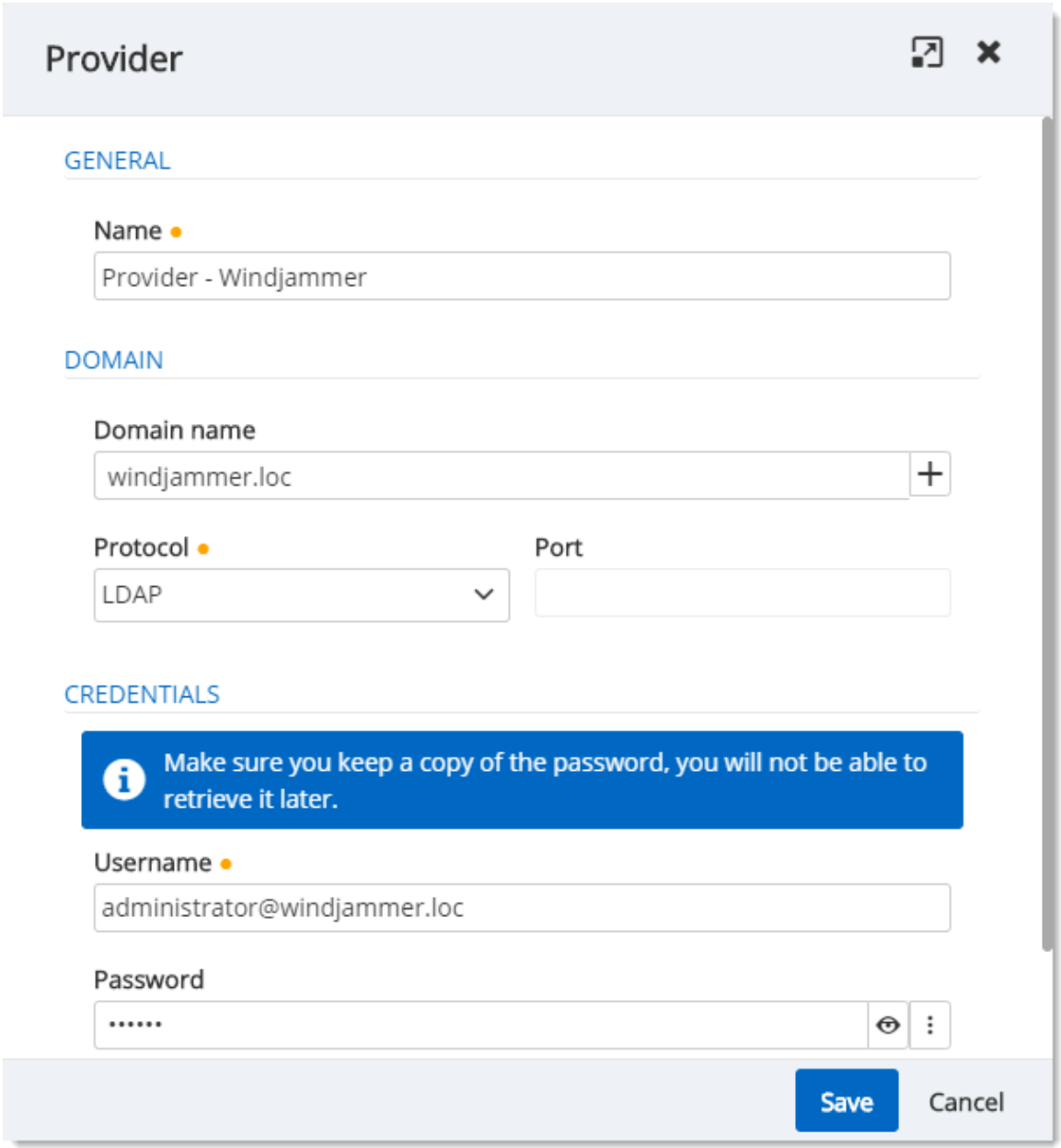


Provider Type dialog

6.3.1 Domain Provider

DESCRIPTION

The Domain Provider allows Devolutions Password Server to store the domain account credentials to be used for Active Directory accounts discovery or to achieve password rotation.



Domain Provider dialog

GENERAL

OPTIONS	DESCRIPTION
Name	Display name of the Provider.

DOMAIN

OPTIONS	DESCRIPTION
Domain name	FQDN of the domain against where the scan or the password rotation will be executed.
Protocol	Protocol used to contact the domain controller. Select between: • **LDAP** • **LDAPS**
Port	Set the port number used with the configured Protocol.

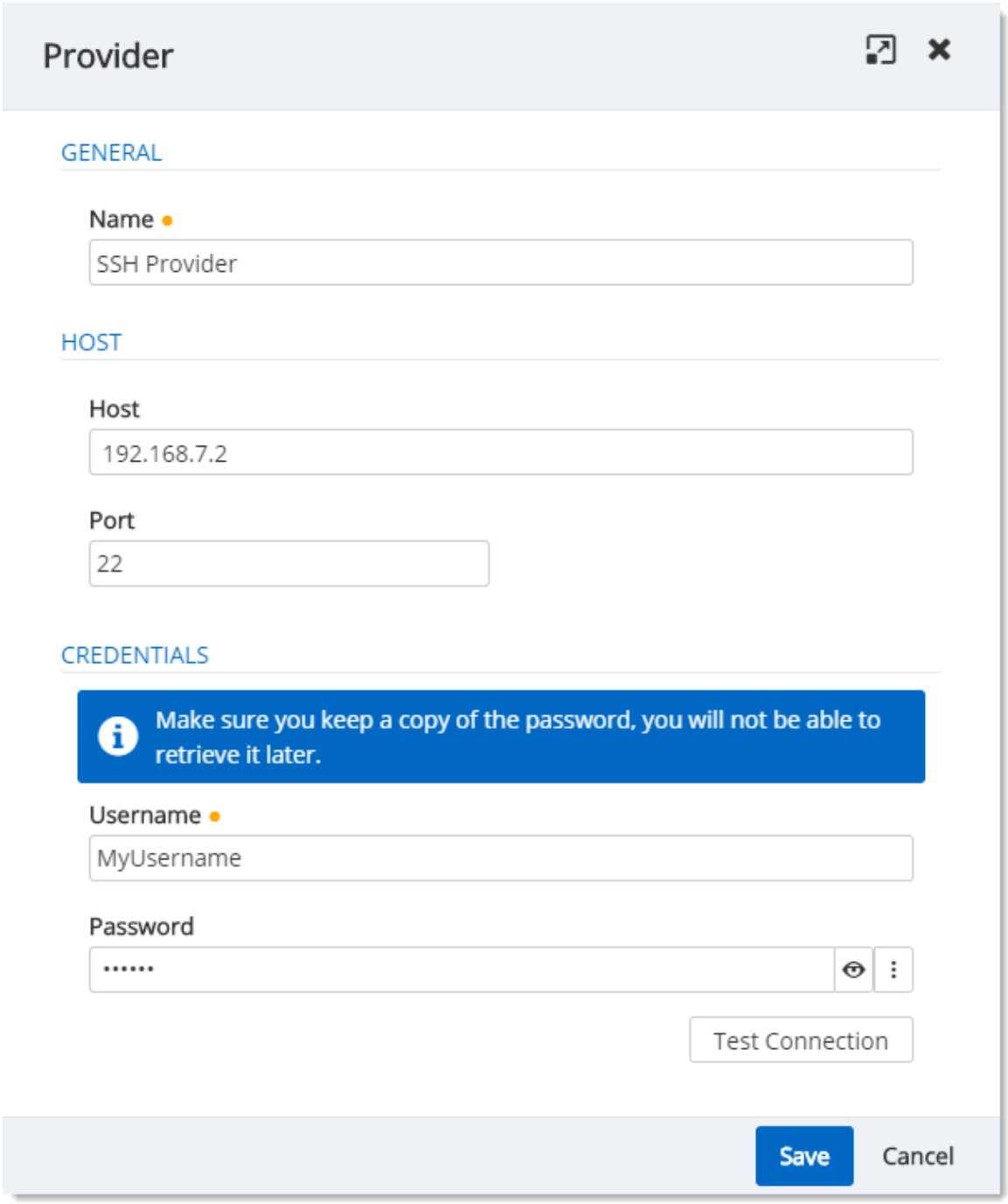
CREDENTIALS

OPTIONS	DESCRIPTION
Username	Username of the domain account.
Password	Password of the domain account.

6.3.2 Local SSH Provider

DESCRIPTION

The SSH Provider allows Devolutions Password Server to store the SSH local account credentials to be used for SSH accounts discovery or to achieve password rotation.



SSH Provider dialog

GENERAL

OPTIONS	DESCRIPTION
Name	Display name of the Provider.

HOST

OPTIONS	DESCRIPTION
Host	IP Address or host name where the SSH accounts are located.
Port	Set the port number used to communicate with the host.

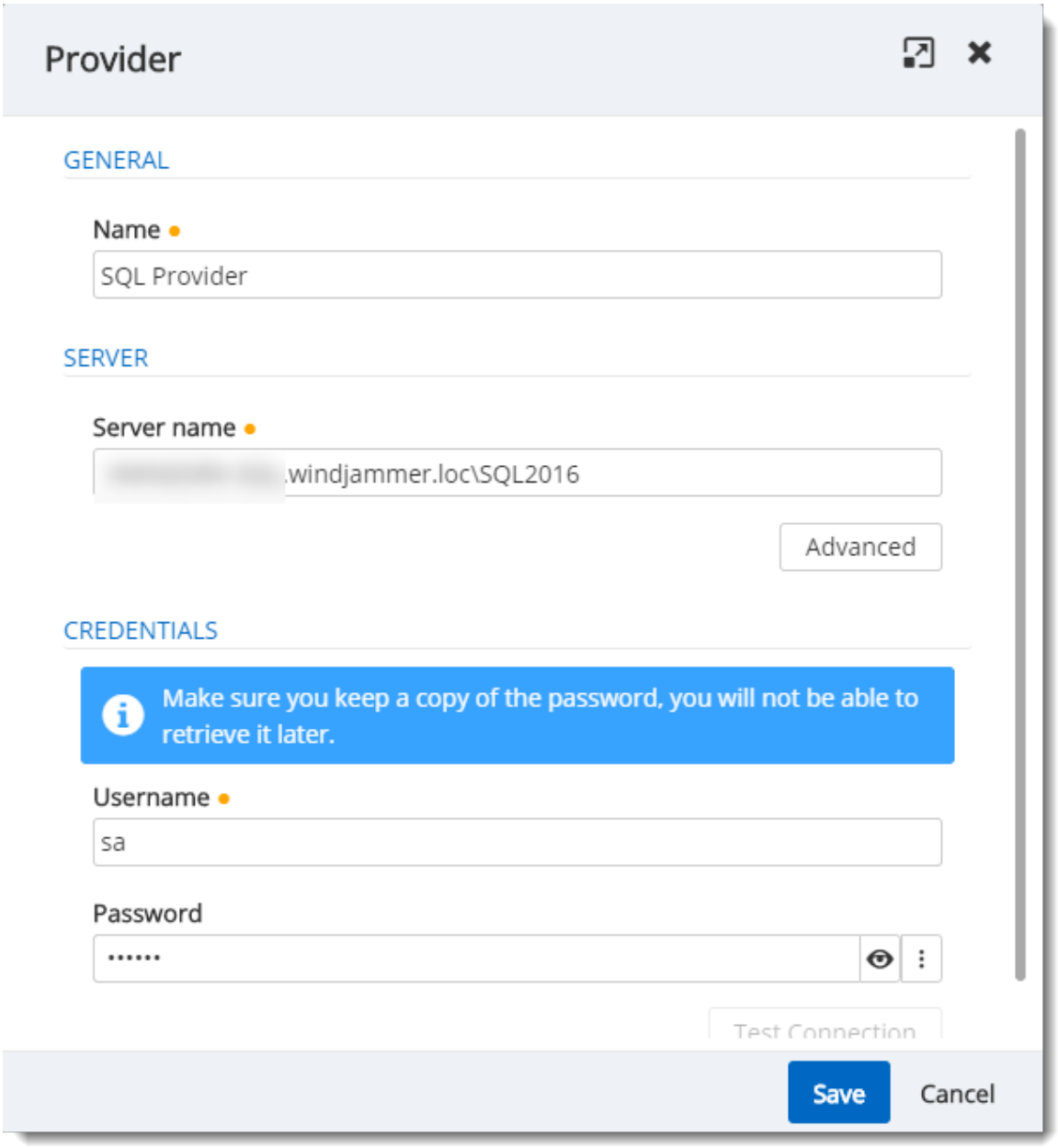
CREDENTIALS

OPTIONS	DESCRIPTION
Username	Username of the SSH account.
Password	Password of the SSH account.

6.3.3 SQL Server Provider

DESCRIPTION

The SQL Provider allows Devolutions Password Server to store the SQL account credentials to be used for SQL accounts discovery or to achieve password rotation.



SQL Provider dialog

GENERAL

OPTIONS	DESCRIPTION
Name	Display name of the Provider.

SERVER

OPTIONS	DESCRIPTION
Server	Hostname of the SQL Server

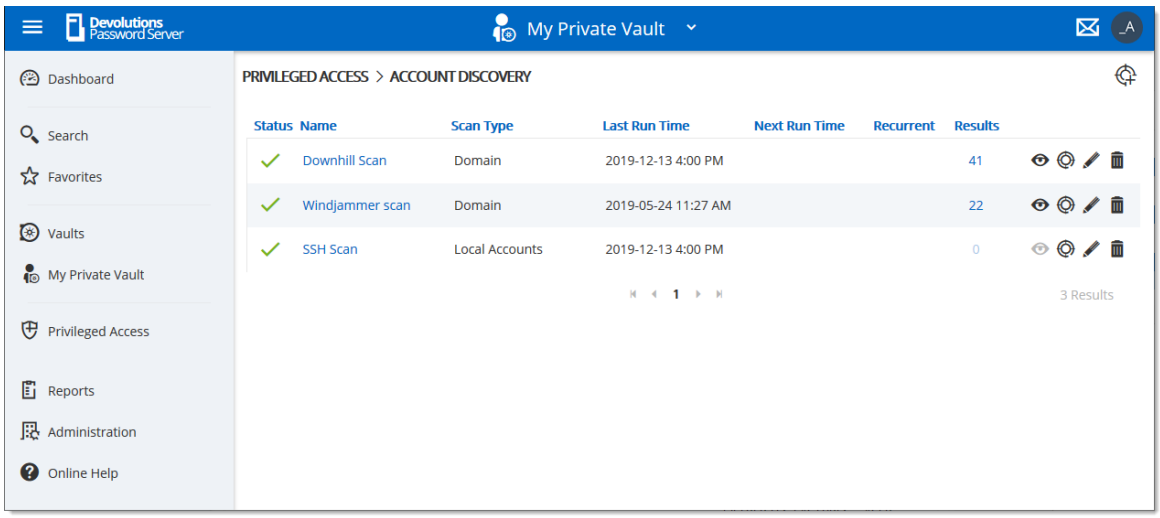
CREDENTIALS

OPTIONS	DESCRIPTION
Username	Username of the SQL account with rights to list accounts.
Password	Password of the SQL account.

6.4 Scan Configurations

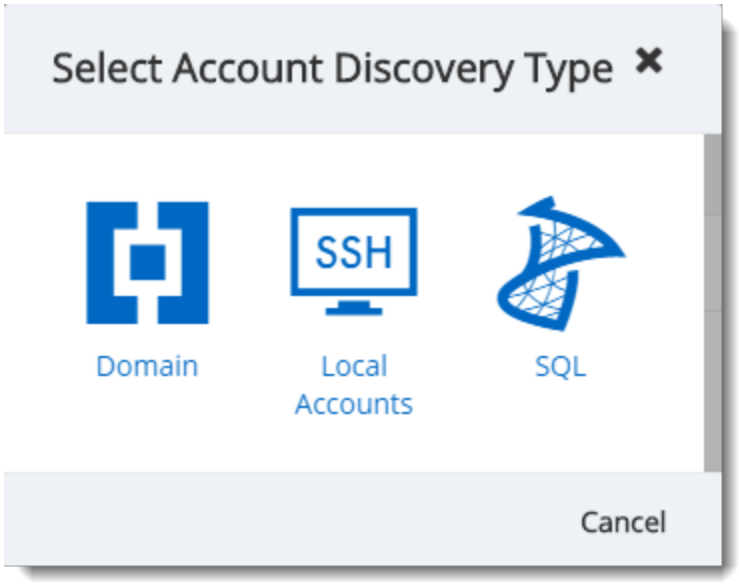
DESCRIPTION

The Scan Configurations or Account Discovery is the configured instance that will discover accounts in a domain, a SQL server or SSH environment.



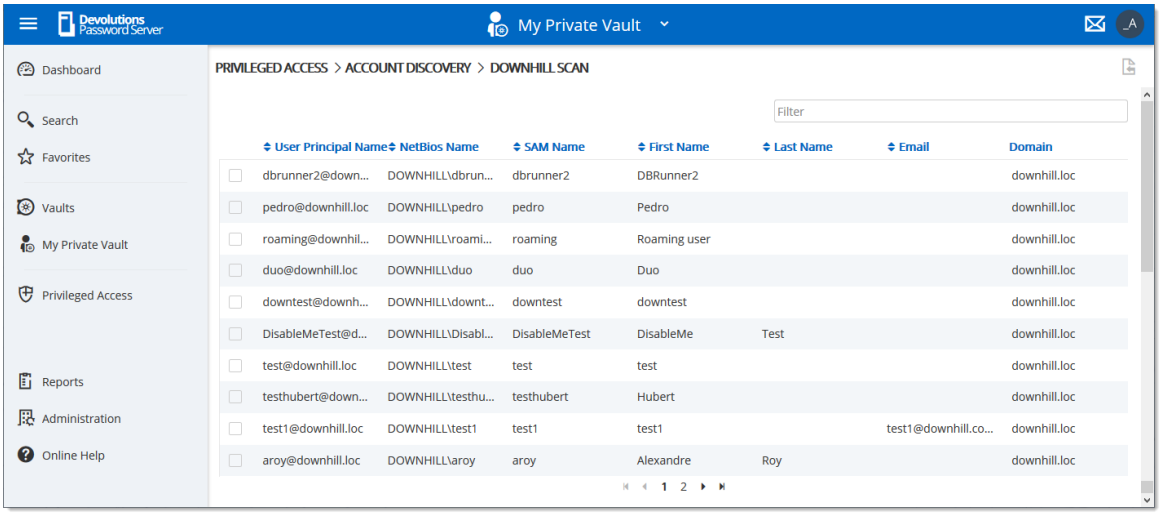
Account Discovery dialog

On the creation of an Account Discovery, it is possible to choose between Domain, SQL Server or SSH Local Accounts.



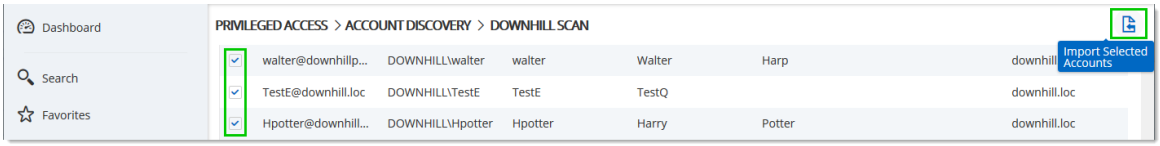
Account Type Options

To see the results of the discovery process, click on the eye icon of the Account Discovery to see the list of accounts.



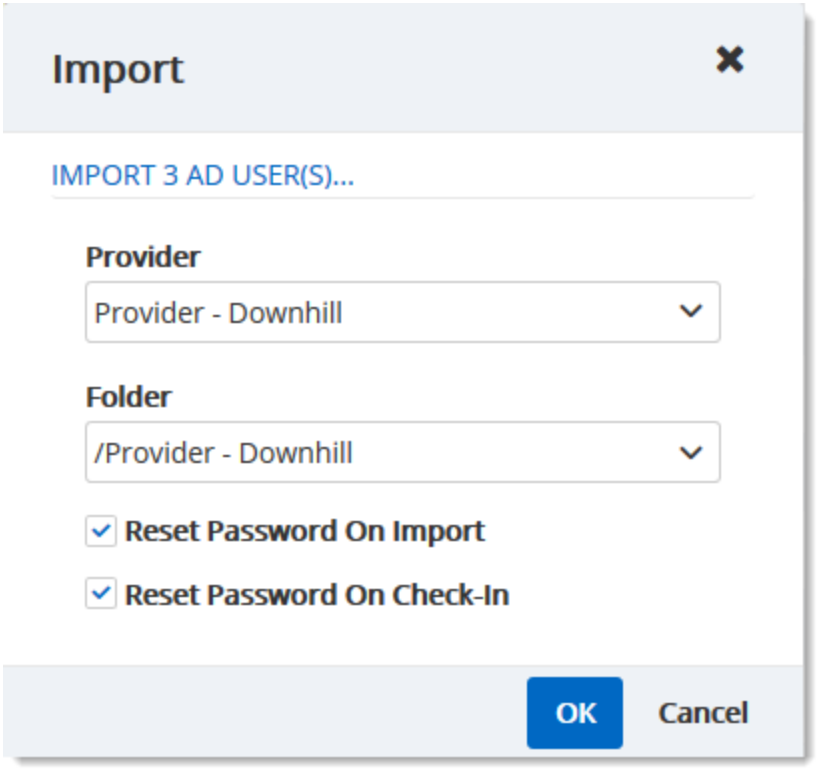
Account Discovery results dialog

In order to manage privileged accounts with the Devolutions Password Server PAM feature, select the accounts from the Account Discovery results page and click on the Import Selected Accounts button. Then the accounts will be available in Privileged Access - Accounts.



Import Selected Accounts operation

On import, the Provider, Destination Folder and Reset Password options can be set.



Import Window

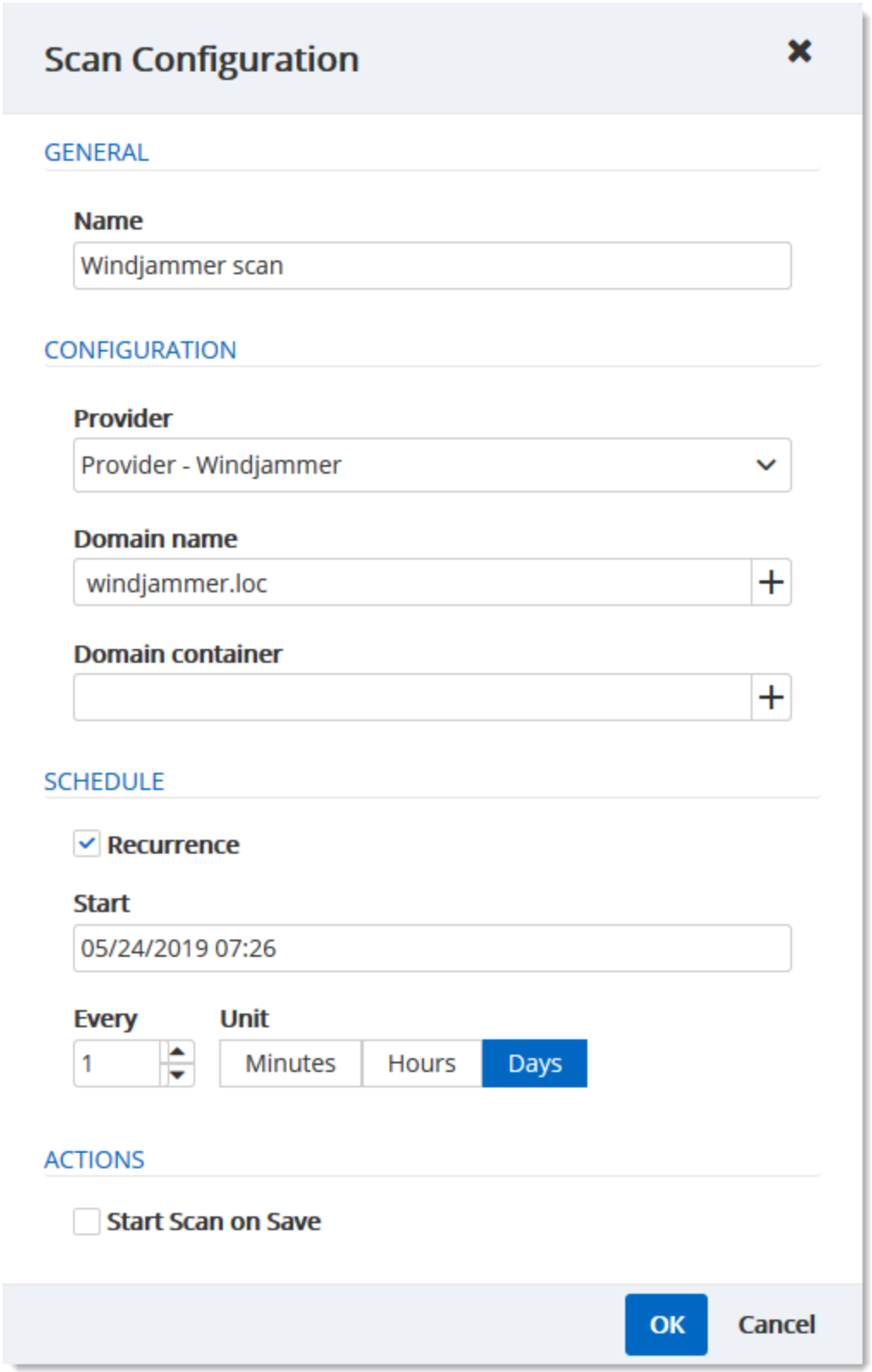
IMPORT

OPTIONS	DESCRIPTION
Provider	Select the Provider in the drop-down list.
Folder	Select the destination folder in the drop-down list.
Reset Password On Import	On import, the password will be reset.
Reset Password On Check-In	When the user will release the account on Check-In, the password will be reset.

6.4.1 Domain Account Discovery

DESCRIPTION

The Domain Account Discovery allows Devolutions Password Server to scan a domain area to find accounts. The accounts will not be automatically added.



Domain Account Discovery dialog

GENERAL

OPTIONS	DESCRIPTION
Name	Display name of the Domain Account Discovery.

CONFIGURATION

OPTIONS	DESCRIPTION
Provider	Name of the Domain Provider.
Domain name	FQDN of the domain against where the scan or the password rotation will be executed.
Domain Container	Distinguished name of an Active Directory OU or group.

SCHEDULE

OPTIONS	DESCRIPTION
Recurrence	If enable, will run the Account Discovery on a regular basis depending on the schedule configuration.
Start	Starting date and hour of the Account Discovery recurrence.
Every	Number of Units.
Unit	Units of time.

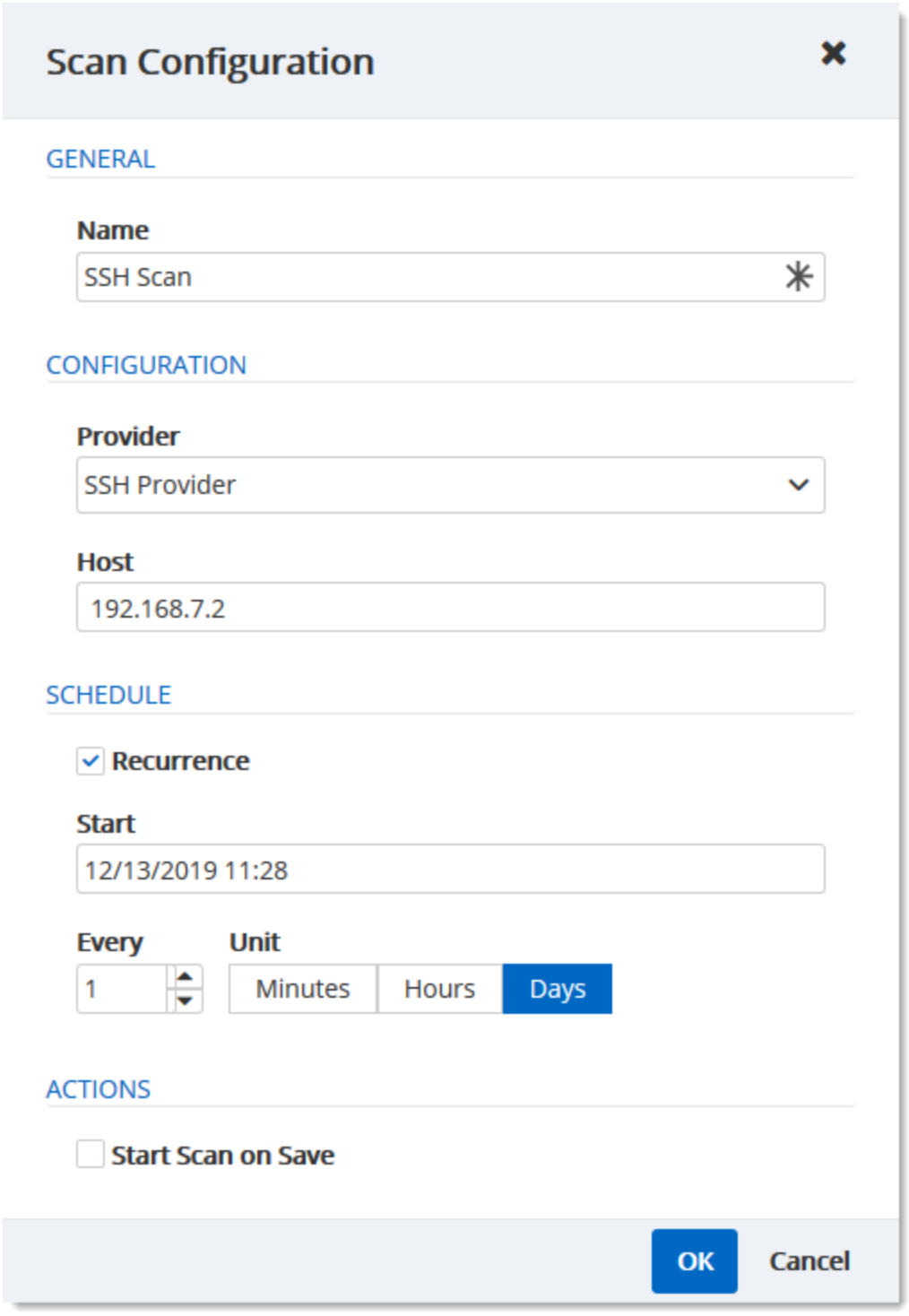
ACTION

OPTIONS	DESCRIPTION
Start Scan on Save	If enabled, will start the account discovery scan on saving the modifications.

6.4.2 SSH Account Discovery

DESCRIPTION

The SSH Account Discovery allows Devolutions Password Server to scan the host to find accounts. The accounts will not be automatically added.



SSH Account Discovery dialog

GENERAL

OPTIONS	DESCRIPTION
Name	Display name of the SSH Account Discovery.

CONFIGURATION

OPTIONS	DESCRIPTION
Provider	Name of the SHH Provider.
Host	IP of the host where the scan or the password rotation will be executed.

SCHEDULE

OPTIONS	DESCRIPTION
Recurrence	If enable, will run the Account Discovery on a regular basis depending on the schedule configuration.
Start	Starting date and hour of the Account Discovery recurrence.
Every	Number of Units.
Unit	Units of time.

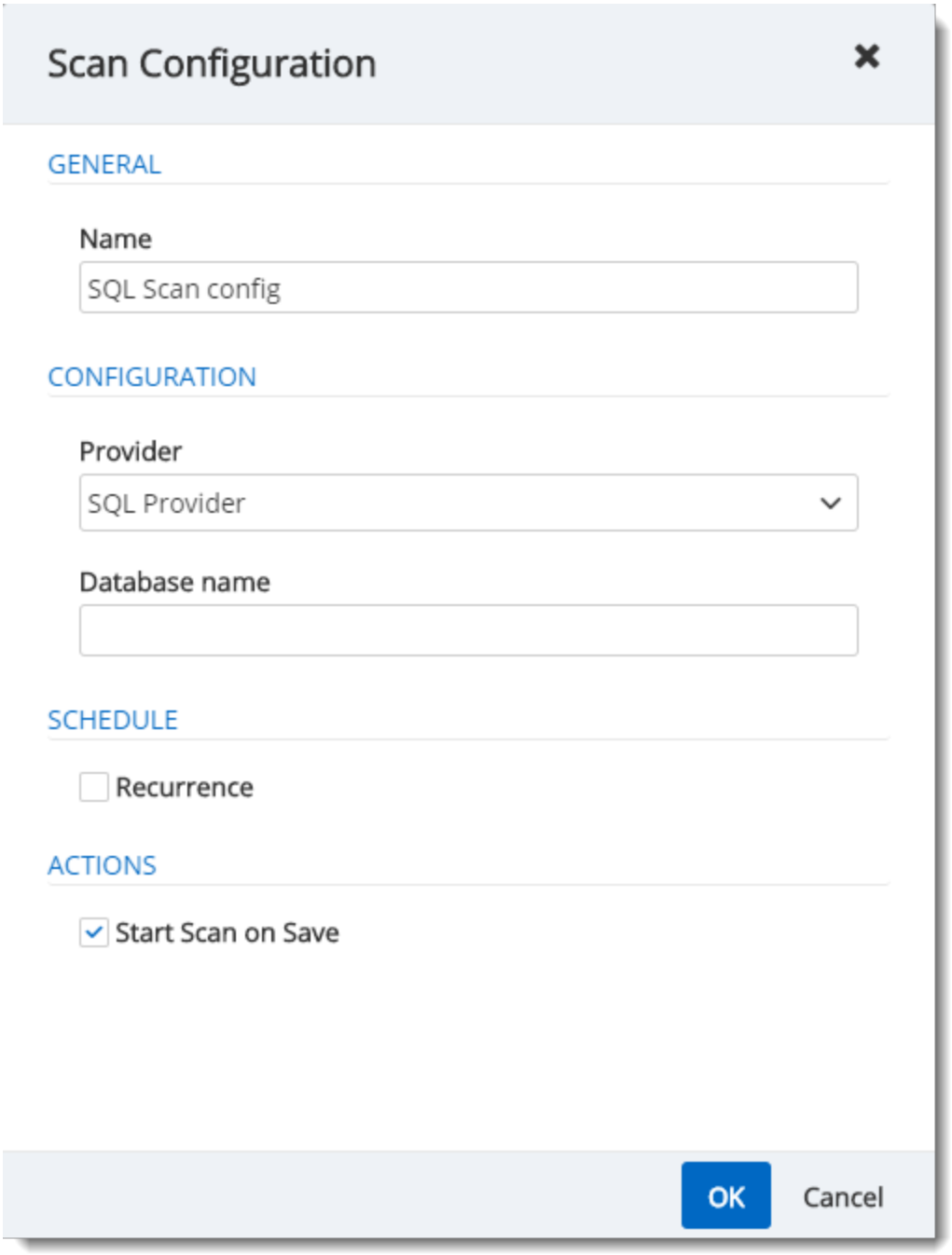
ACTION

OPTIONS	DESCRIPTION
Start Scan on Save	If enabled, will start the account discovery scan on saving the modifications.

6.4.3 SQL Account Discovery

DESCRIPTION

The SQL Account Discovery allows Devolutions Password Server to scan the host to find accounts. The accounts will not be automatically added.



SQL Account Discovery dialog

GENERAL

OPTIONS	DESCRIPTION
Name	Display name of the SQL Account Discovery.

CONFIGURATION

OPTIONS	DESCRIPTION
Provider	Name of the SQL Provider.
Database Name	Name of the Database, the scan will list the accounts in that database

SCHEDULE

OPTIONS	DESCRIPTION
Recurrence	If enable, will run the Account Discovery on a regular basis depending on the schedule configuration.
Start	Starting date and hour of the Account Discovery recurrence.
Every	Number of Units.
Unit	Units of time.

ACTION

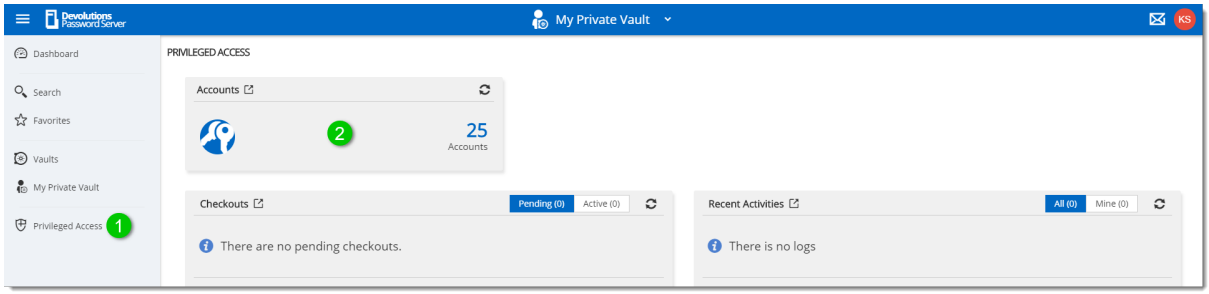
OPTIONS	DESCRIPTION
Start Scan on Save	If enabled, will start the account discovery scan on saving the modifications.

6.5 Checkout Process

DESCRIPTION

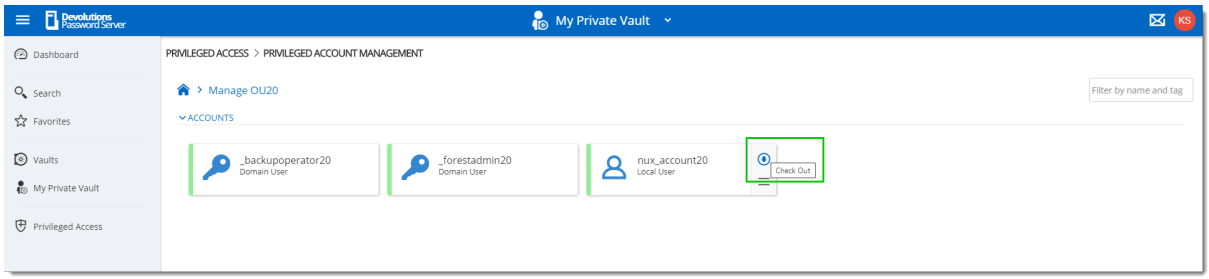
1. To check out an entry requiring approbation, the user needs to go to the ***Privileged Access*** section on the Devolutions Password Server's webpage.

2. The user then clicks on the ***Accounts*** panel.



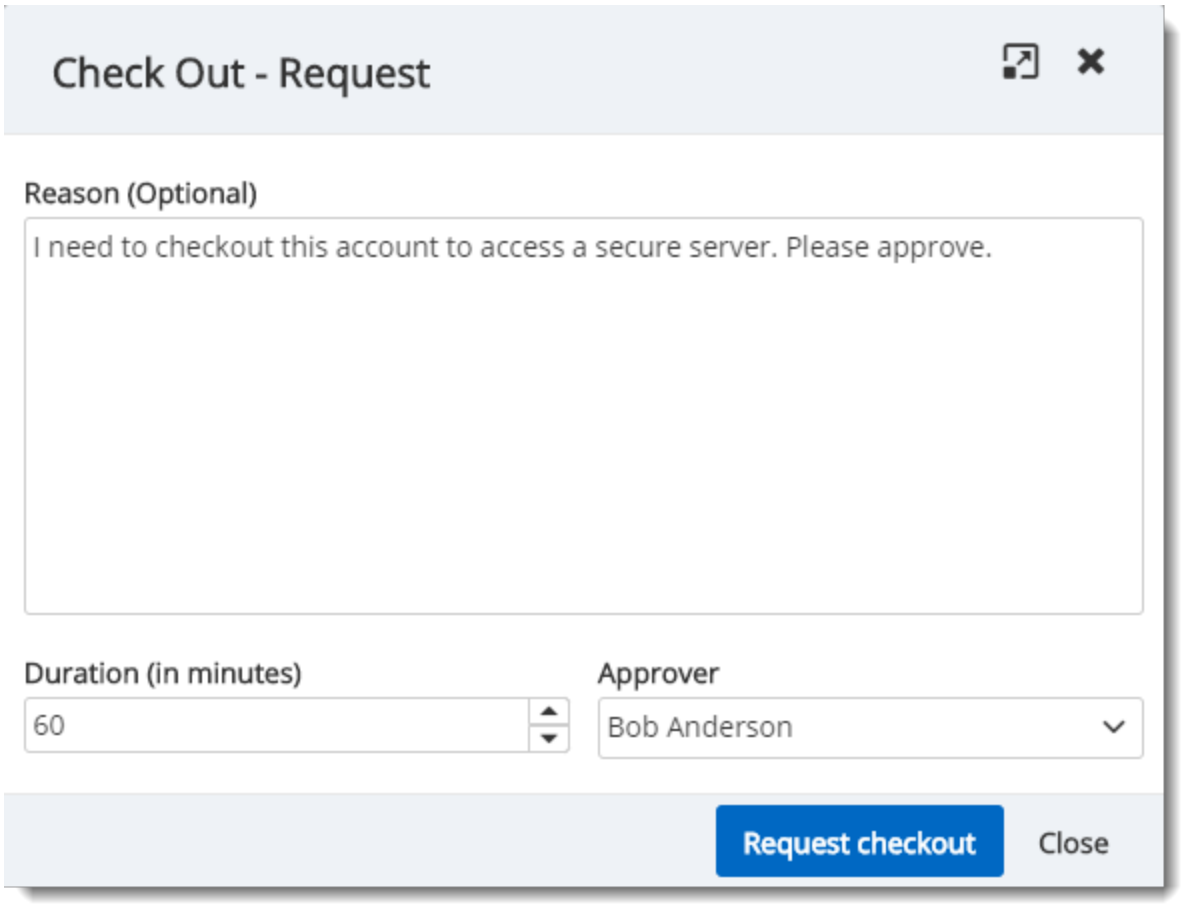
Privileged Access

The user then locates the account they want to check out for temporary use and clicks the ***Check Out*** button on the entry.



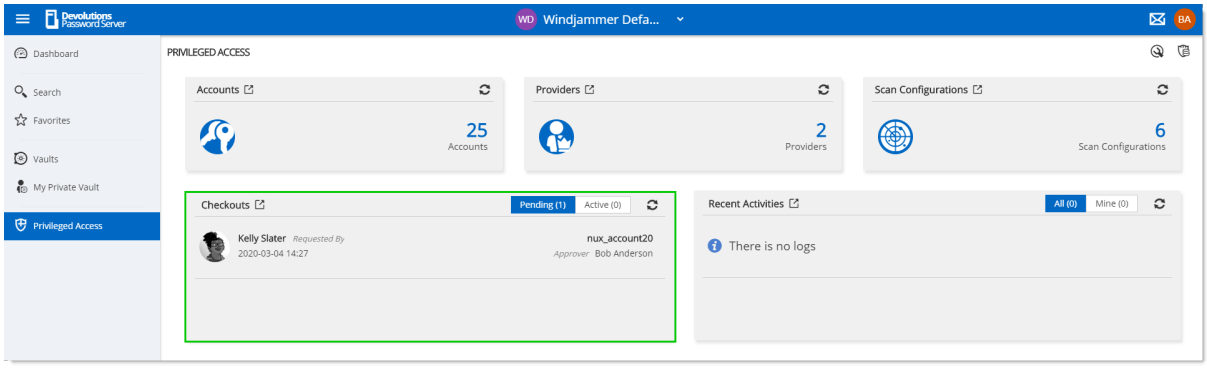
PAM Account Selection

A pop-up will appear requesting information on the checkout request to be sent to an administrator for approval.



Checkout Request

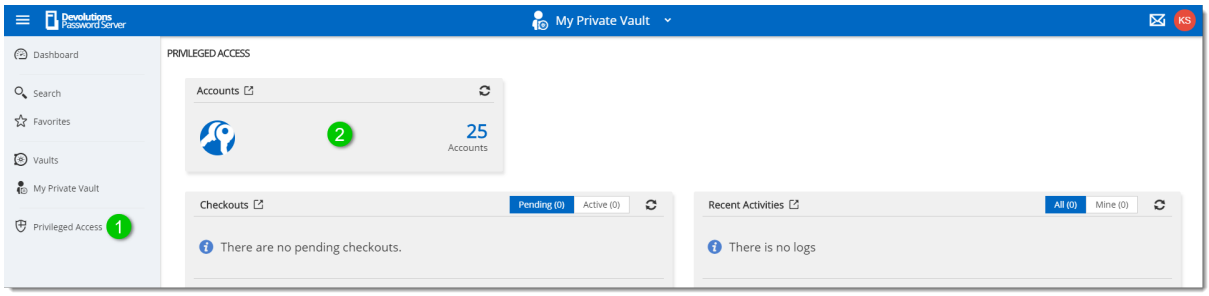
Once the request is sent, the selected Approver will have the request in the ***Checkout*** field of his ***Privileged Access*** window.



Checkout Request

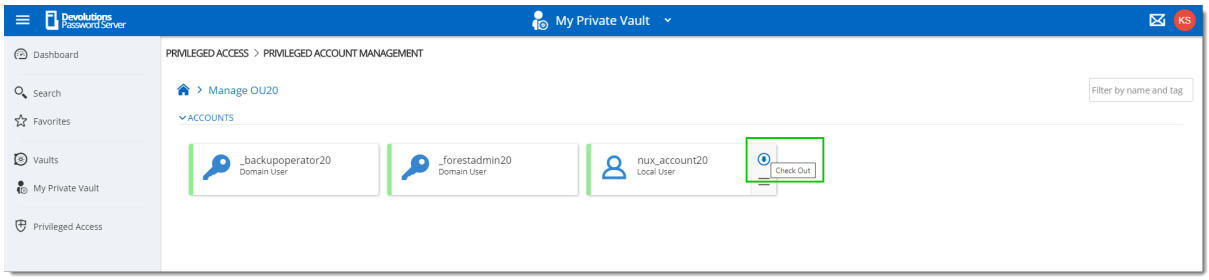
1. To check out an entry requiring approbation, the user needs to go to the Privileged Access section on the Devolutions Password Server's webpage.

2. The user then clicks on the Accounts panel.



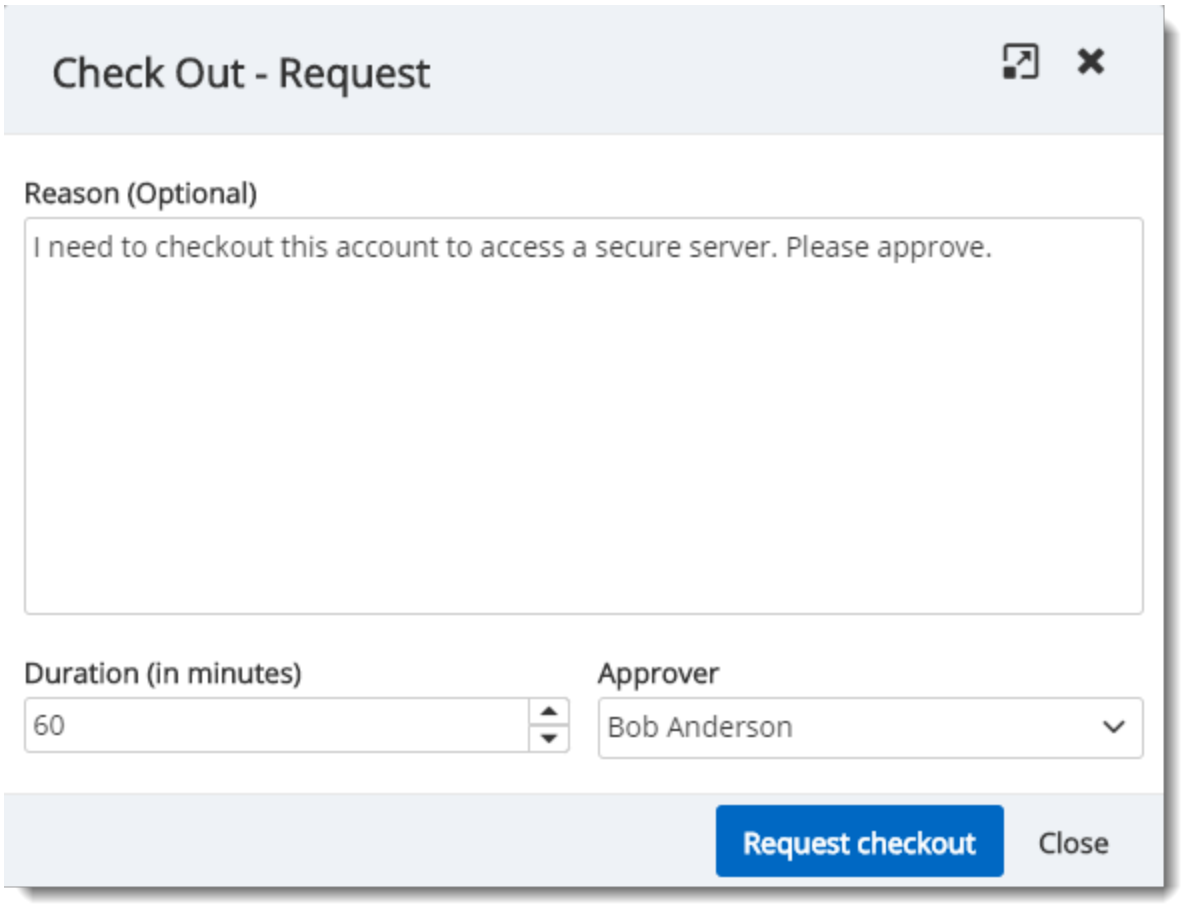
Privileged Access

The user then locates the account they want to Check Out for temporary use and clicks the ***Check Out*** button on the entry.



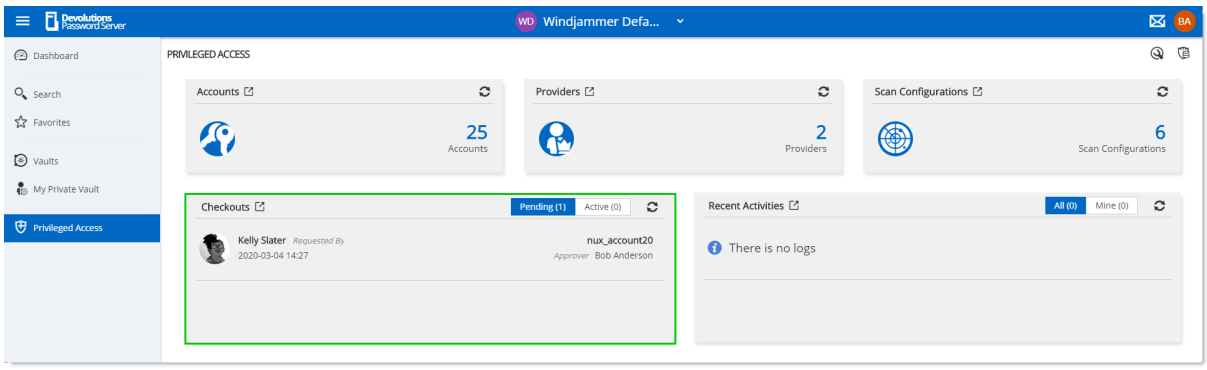
PAM Account Selection

A pop-up will appear requesting information on the checkout request to be sent to an administrator for approval.



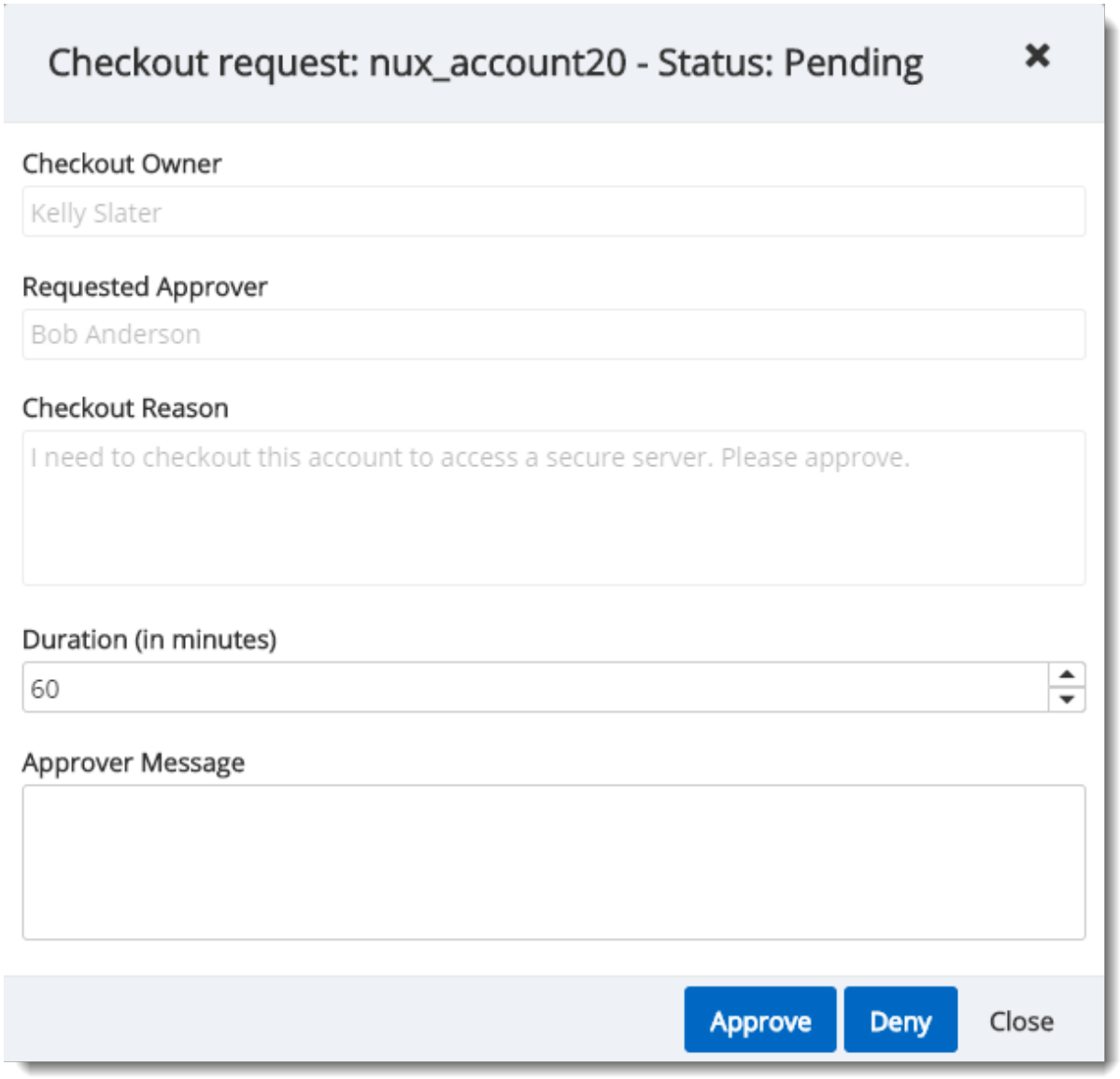
Checkout Request

Once the request is sent, the selected Approver will have the request in the "Checkout" field of his ***Privileged Access*** window.



Checkout Request

The approver gets the following pop-up when clicking on the request where it's possible to either ***Approve*** or ***Deny*** the request and leave an optional message.



Approve/Deny Window

If the request is denied, the user will see that their request on the account is no longer pending and was denied in the recent activity field of the main ***Privileged Access*** page. If approved, they will be able to access the account by clicking on the same button they used to submit the request. They'll now get this ***Active Checkout*** window instead of the request one :

Checkout Active

Once done with the account, they can use the ***CheckIn*** button on the last window to release their hold on the checkout.

Privileged accounts' passwords are automatically changed on check-in if the corresponding option is enabled.

6.6 View Sensitive Data vs Account Brokering

DESCRIPTION

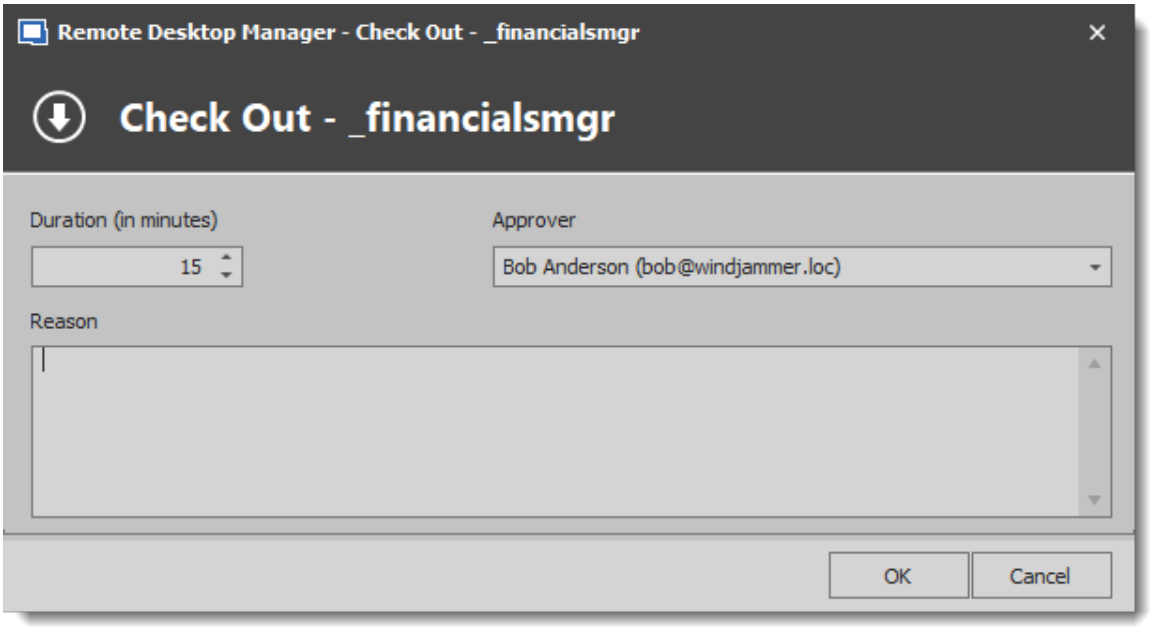
It is important to learn the differences between the 2 sets of permissions known as ***View sensitive data on checkout*** and ***Credential Brokering***. In this topic, you will find an explanation of the way they're used.

Giving access to ***View Sensitive Data on Checkout*** to a user will let that user see the password when the entry is checked out.

With Access

Without access

Credential Brokering lets a user check out credentials for a session from Remote Desktop Manager directly on the entry itself. When opening the session that requires a privileged account, a pop-up can appear with the ***checkout request*** window if the entry requires approval. Following the approval, the user will be able to launch the session successfully. Otherwise, the entry will be used seamlessly to open the session.



Credential Brokering Checkout Request

Devolutions Web Login

Part VII

7 Devolutions Web Login

7.1 Overview

Devolutions Web Login is a web browser password plugin used in conjunction with Remote Desktop Manager, Devolutions Password Server and Devolutions Password Hub, which allows users to securely inject passwords into websites using credentials stored in their vaults.

It gives system administrators full control over the management of passwords, without affecting the user's productivity.

		
Remote Desktop Manager Centralize, Manage and Secure Remote Connections	**Devolutions Password Server** Secure, Manage and Monitor Access to Privileged Accounts	**Devolutions Password Hub** Vault and Manage Business-User Passwords
Remote Desktop Manager centralizes all remote connections on a single platform that is securely shared between users and across the entire team.	Devolutions Password Server lets you control access to privileged accounts and manage remote sessions through a secure solution that can be deployed on-premises.	Devolutions Password Hub is a secure and cloud-based password manager for teams

Advanced users, other browser extensions, or even JavaScript injection can all result in the password being read from the password edit control, even if it displays dots instead of the password. Any use of an external browser must be carefully weighed against your security requirements.

Warning for all Remote Desktop Manager users:

Devolutions Web Login was created for a normal desktop environment. It uses inter process communication (IPC) with the client application. Using it on a terminal server introduces a level of risk that may be unacceptable for corporate users.

To use it in a safe manner, it is critical that each user is assigned a distinct port and that port be kept secret. An application passcode must be set as well to secure the port. The first client application that starts will be able to use the port exclusively. All **Devolutions Web Login** calling on that port **will get the responses**, unless an application passcode is required.

7.2 Installation

Devolutions Web Login is a free browser extension companion tools. It does require one of our products to function at this time.

Click on the browser link below to start the installation of Devolutions Web Login plugin:

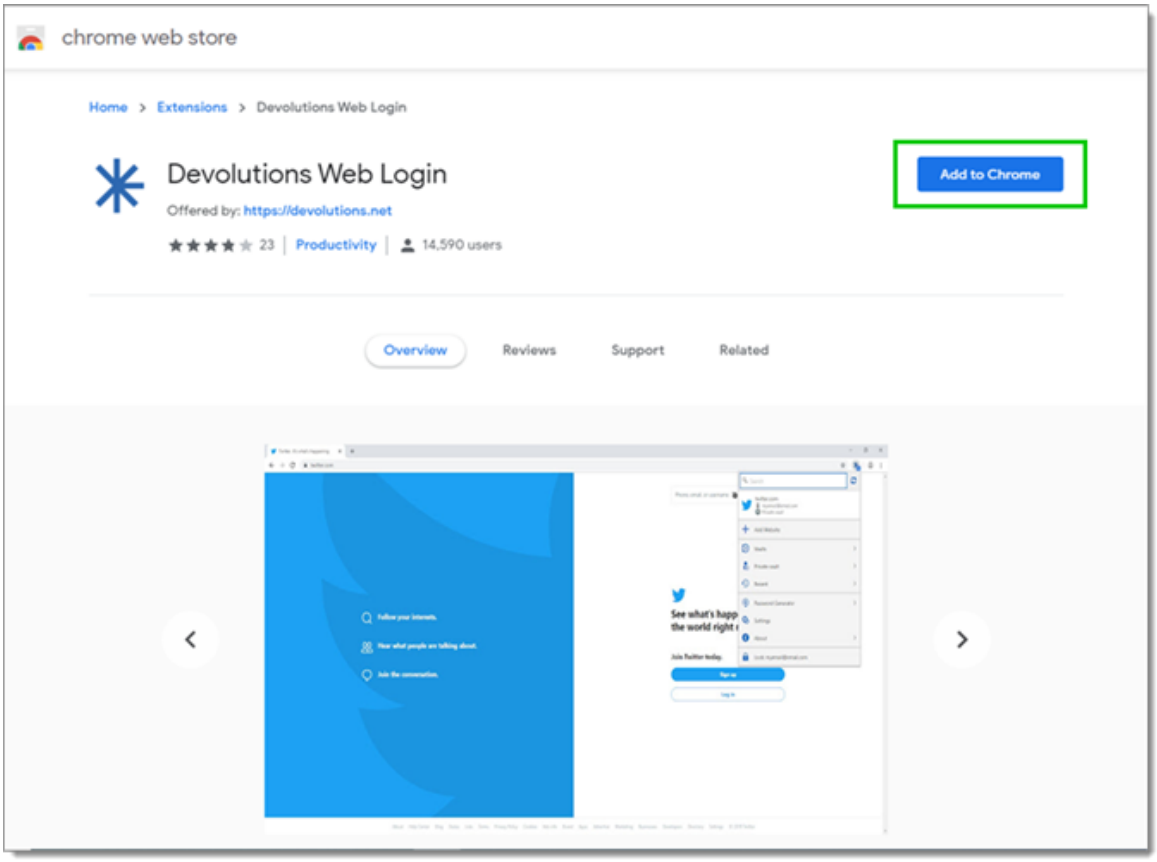
- Chrome
- Firefox
- Microsoft Edge
- Opera

7.2.1 Chrome

Follow the steps below to complete the installation of Devolutions Web Login in the Google Chrome web browser.

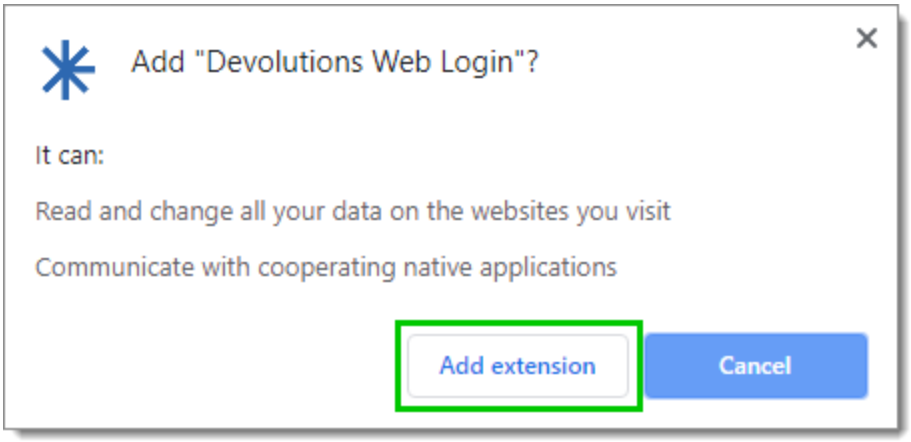
1. Open Google Chrome.
2. Navigate to Devolutions Web Login extension or use the link from our Website

3. Click the ***Add To Chrome*** button.



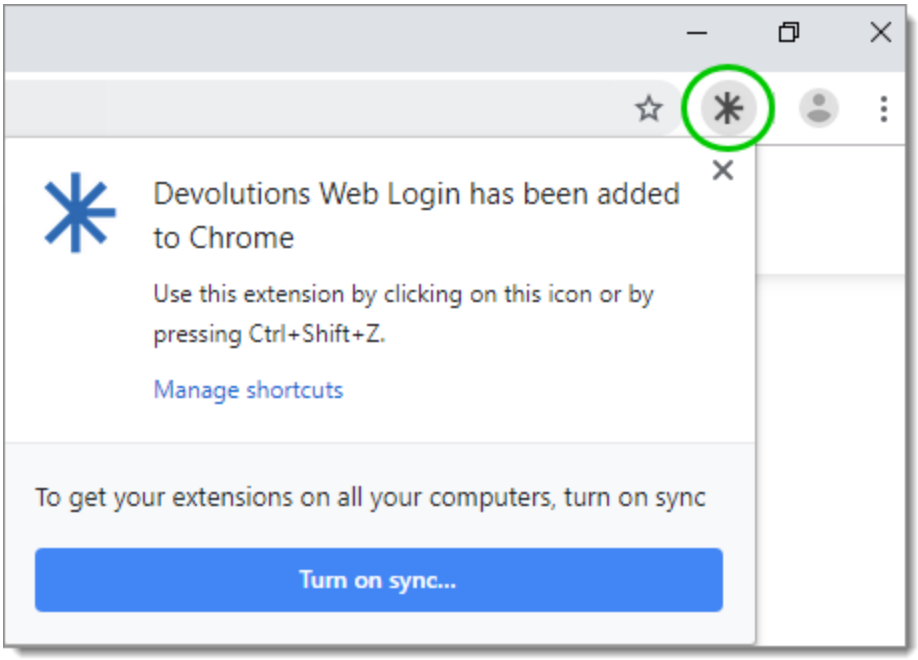
Devolutions Web Login Chrome Web Store

4. Click ***Add extension*** in the confirmation dialog.



Extension Installation Confirmation

Once installed, access the extension by clicking ✳ in the top-right corner of the Google Chrome web browser.

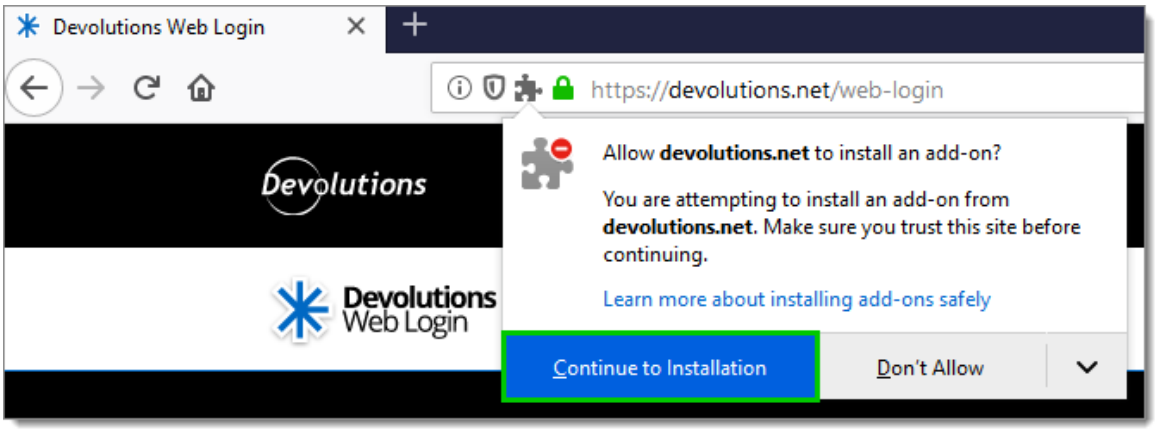


Devolutions Web Login Extension Button

7.2.2 Firefox

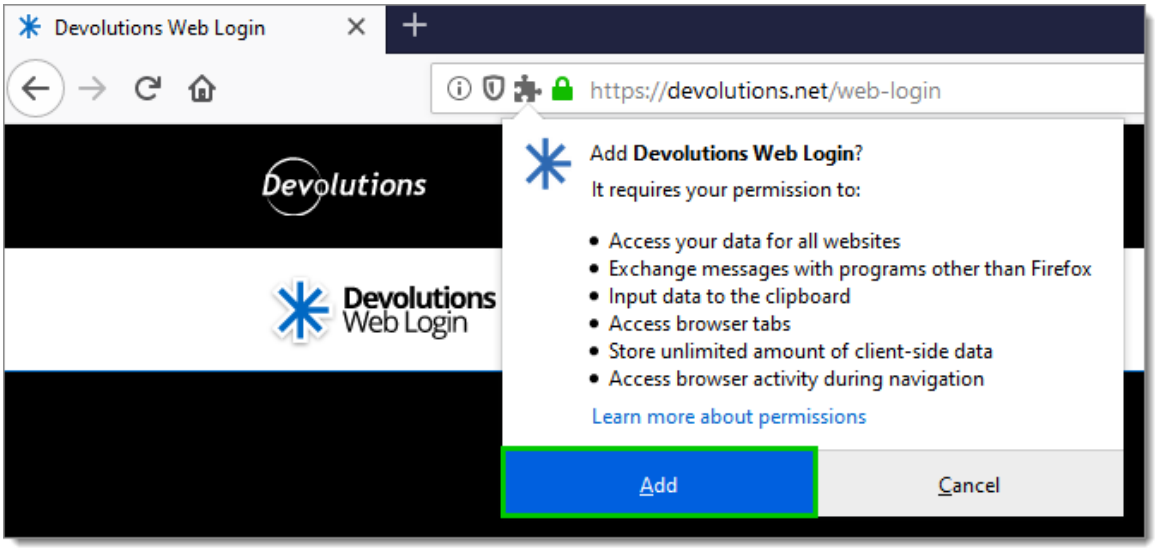
Follow the steps below to complete the installation of Devolutions Web Login in the Firefox web browser.

1. Open a Firefox window.
2. Download the extension from our Devolutions Web Login website page.
3. Click ***Continue to Installation*** in the confirmation dialog.



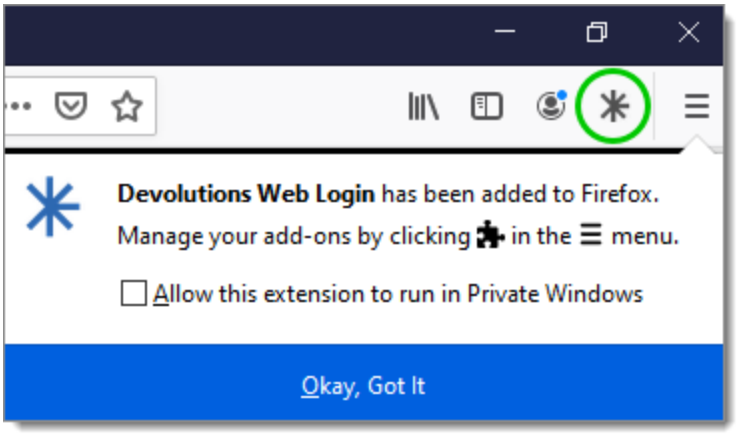
Continue to Installation

4. Click ***Add***, when prompted to add Devolutions Web Login to the extension.



Add the Extension

5. Once installed, access the extension by clicking ✱ in the top-right corner of Firefox.

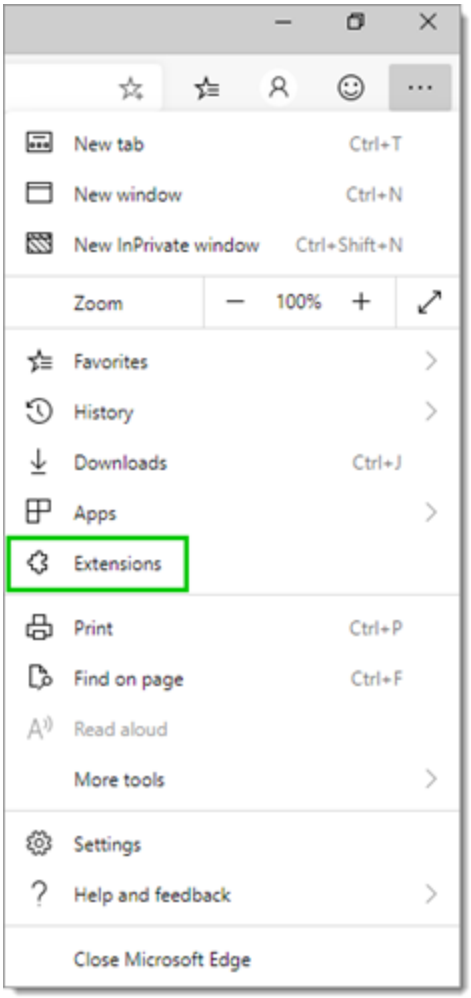


Devolutions Web Login Extension Button

7.2.3 Microsoft Edge Beta

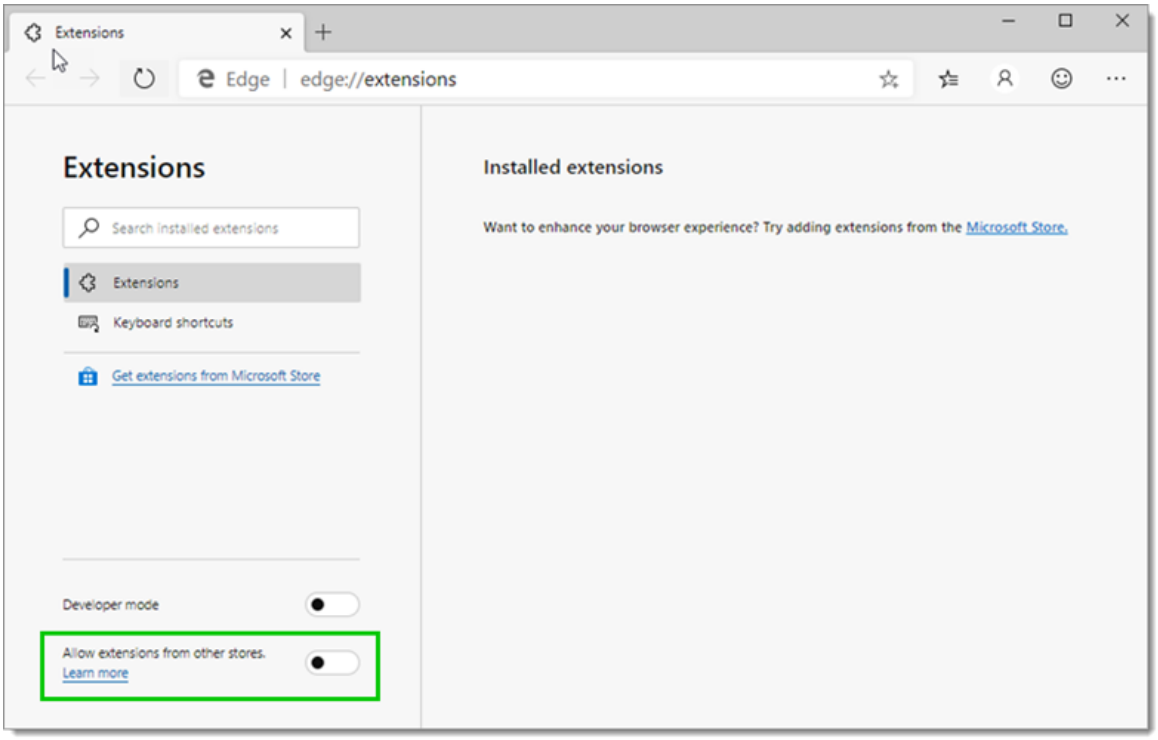
Here are the steps to install Devolutions Web Login on Microsoft Edge Beta.

1. Open Microsoft Edge Beta.
2. Click on ***Extensions*** in the menu of the browser.



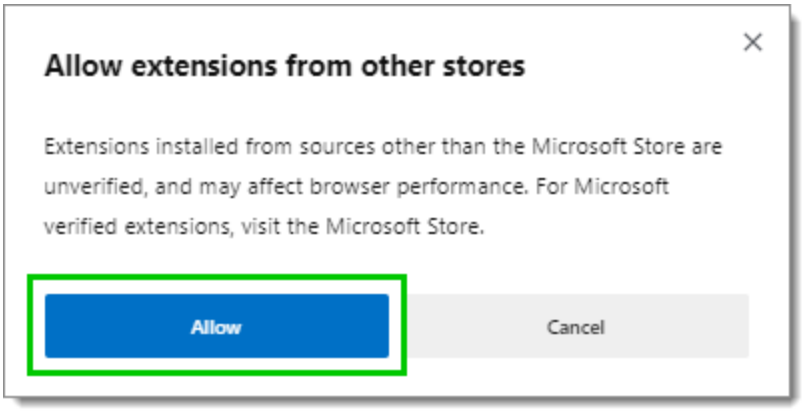
Microsoft Edge Beta Menu

3. Allow extensions from other stores.



Allow Extensions

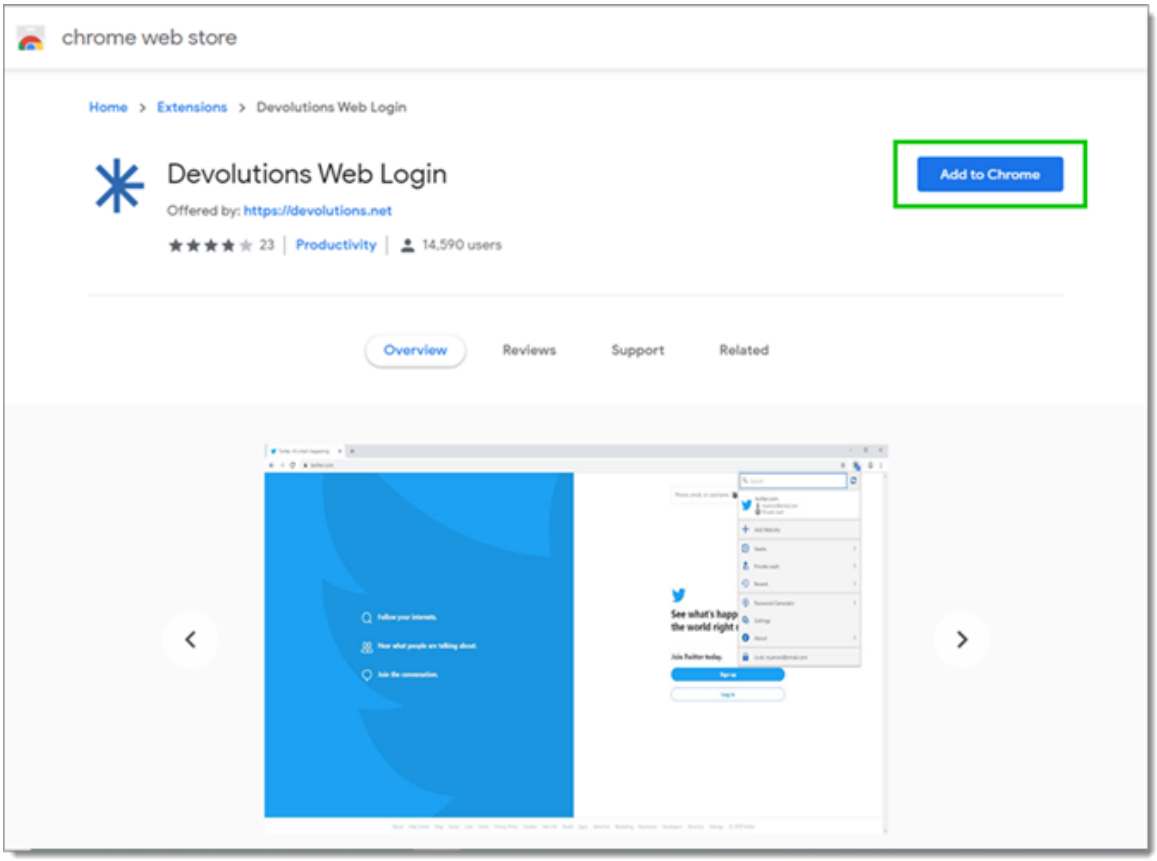
4. Allow Non Microsoft Store Extensions.



Allow Non Microsoft Store Extensions

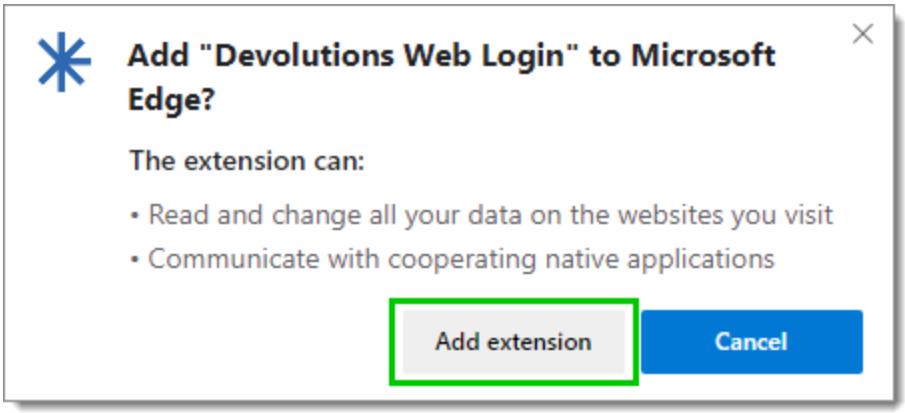
5. Follow the extension from Devolutions Web Login website page to the Chrome Web Store.

6. Click ***Add to Chrome***.



Chrome Web Store

7. Add the extension to Microsoft Edge Beta.



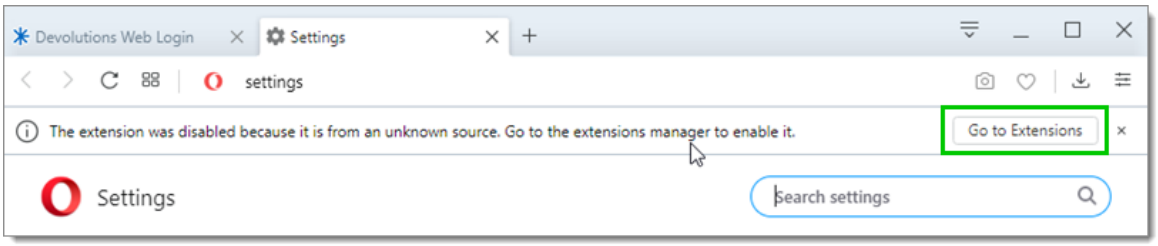
Add Devolutions Web Login to Microsoft Edge Beta

The extension is installed. Access it by clicking ✳ in the top-right corner of the Microsoft Edge Beta web browser.

7.2.4 Opera

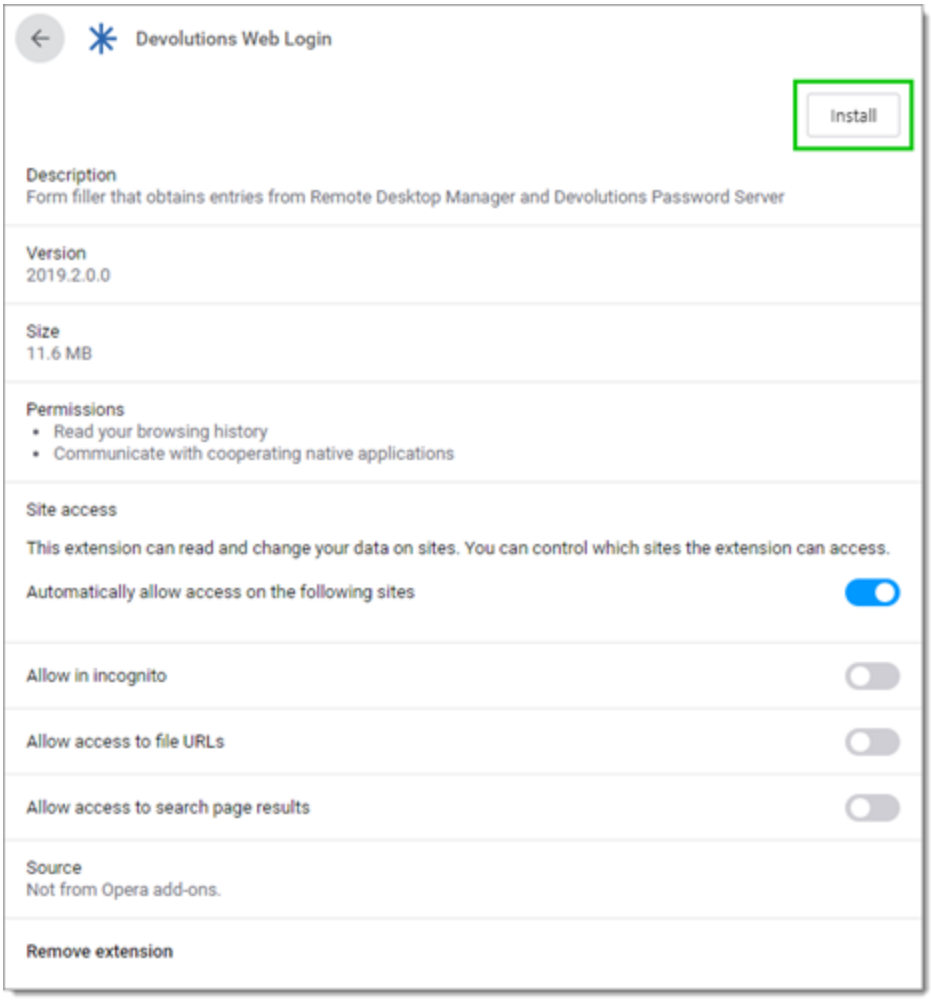
Follow the steps below to complete the installation of Devolutions Web Login in the Opera web browser.

1. Open Opera.
2. Download the extension of Devolutions Web Login from our website page.
3. Go to ***Browser Settings*** in the easy setup of Opera.
4. Drag and drop the .nex file from step 2 from the downloads in the web browser.
5. Click on ***Go to Extension*** from the information panel at the top.



Opera Extensions Enabling

6. Click ***Install*** and the ***Yes, install*** pop up.



Opera Install Window

7. Access the extension by clicking ✳ in the top-right corner of Opera.

7.3 First Login

7.3.1 Password Hub

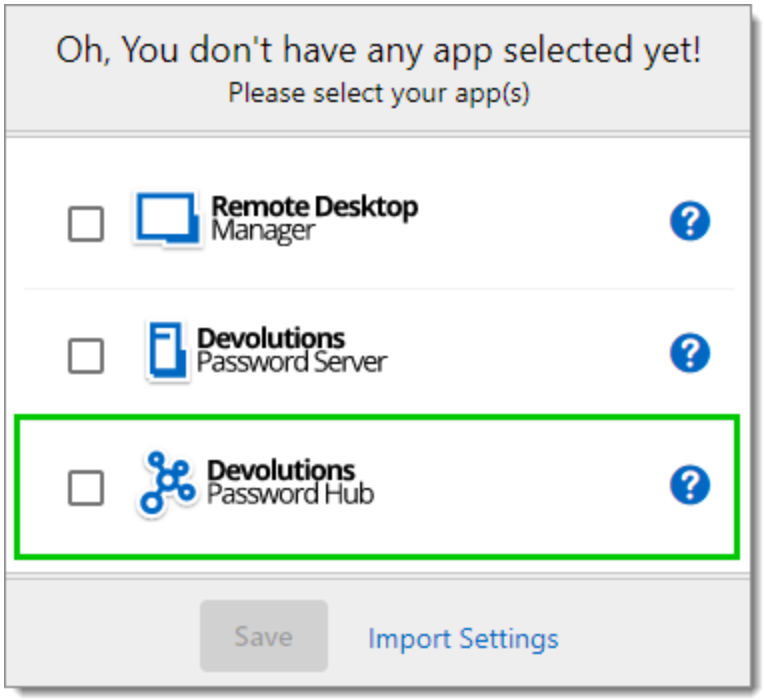
FIRST LOGIN WITH DEVOLUTIONS WEB LOGIN

Follow these steps to connect Devolutions Password Hub to Devolutions Web Login extension:

1. Click on ***Devolutions Web Login*** ✳ extension at the top right corner of your browser.

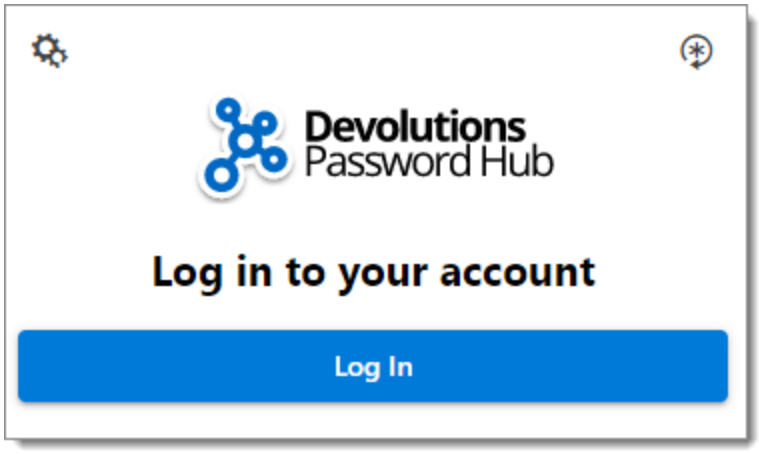
A Devolutions Password Hub access is required to continue.

2. Choose ***Devolutions Password Hub*** in the list and ***Save***. You could at this point import settings; the option will also be available in the **Settings** menu after the log in.



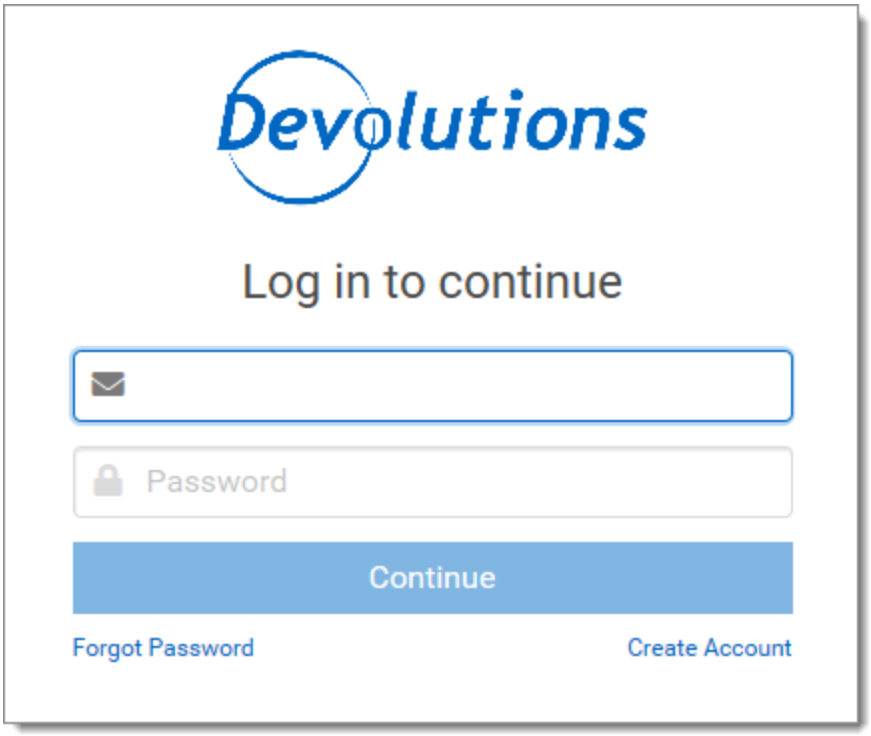
First Login

3. ***Log in*** to your account.



Log In

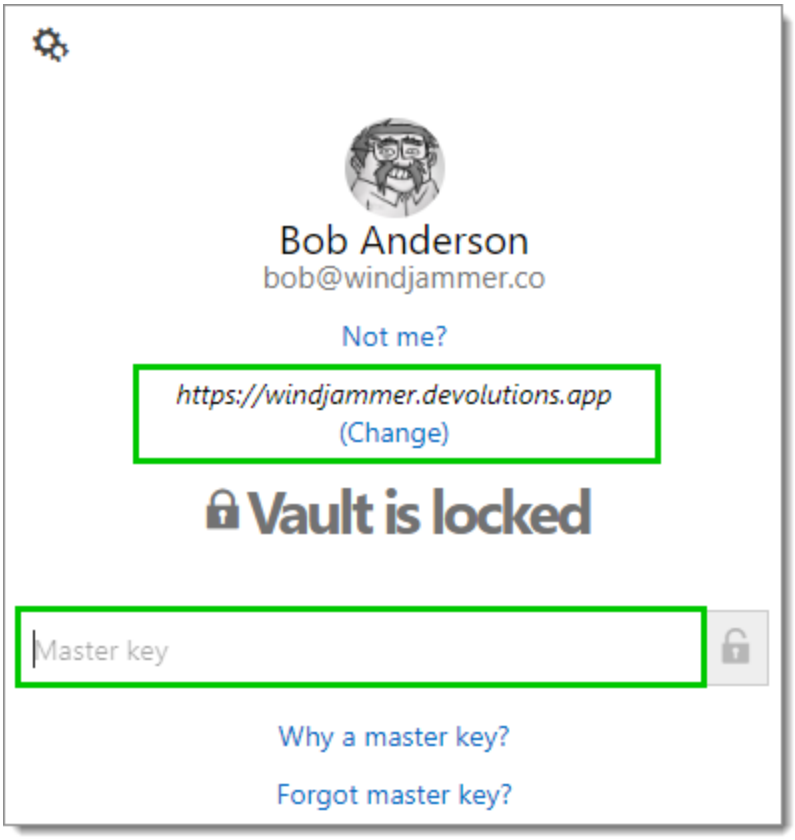
4. Enter the credentials from your Devolutions Account to continue.



Devolutions Account Login

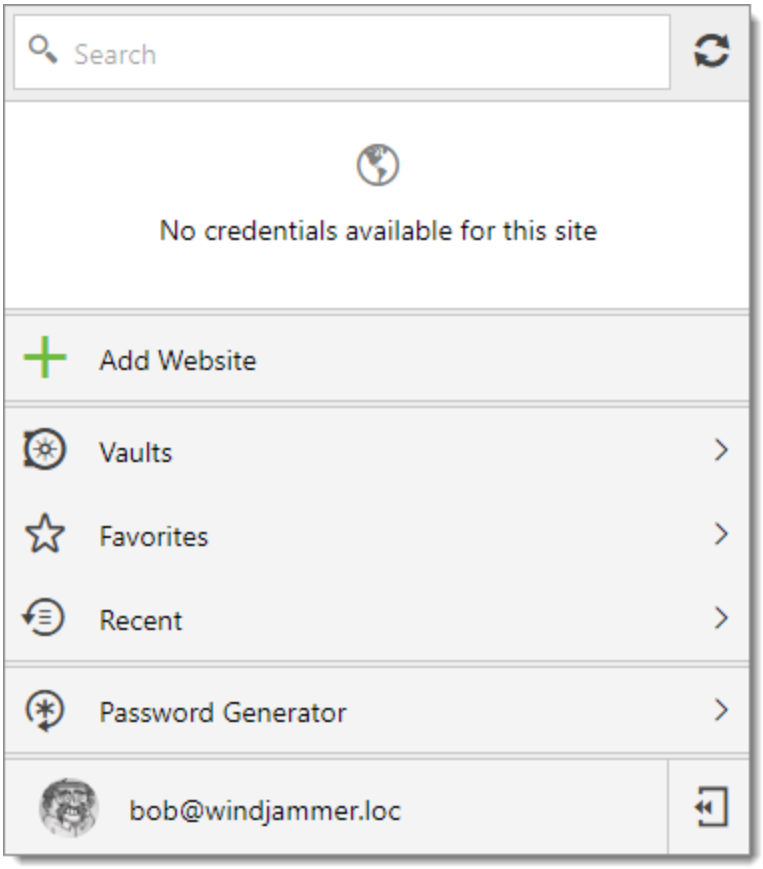
5. Unlock the vault with your master key.

Devolutions Web Login will recognize automatically the Password Hub linked to your Devolutions account. Click ***Change*** to modify the URL.



Password Hub Master key

Devolutions Web Login is now connected to your vaults.



Devolutions Web Login Connected to Devolutions Password Hub

7.3.1.1 Multiple Password Hub

DESCRIPTION

MANAGING MULTIPLE PASSWORD HUB WITH DEVOLUTIONS WEB LOGIN

Devolutions Web Login will automatically acknowledge all Password Hub linked to your Devolutions account.

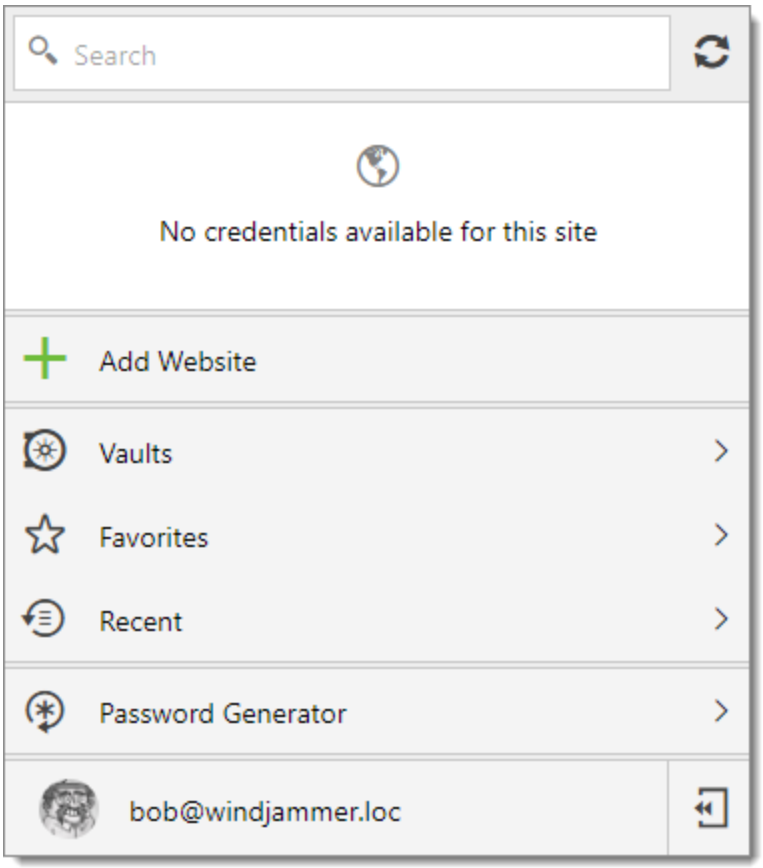
- View active Password Hub
- Switch Password Hub in Devolutions Web Login

Devolutions Web Login will only recognize and apply credentials from the **active** Password Hub.

VIEW ACTIVE PASSWORD HUB

To view/validate the active Password Hub, click on the ***Devolutions Web Login*** extension at the top right corner of your browser.

1. Click on your avatar at the bottom of the window.

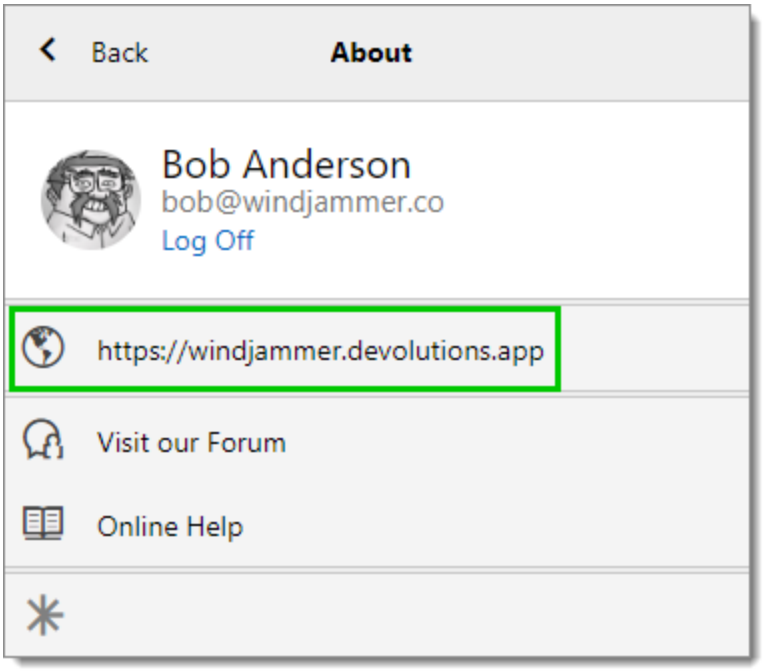


Devolutions Web Login

2. Click ***About***.

Devolutions Web Login About

3. Validate the Password Hub URL.

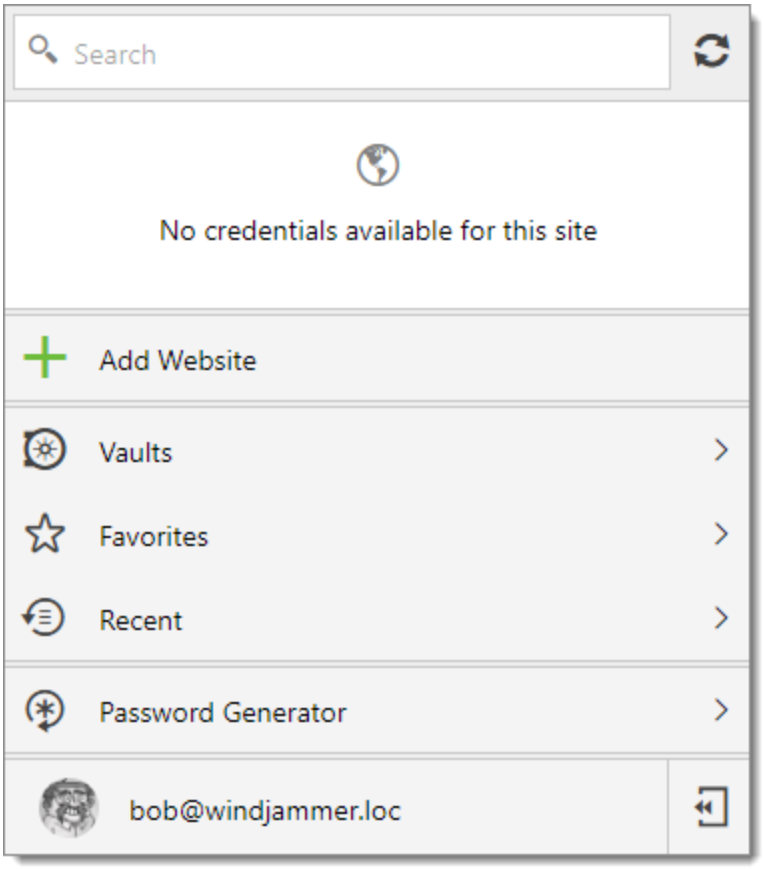


Password Hub URL

SWITCH PASSWORD HUB IN DEVOLUTIONS WEB LOGIN

To switch Password Hub in Devolutions Web Login, click on the ***Devolutions Web Login*** ✳ extension at the top right corner of your browser.

1. Click on your avatar at the bottom of the window.

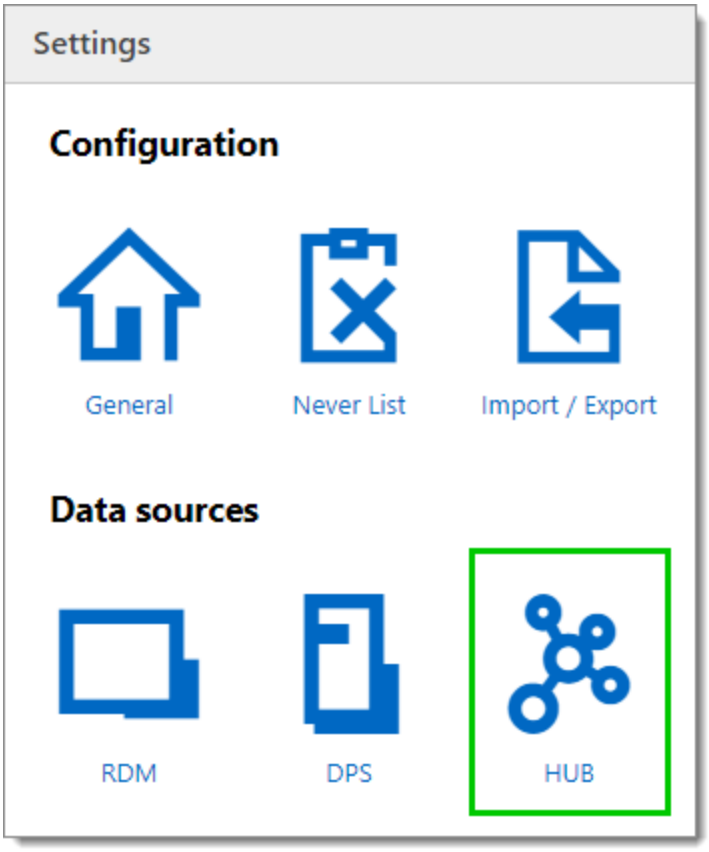


Devolutions Web Login

2. Click ***Settings***.

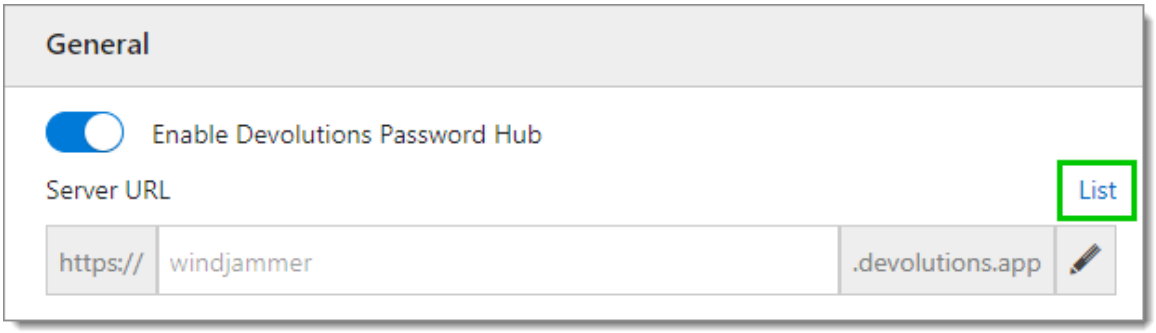
Devolutions Web Login Settings

3. Click ***HUB***.



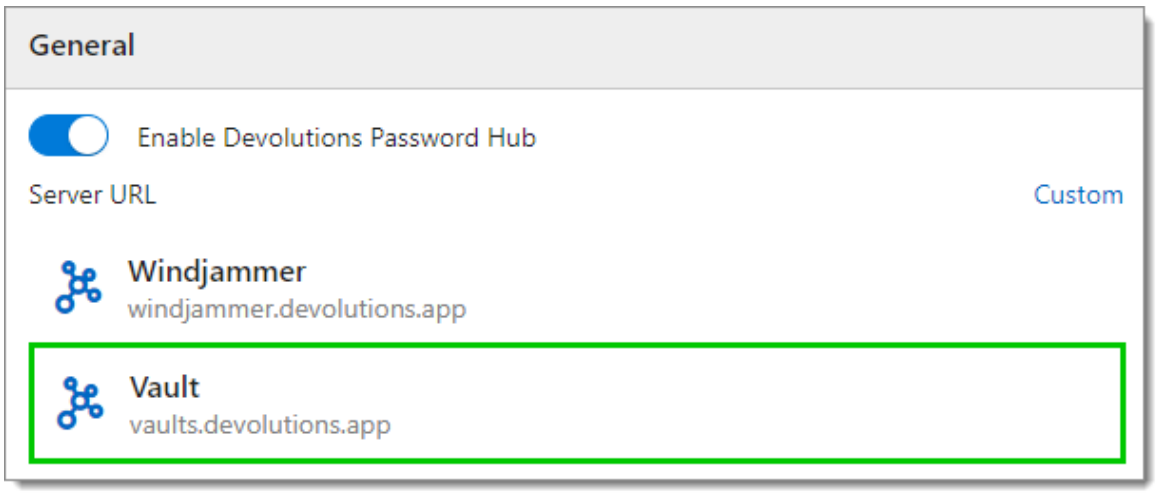
Devolutions Web Login Settings Menu

4. In the ***General*** section, click ***List***.



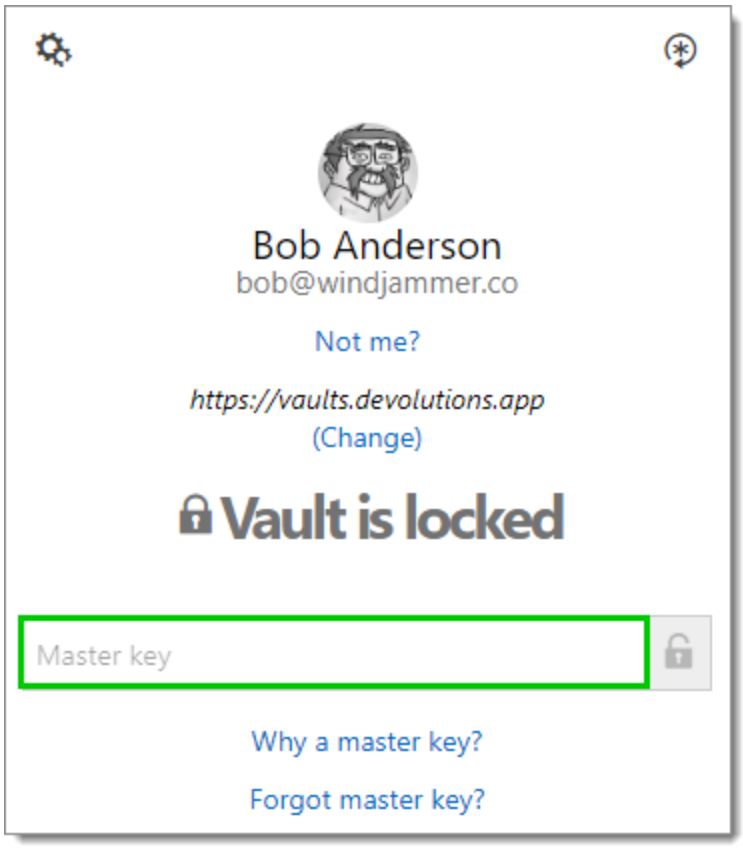
Devolutions Web Login General Settings

5. All the available Password Hub linked to your Devolutions account will show in the list. Switch by clicking once on the desired Password Hub.



Password Hub List

6. Click on the ***Devolutions Web Login*** extension at the top right corner of your browser and enter the Master key associated with this Password Hub.



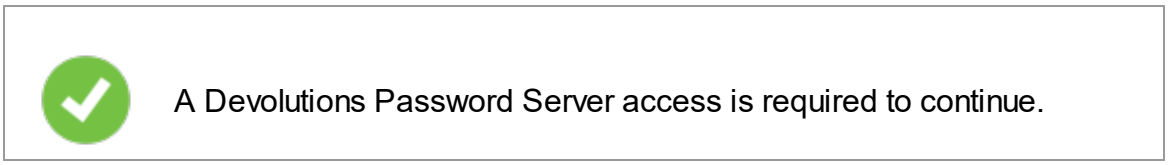
Password Hub Switch Master key

7.3.2 Password Server

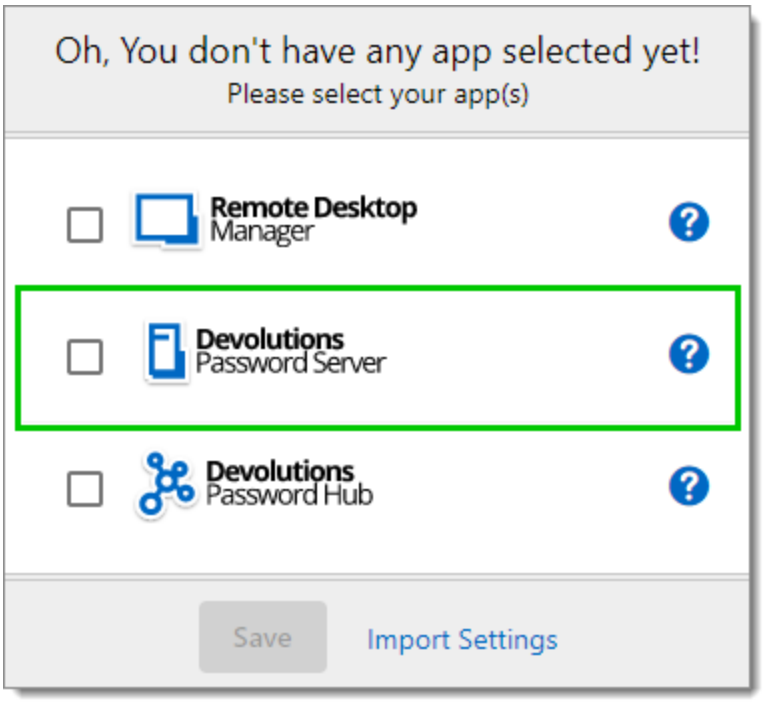
FIRST LOGIN WITH DEVOLUTIONS WEB LOGIN

Follow these steps to connect Devolutions Password Server to Devolutions Web Login extension:

1. Click on ***Devolutions Web Login*** ✳ extension at the top right corner of your browser.



2. Choose ***Devolutions Password Server*** in the list and ***Save***. You could at this point import settings; the option will also be available in the **Settings** menu after the log in.

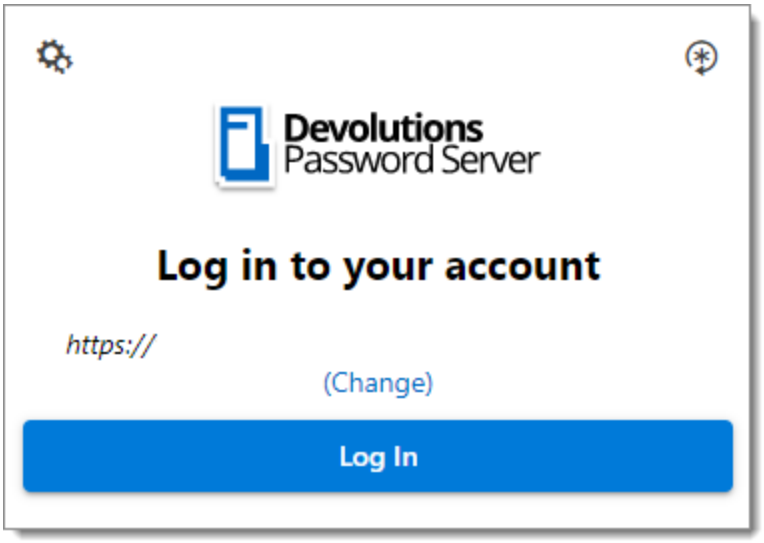


First Login

3. Enter the server address. Test the connection to validate it, then ***Save***.

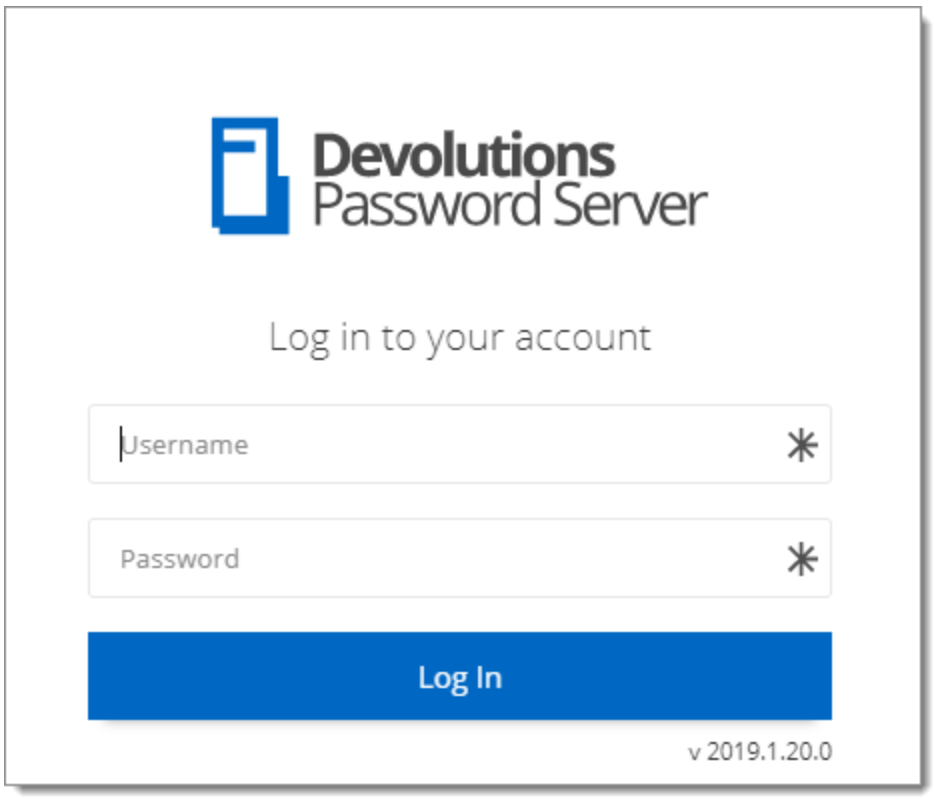
Server Address

4. Press the ***Log In*** after you saved the address.



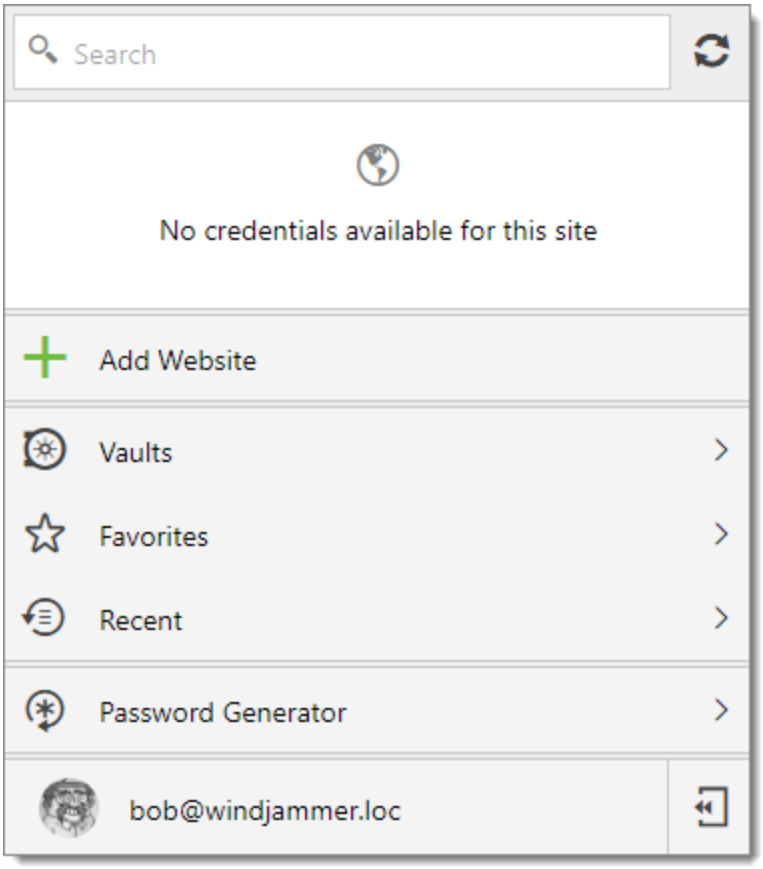
Devolutions Web Login Login

5. Enter your Devolutions Password Server credentials and log in.



Devolutions Password Server Login

Devolutions Web Login is now connected to your vaults.



Devolutions Web Login Connected

7.3.3 Remote Desktop Manager

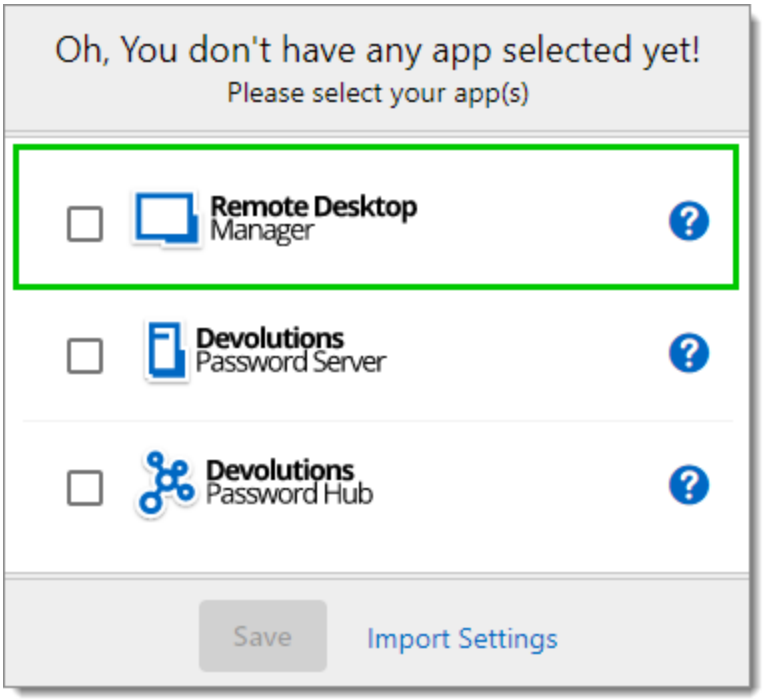
FIRST LOGIN WITH DEVOLUTIONS WEB LOGIN

Follow these steps to connect your Remote Desktop Manager to Devolutions Web Login extension:

1. Click on Devolutions Web Login ✳ extension at the top right corner of your browser.

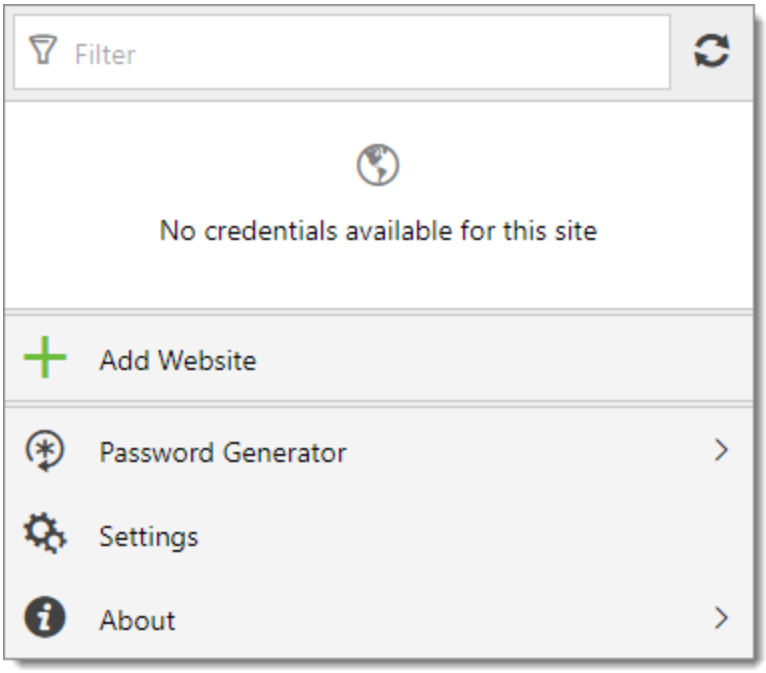
> Remote Desktop Manager must be installed and running to continue.

2. Choose ***Remote Desktop Manager*** in the list and ***Save***. You could at this point import settings; the option will also be available in the **Settings** menu after the log in.



First Login

You will be automatically connected to your vaults.



Devolutions Web Login Connected

7.4 Exploring Devolutions Web Login

7.4.1 Menu

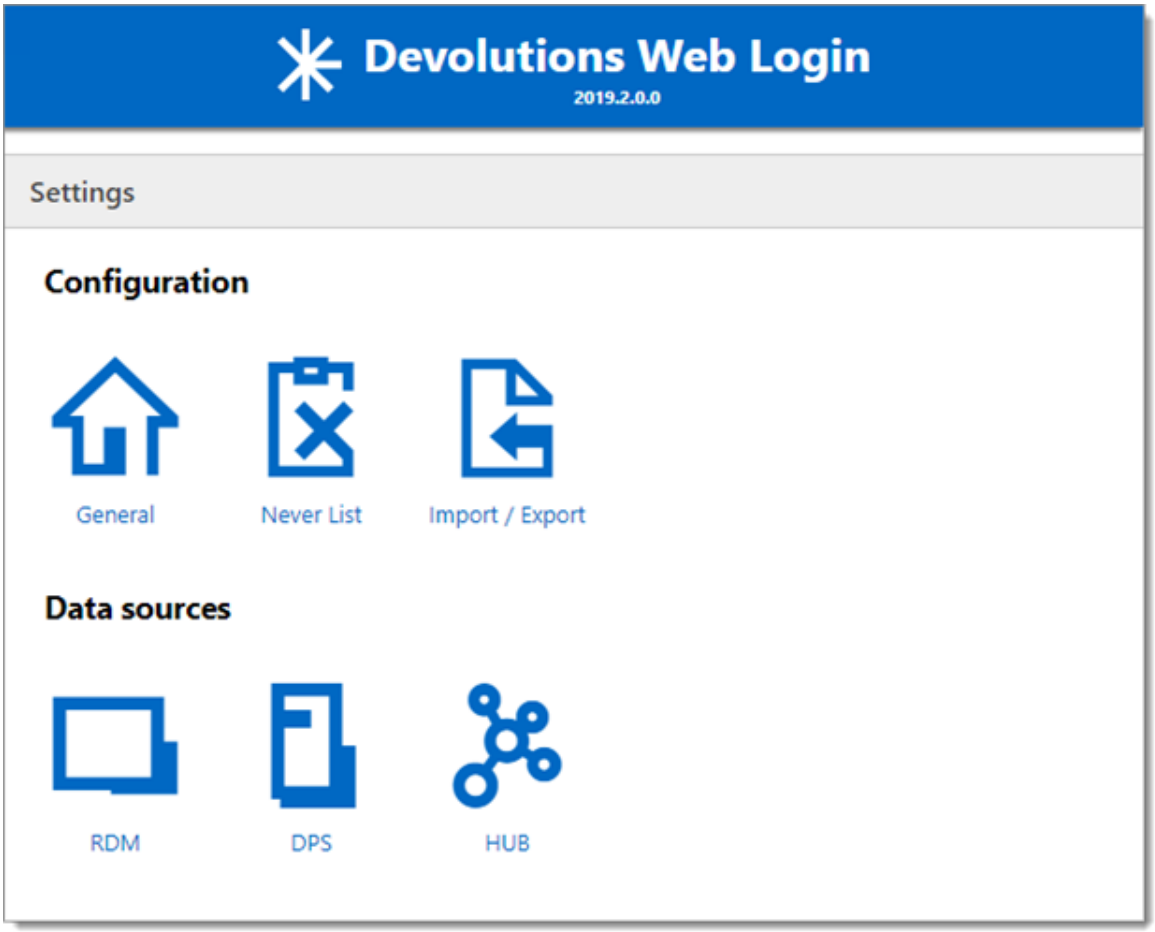
The user interface **Devolutions Web Login** is slightly different in appearance when connected to Remote Desktop Manager, Devolutions Password Server or Devolutions Password Hub.

See below a list of the menu and information available from the Devolutions Web Login extension:

- Refine the credential list available with the **search**.
- **Add a website** from Devolutions Web Login in a specific folder located in a vault or your private vault.
- **Visualize the credential** stored in the vaults if you are connected with Devolutions Password Server or Devolutions Password Hub.
- Browse **recently used entry** or **favorites**.
- Use the **password generator** to create custom and more secure credentials.
- Set Devolutions Web Login **settings**.

7.4.1.1 Settings

Devolutions Web Login settings are separated in two categories, **Configuration** and **Data sources**.



Devolutions Web Login Settings

CONFIGURATION

The ***General*** settings are about the user interface and interaction.

- Show Devolutions Web Login extension icon in the credentials fields.
- Show the prompt when saving credentials on new login.
- Color the fields that are filled with Devolutions Web Login
- Disable the analytics in the advanced setting.

The ***Never list*** displays the list of websites, added locally, to which the user will never be prompted to save credentials.

- Type can range from: Never add site, Never autofill, Never do anything too Never show icons in field.
- Matching options are: Base domains, Host, Starts with, RegEx and Exact.

To remove a website from the never list click the ***trash can*** icon next to it. To edit an entry, delete it and create another.

The ***Import / Export*** setting allows to save and transfer your currently set preferred settings.

- Import setting from other browsers or users.
- Choose to export Devolutions Web Login settings, password generator template and the never list.

DATA SOURCES

The data sources settings are used to customize Devolutions Web Login interactions with Remote Desktop Manager, Devolutions Password Server and Devolutions Password Hub.

REMOTE DESKTOP MANAGER

GENERAL OPTIONS	DESCRIPTION
Enable Remote Desktop Manager app	Retrieve entries from Remote Desktop Manager when the application is open.
Use default port (19443)	Communicate with the default port 19443 between the application.
Add entry in private vault by default	Save new entries in the private vault.
Destination folder	Choose the folder where the credentials are stored in the vault.

ACTION OPTIONS	DESCRIPTION
Automatically retrieve credentials on page load	Devolutions Web Login automatically search for credentials in the data source when connecting to a website. If disabled, click on the Devolutions Web Login extension icon to manually retrieve credentials.
Automatically fill in credentials on load	Fill automatically the credentials when loading a web page.
Automatically submit the form after filling	Submit the credentials automatically when the fields are filled.

ADVANCED OPTIONS	DESCRIPTION
Application key	Secure the port with an application key by using the same code in Remote Desktop Manager and Devolutions Web Login. Navigate to ***File – Options – Browser Extensions*** in Remote Desktop Manager to set the application key.
Enable native messaging	Exchange messages with a native application installed on the user's computer.
Use legacy API	Use the old browser extension API for compatibility with older versions of Remote Desktop Manager.

DEVOLUTIONS PASSWORD SERVER

GENERAL OPTIONS	DESCRIPTION
Enable Devolutions Password Server	Retrieve entries from Devolutions Password Server.
Destination folder	Choose the folder where the credentials are stored in the vault.
Server URL	Enter the URL of the Devolutions Password Server instance to connect to.

ACTION OPTIONS	DESCRIPTION
Automatically retrieve credentials on page load	Devolutions Web Login automatically search for credentials in the data source when connecting to a website. If disabled, click on the Devolutions Web Login extension icon to manually retrieve credentials.
Automatically fill in credentials on load	Fill automatically the credentials when loading a web page.
Automatically submit the form after filling	Submit the credentials automatically when the fields are filled.

DEVOLUTIONS PASSWORD HUB

GENERAL OPTIONS	DESCRIPTION
Enable Devolutions Password Hub	Retrieve entries from Devolutions Password Hub.
Server URL	Enter the URL of the Devolutions Password Hub instance to connect to.

ACTION OPTIONS	DESCRIPTION
Automatically fill in credentials on load	Fill automatically the credentials when loading a web page.
Automatically submit the form after filling	Submit the credentials automatically when the fields are filled

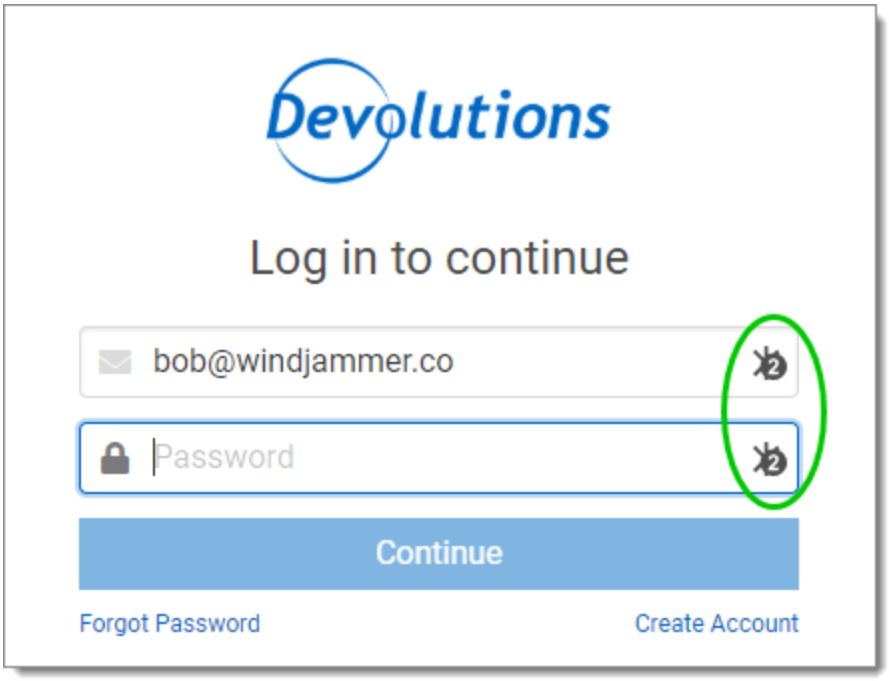
ADVANCED OPTIONS	DESCRIPTION
Devolutions Account login	Set your Devolutions Account login URL.
Show favicon	Display the Devolutions Web Login favicon.

7.4.2 Retrieve Credentials

Once configured in your Devolutions product, credentials are automatically detected by **Devolutions Web Login** when connected to their respective applications.

LOG IN TO A WEBSITE

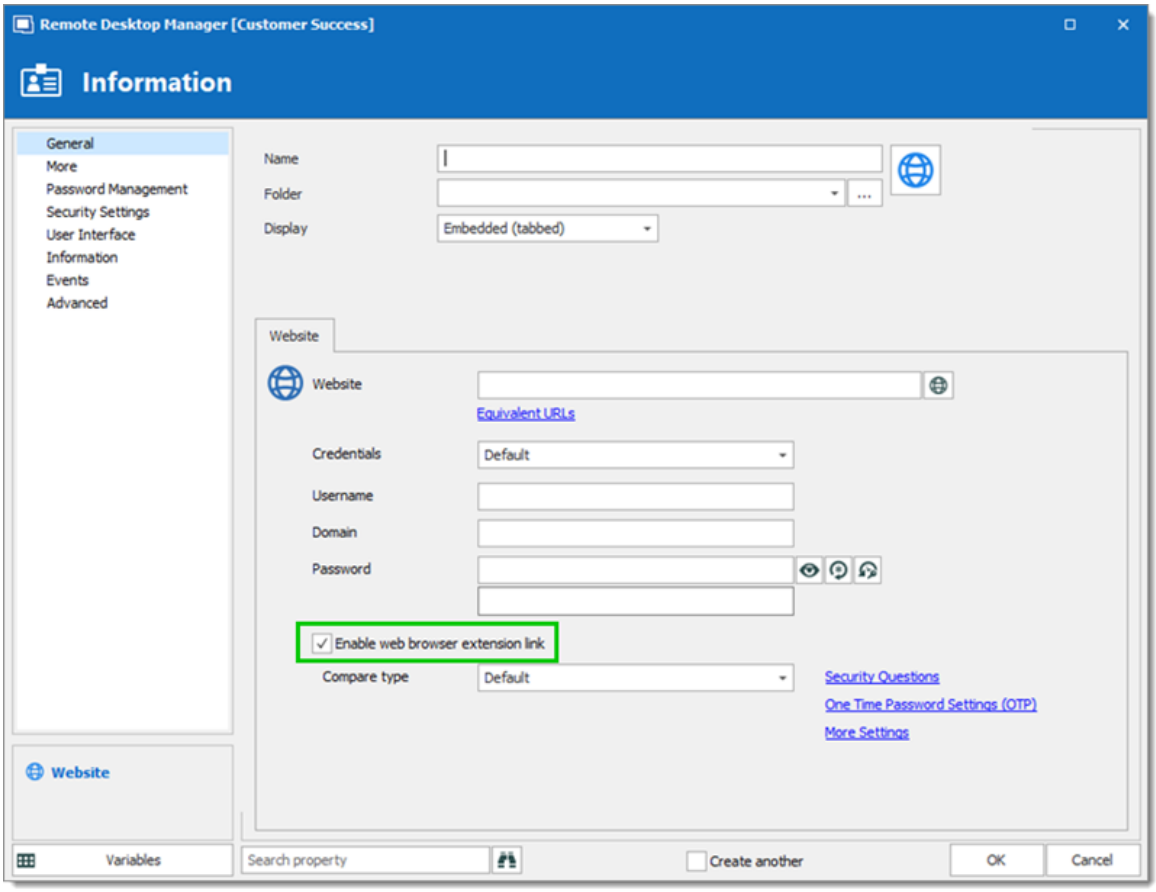
Select an entry from the list in Devolutions Web Login or click on the icon in the credential field to fill in the login information and connect to the website.



Automatic Log In

7.4.2.1 Remote Desktop Manager

Checkmark ***Enable web browser extension link*** in Remote Desktop Manager entries to allow Devolutions Web Login extension to retrieve the credentials when connecting to its respective website.



Enable web browser extension link

7.4.3 Secure Devolutions Web Login

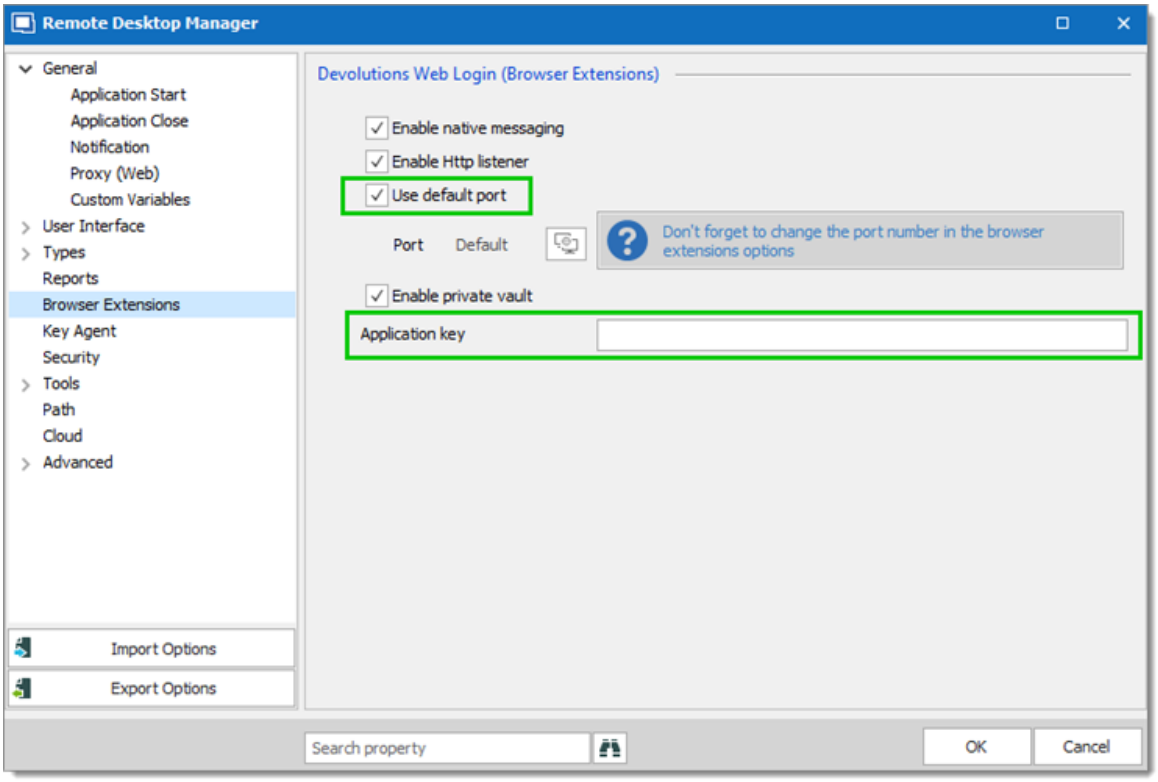
As mentioned in the Devolutions Web Login Overview topic, installing the extension in a Terminal Services environment can introduce security risks. In such environments, each user must have a distinct port assigned, as well as an application key to prevent any other Devolutions Web Login from listening in.

The application key is displayed in clear text, it must be kept secret by the user.

To enable the security layer in Remote Desktop Manager, follow these steps:

1. Navigate to ***File – Options – Browser Extensions***.
2. Uncheck ***Use default port***.
3. Enter a custom port.

4. Type an **Application key** then click ***OK***



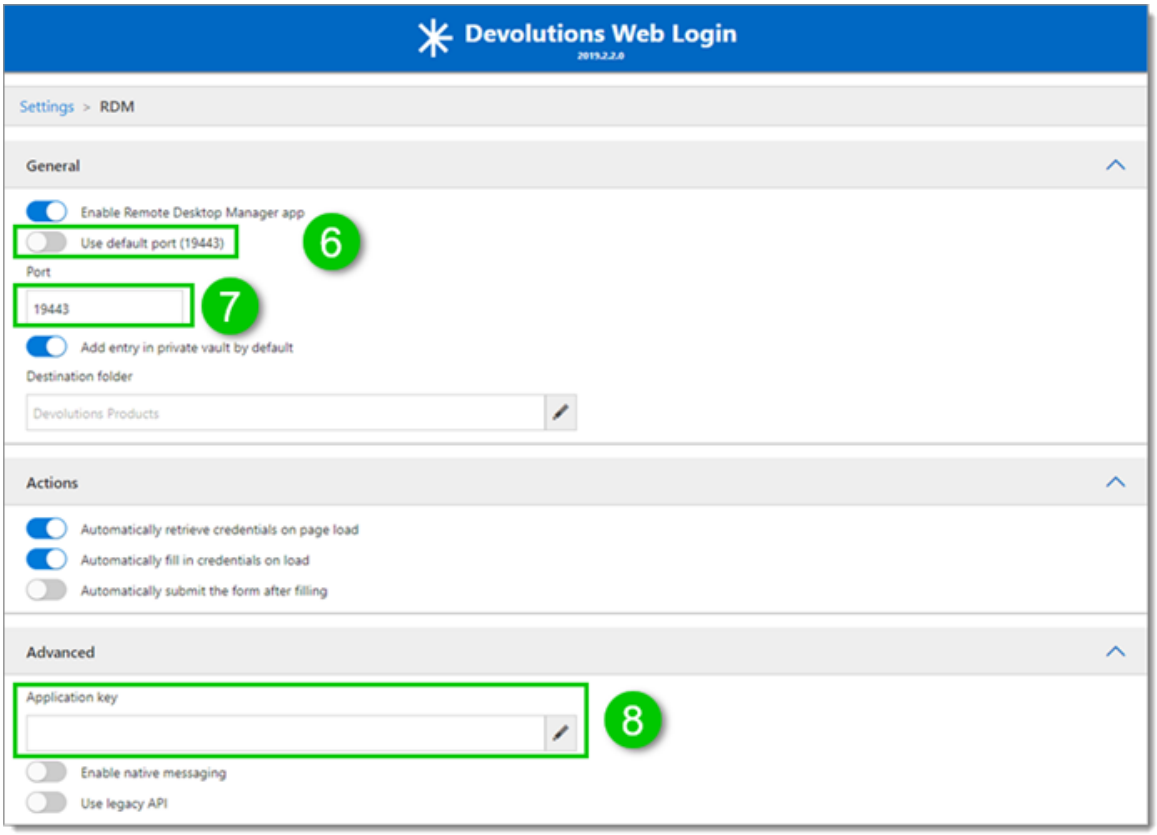
Remote Desktop Manager Browser Extensions Options

5. In your browser, click the Devolutions Web Login icon ✳ and go to Remote Desktop Manager Settings.

6. Disable ***Use default port***.

7. Enter the custom port created earlier in Remote Desktop Manager.

8. Enter the same **Application key** as Remote Desktop Manager .



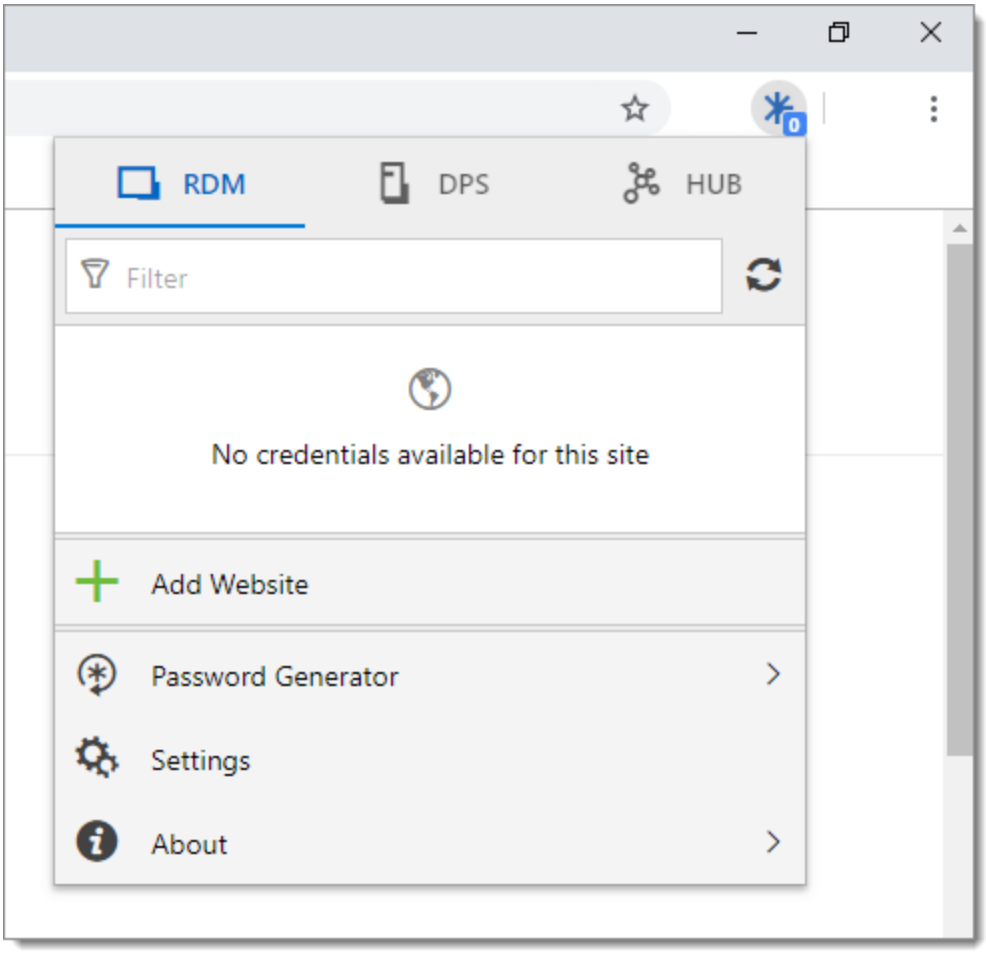
Devolutions Web Login Settings for Remote Desktop Manager

7.4.4 Keyboard Shortcuts

Here is the list of keyboard shortcuts available for Devolutions Web Login:

CTRL+SHIFT+Z

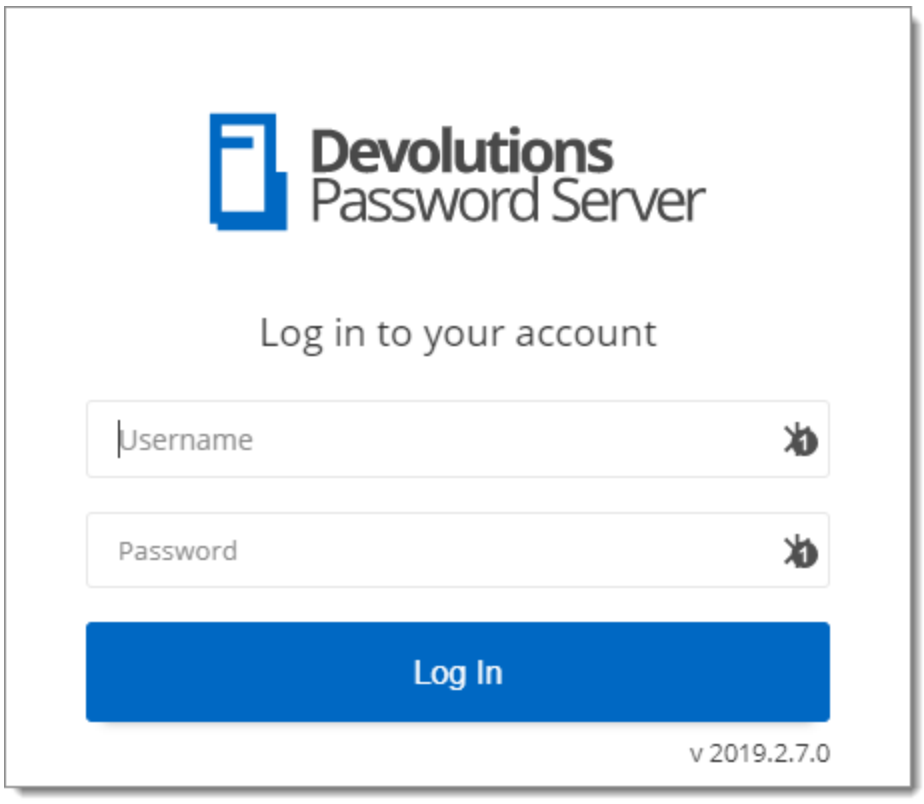
Use this key shortcut to open Devolutions Web Login window in your active browser.



Devolutions Web Login in Chrome

CTRL+SHIFT+Y

Use it to auto-fill your credential when only one is available for an entry.



One Credential Login with Devolutions Web Login

Devolutions Launcher

Part VIII

8 Devolutions Launcher

8.1 Overview

Devolutions Launcher is a companion tool for Devolutions Password Server and Devolutions Password Hub. It can launch multiple remote sessions simultaneously, while giving system administrators full control. It is available on Windows, macOS, Linux, Android and iOS.

 **Devolutions Password Server** Secure, Manage and Monitor Access to Privileged Accounts	 **Devolutions Password Hub** Vault and Manage Business-User Passwords
Devolutions Password Server lets you control access to privileged accounts and manage remote sessions through a secure solution that can be deployed on premises.	Devolutions Password Hub is a secure and cloud-based password manager for teams

8.2 Installation

8.2.1 Prerequisites

MINIMUM GENERAL REQUIREMENTS

Devolutions Password Server 2019.1.X.X or later.

Most recent browsers are supported and so is Internet Explorer 11 or above.

MINIMUM PLATFORM REQUIREMENTS

WINDOWS

- Windows 8 or later
- Microsoft .NET Framework 4.7.2
- 1 GHz or faster processor
- 2 GB of RAM
- 100 MB hard drive space

MACOS

- macOS X 10.12 or later
- 2 GB of RAM
- 150 MB hard drive space

LINUX

- Ubuntu 16.04
- 2 GB of RAM

- 250 MB hard drive space

ANDROID

- Android 6.0 or later
- API 23
- Download: 42 MB
- Device Family: Phone and Tablet

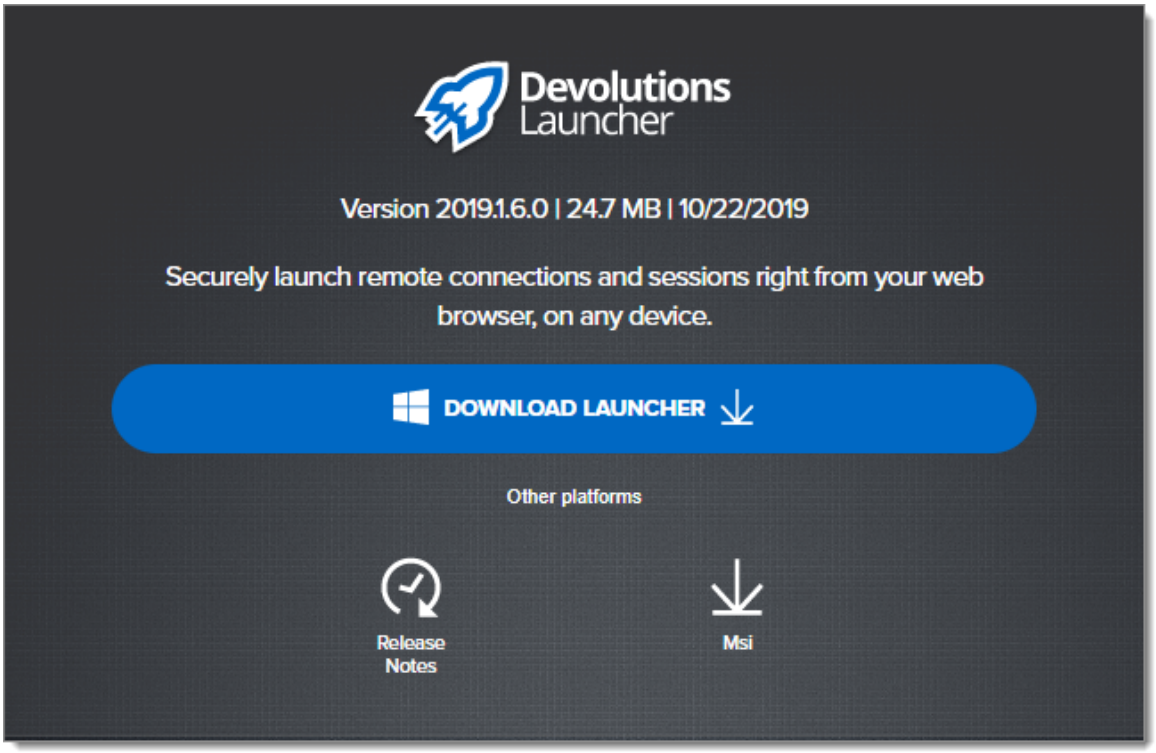
IOS

- iOS 10.3 or later
- Download size: 80 MB
- Device Family: iPhone, iPod touch and iPad

8.2.2 Windows

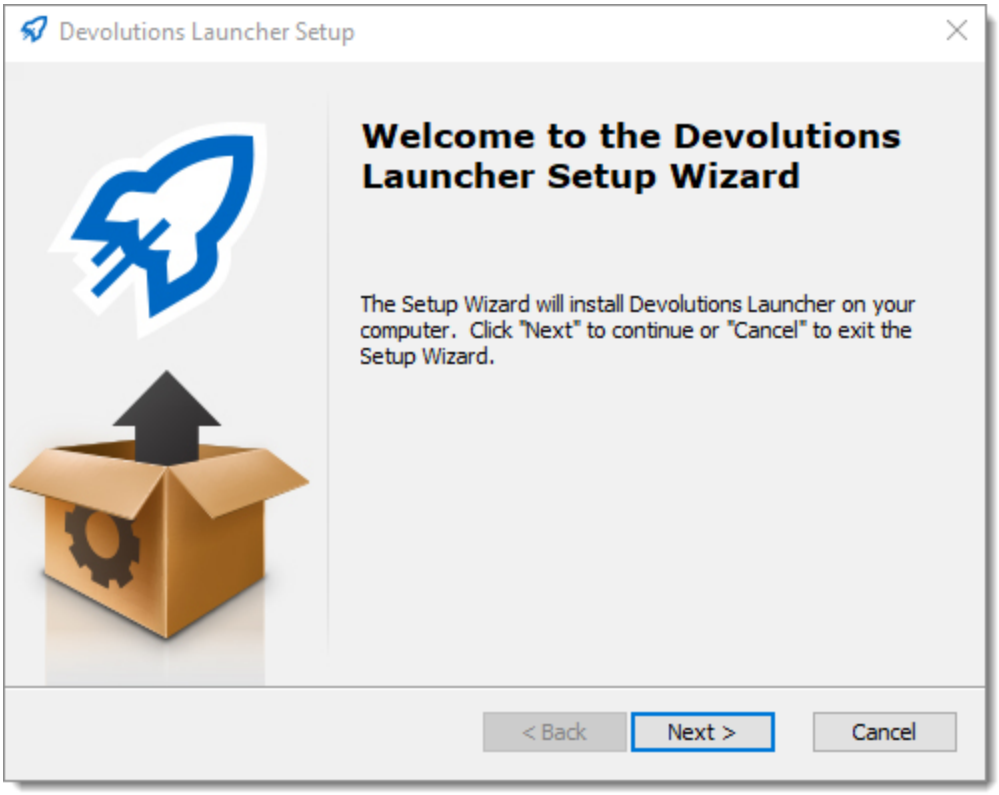
Follow these steps to install Devolutions Launcher:

1. Download Devolutions Launcher or search the companion tools in the products section of Devolutions.



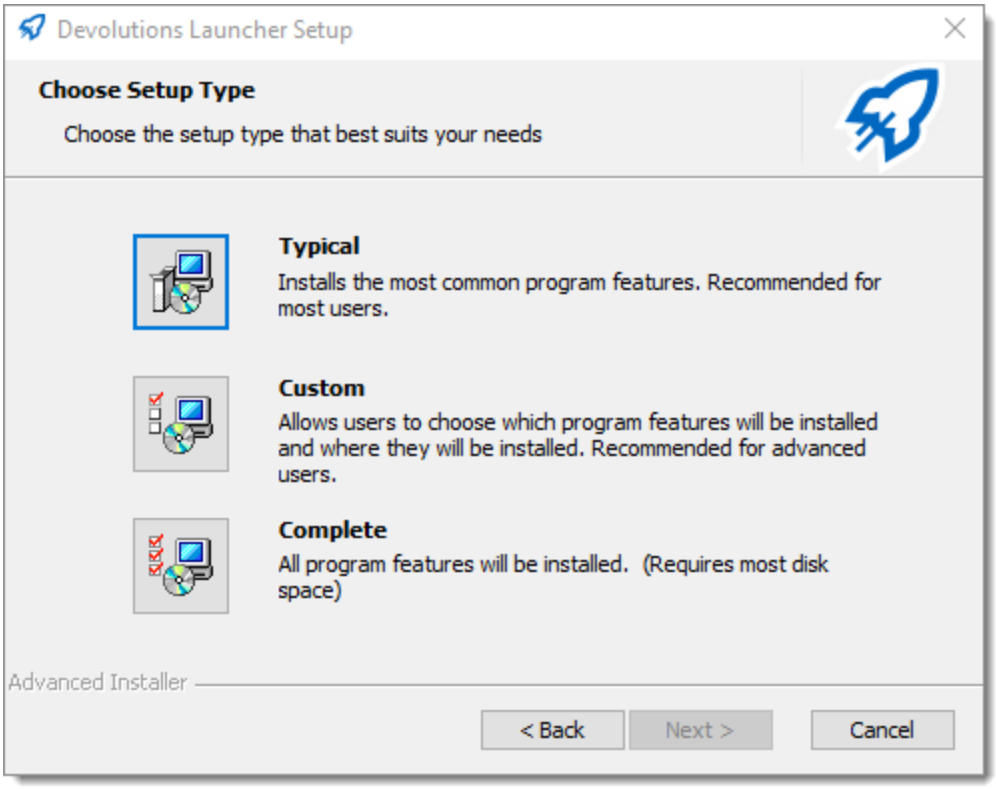
Devolutions Launcher Download Page

2. Open the downloaded file.
3. Click ***Next*** on the Welcome page.



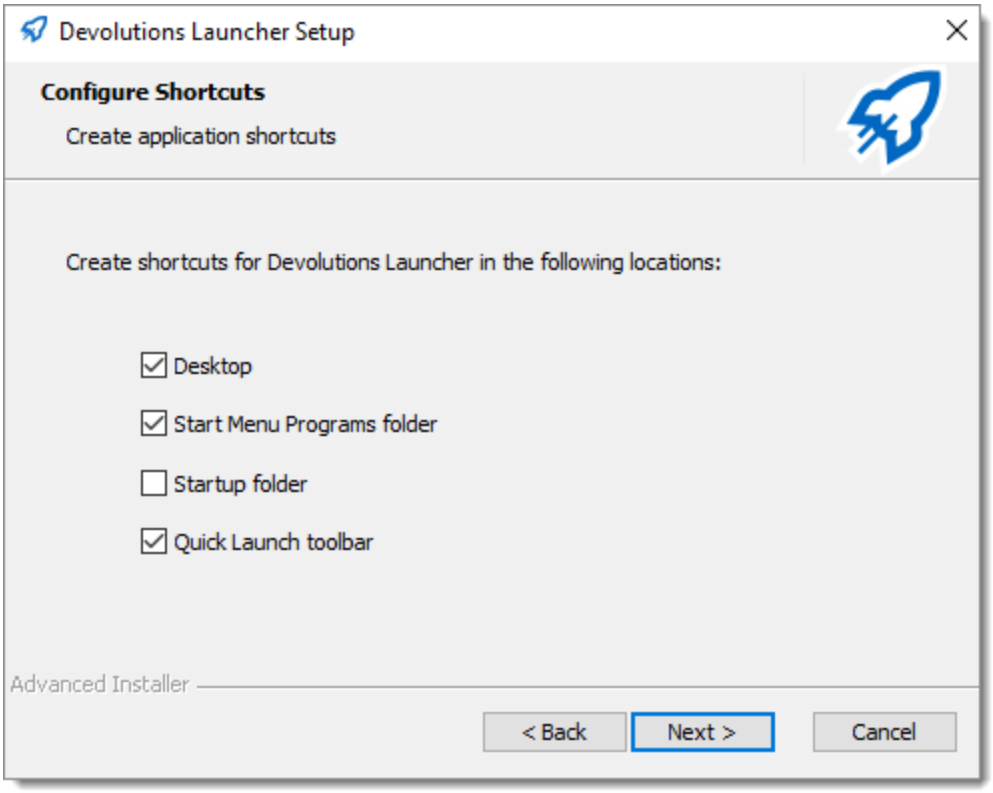
Devolutions Launcher Setup Wizard - Welcome

4. Choose the setup type.



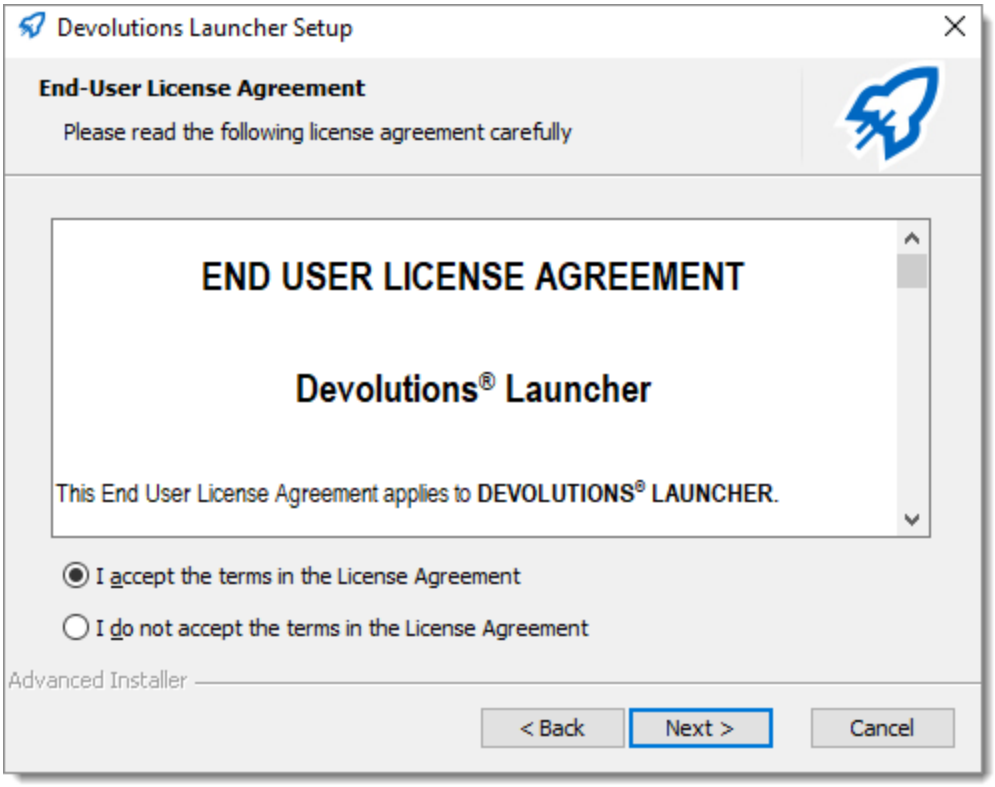
Devolutions Launcher Setup Wizard - Setup Type

5. Configure the shortcuts for Devolutions Launcher.



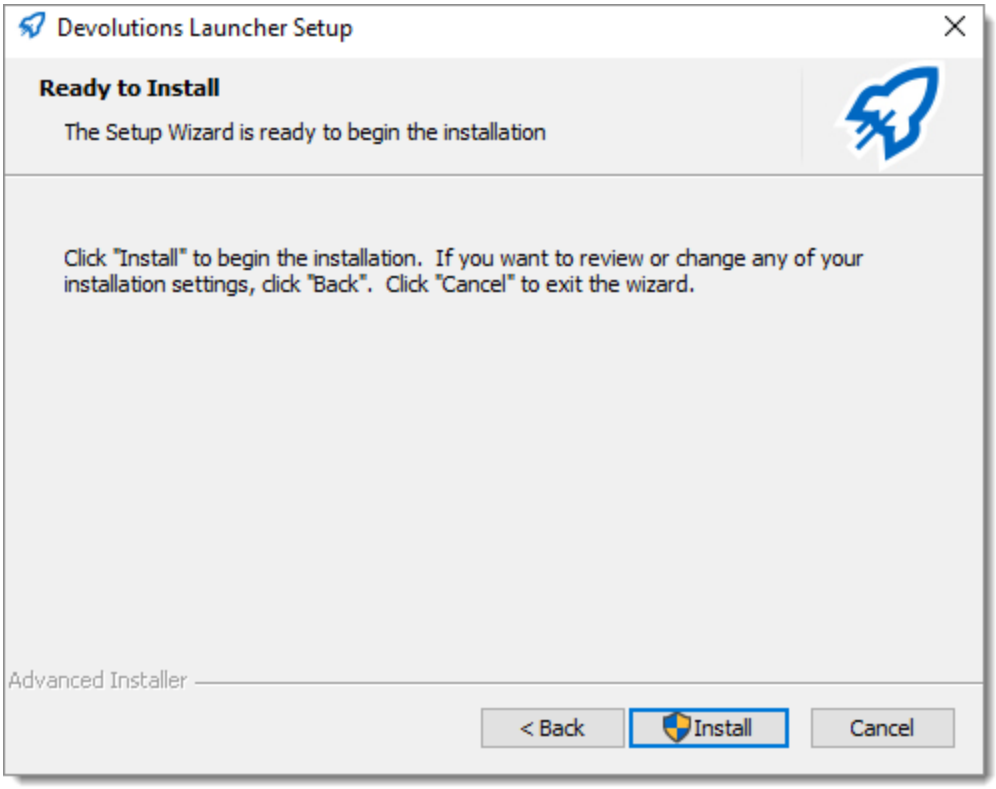
Devolutions Launcher Setup Wizard - Configure Shortcuts

6. Accept the terms of the license agreement and click ***Next***.



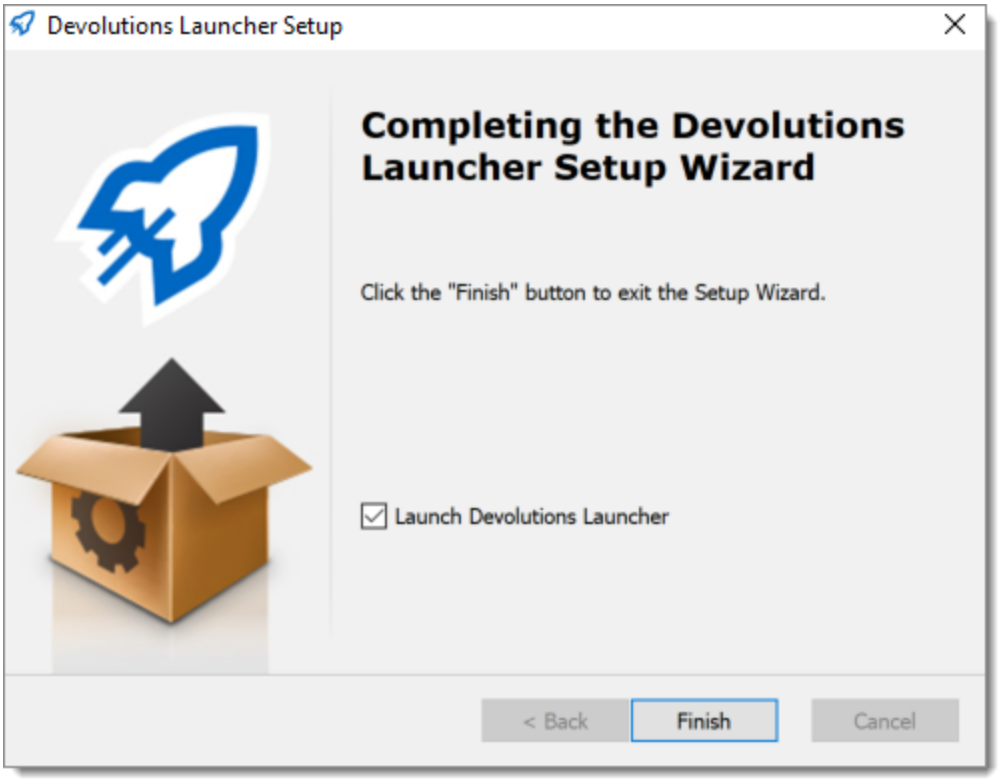
Devolutions Launcher - End User License Agreement

7. Click ***Install***.



Devolutions Launcher - Ready to Install

8. Click ***Finish*** to complete the installation.



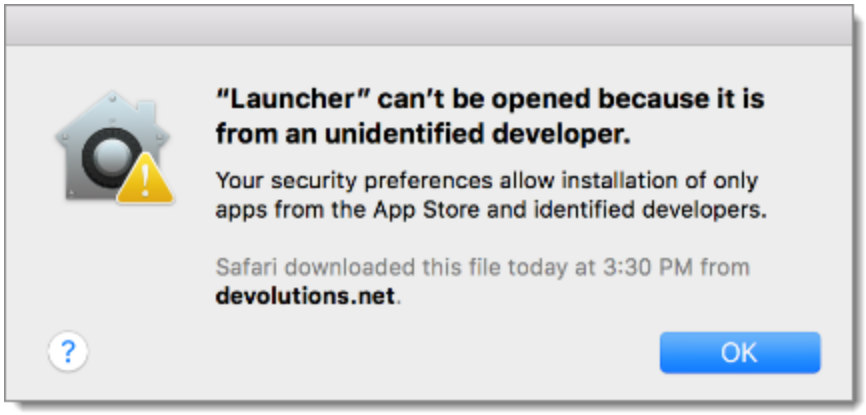
Devolutions Launcher - Complete

8.2.3 macOS

Follow these steps to install Devolutions Launcher:

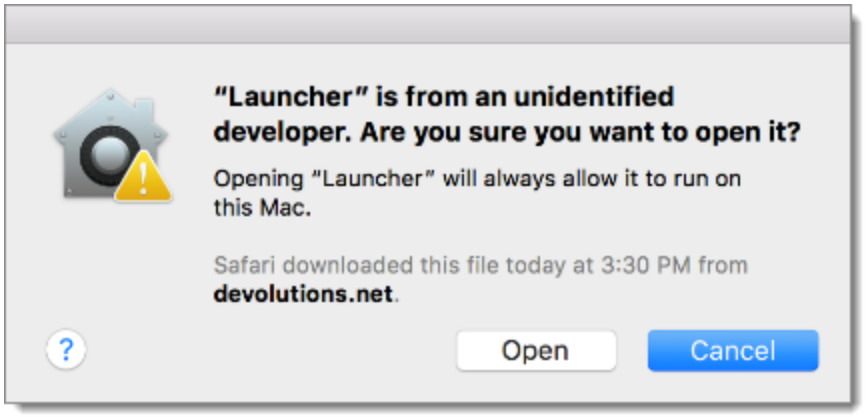
1. Download Devolutions Launcher or search the companion tools in the products section of Devolutions.
2. Open the downloaded file.
3. Drag the Devolutions Launcher icon into the application folder.

Follow these steps if at launch you get the warning that Devolutions Launcher can not be opened because it is from an unidentified developer:



Devolutions Launcher Unidentified Developer

1. Press ***OK*** to close the warning.
2. On the Devolutions Launcher icon in your application, press ***control*** and ***click*** to open the shortcut menu.
3. Click ***Open***.
4. Click ***Open*** to the prompt to confirm.



Devolutions Launcher Open Confirmation

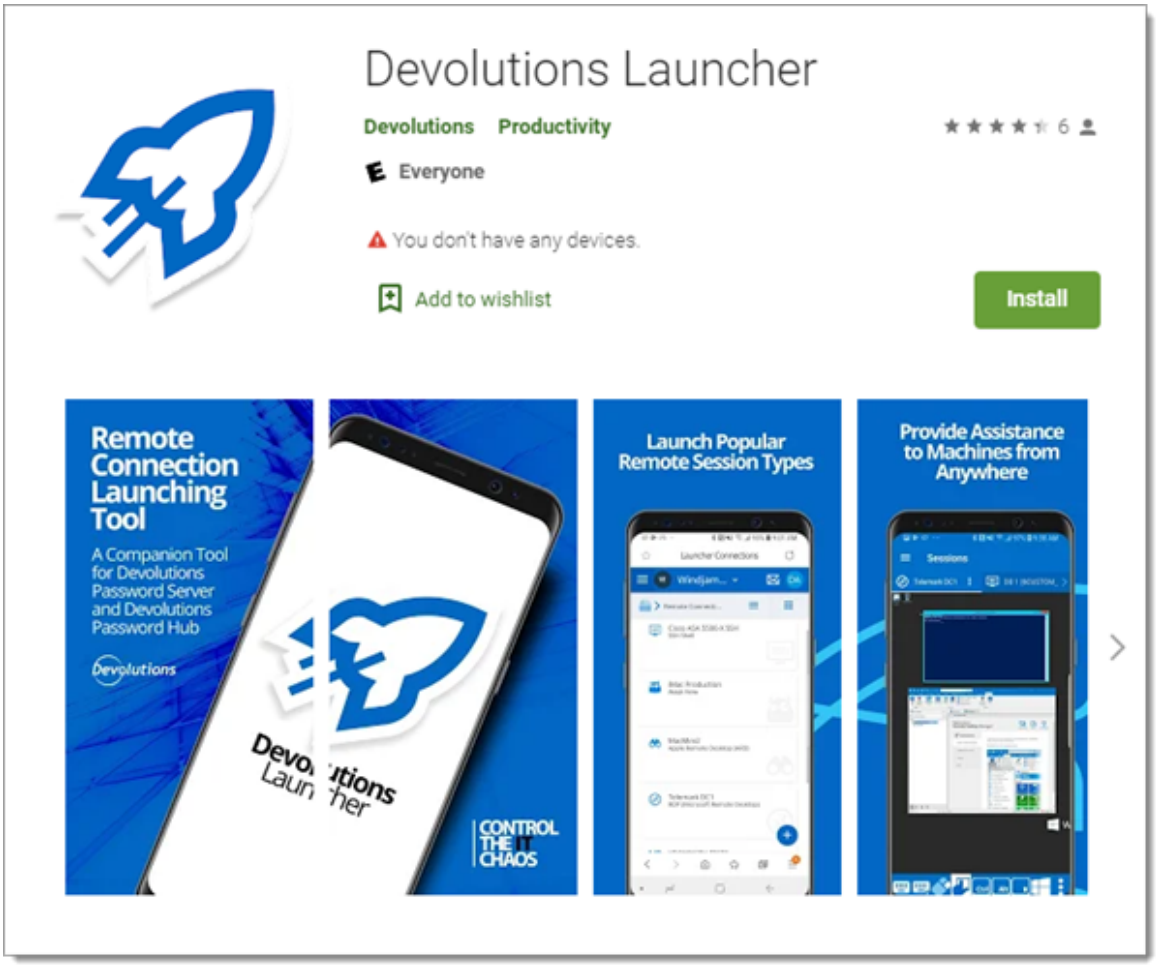
You can also change your security preferences.

8.2.4 Android

Follow these steps to install Devolutions Launcher:

1. Download the Devolutions Launcher application or search for **Devolutions Launcher** in the Google Play Store.

2. Click ***Install***.



Devolutions Launcher in Google Play Store

3. Click ***Open*** when the download is complete.

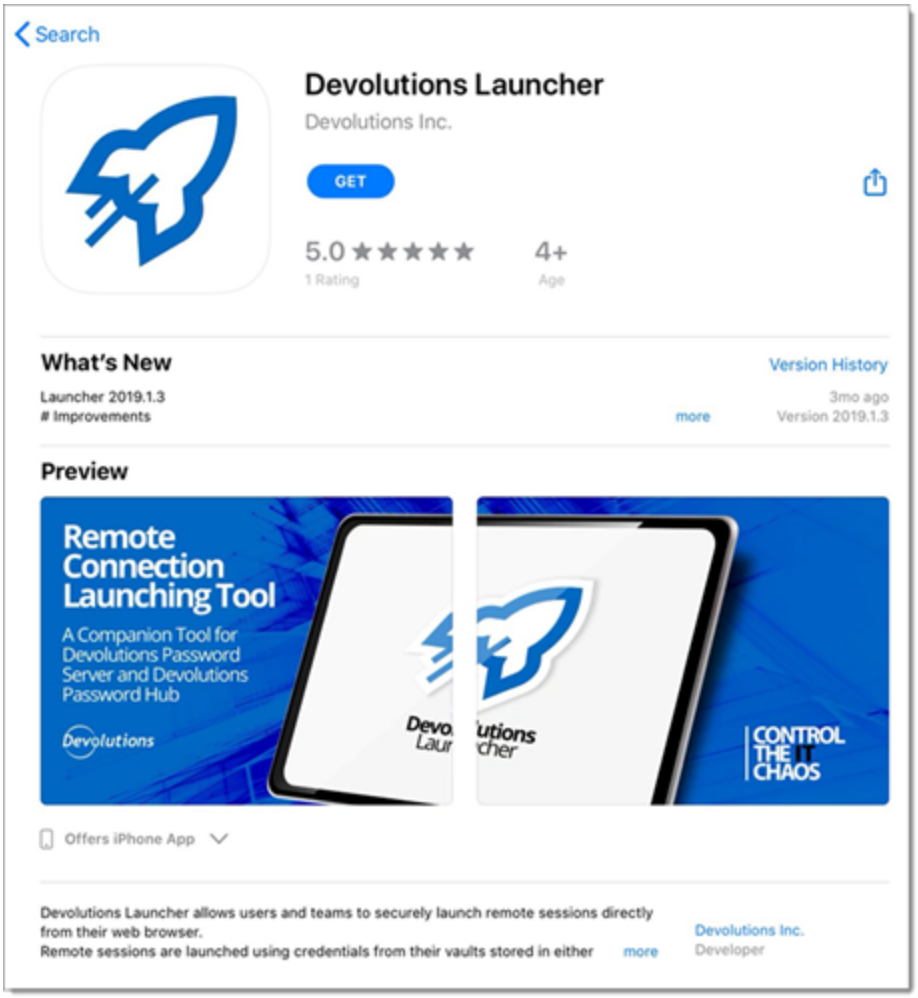
8.2.5 iOS

Follow these steps to install Devolutions Launcher:

1. Search for **Devolutions Launcher** in the App Store.

2. Click ***Get***, then ***Install***.

3. Open the app.



Devolutions Launcher in the App Store

8.3 Configuration and Settings

8.3.1 Devolutions Password Server

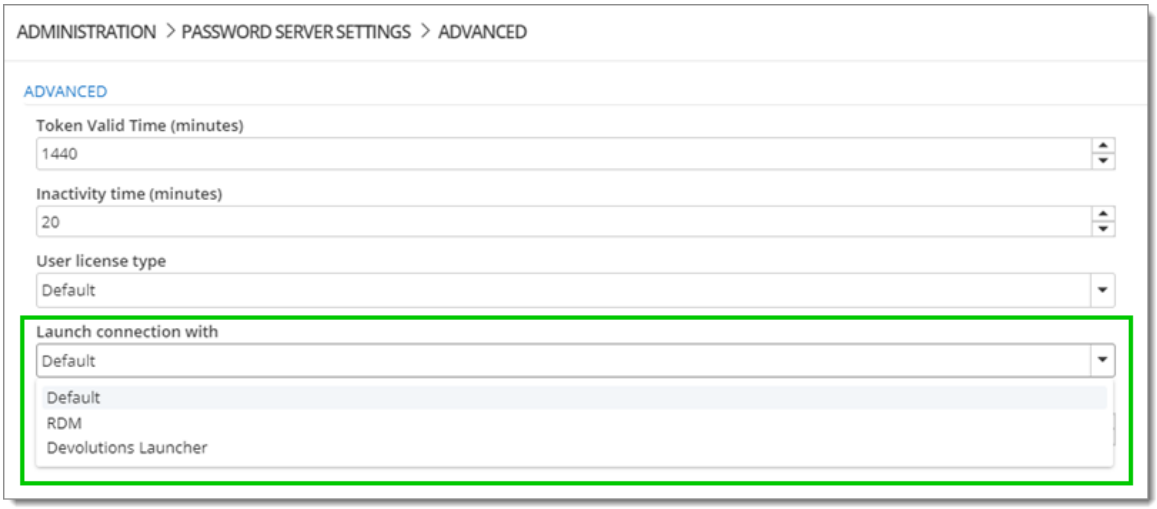
Devolutions Launcher and Devolutions Password Server must be configured together. Launch connections can be set for all users in ***Password Server Settings*** or individually in ***Account Settings***.

You need to at least log in to Devolutions Launcher **once** for the companion tool to launch your sessions from Devolutions Password Server.

SERVER SETTINGS

This method sets how all users open remote connections.

Choose Devolutions Launcher to open remote connections in ***Administration – Password Server Settings – Advanced***.



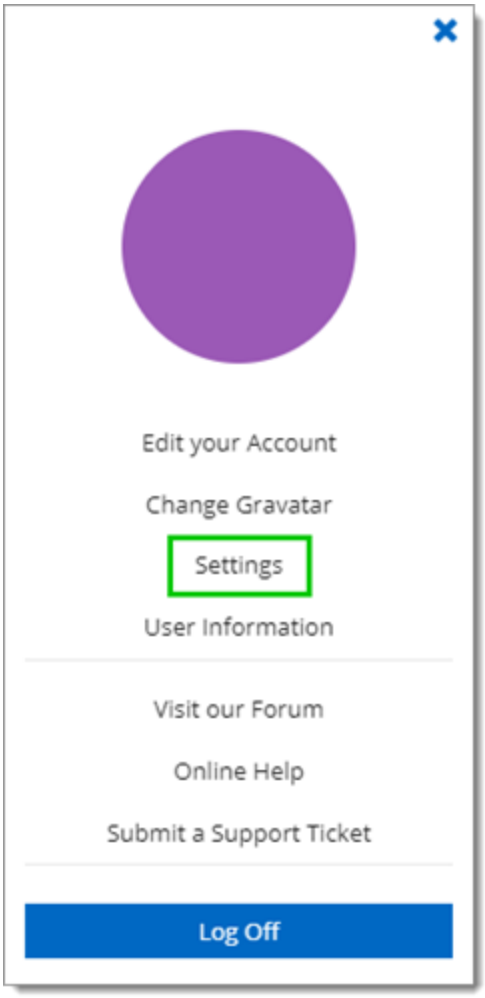
Administration – Password Server Settings – Advanced

ACCOUNT SETTINGS

This method sets how individual users open remote connections.

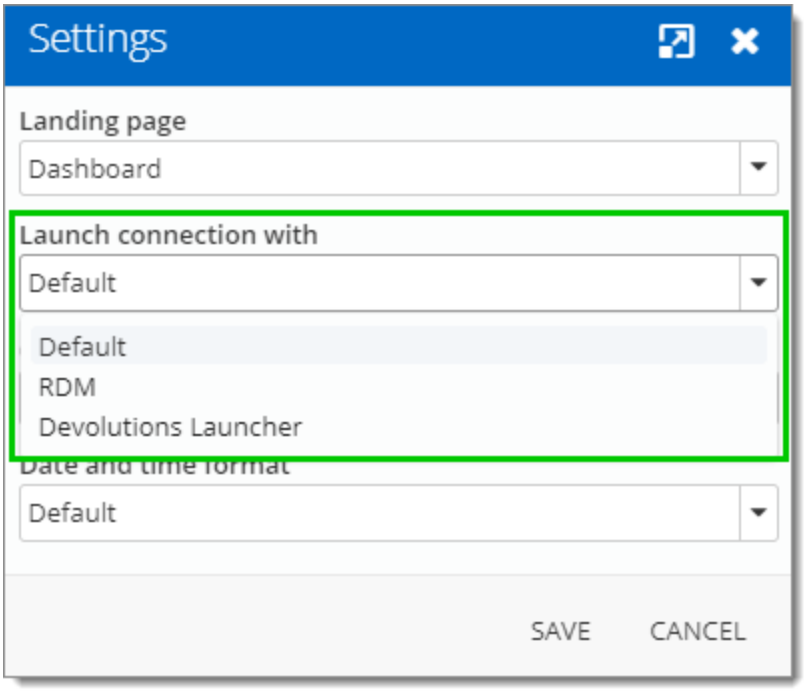
1. Click the ***user avatar*** in the upper right corner.

2. Click ***Settings***.



User Settings

3. Choose **Devolutions Launcher** from the drop-down list and ***Save***.



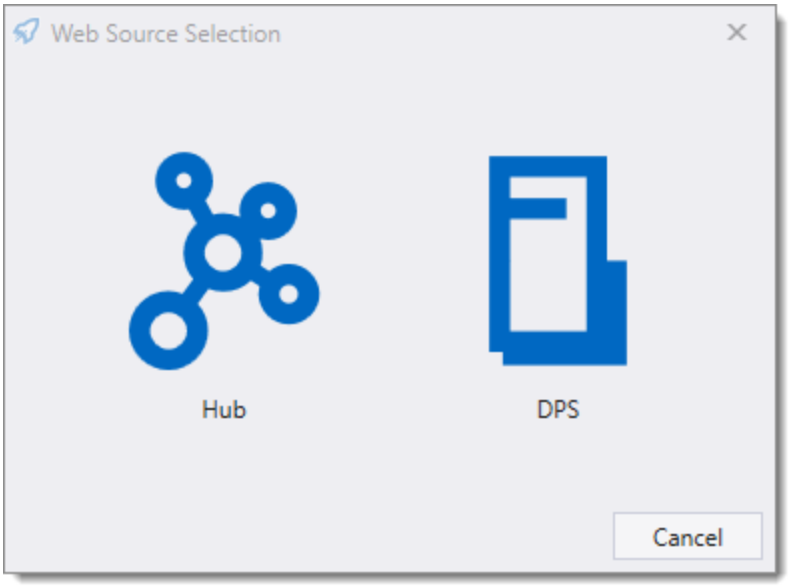
Settings - Launch connection with Devolutions Launcher

8.3.1.1 Windows

When you finish the installation of Devolutions Launcher, you are prompted to choose a web source between Devolutions Password Hub and Devolutions Password Server.

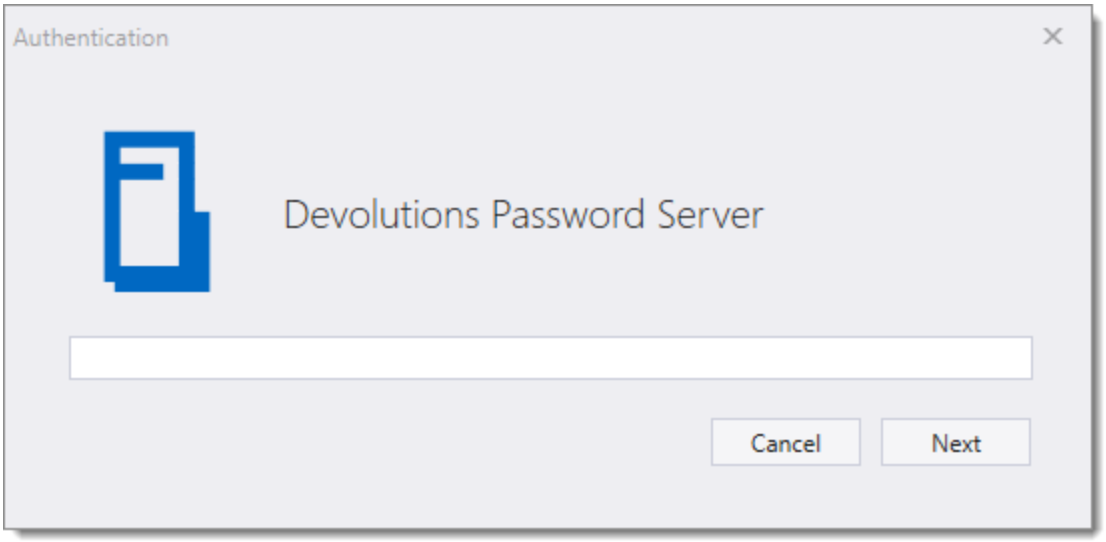
Web source login is available in the ***Settings – Source*** of Devolutions Launcher.

1. Choose ***Devolutions Password Server***.



Choose a web source

2. Enter the Devolutions Password Server web address and click ***Next***.



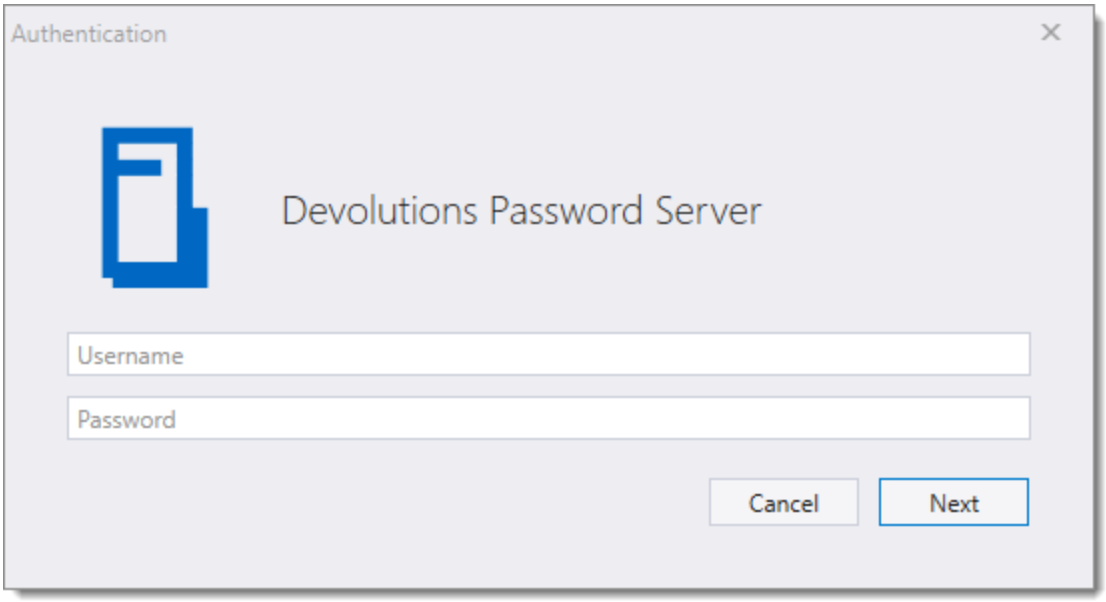
Devolutions Password Server Web Address

3. Fill in your Devolutions Password Server credentials or choose ***Membership***, if available at this time, and choose between these options:

   - Domain user
   - Database user
   - Local Machine user
   - Devolutions Password Server Custom user

- Windows authentication

You can login with **Azure Active Directory** if you use it to manage your users. In Devolutions Password Server and Remote Desktop Manager this authentication type is called **Office365**.



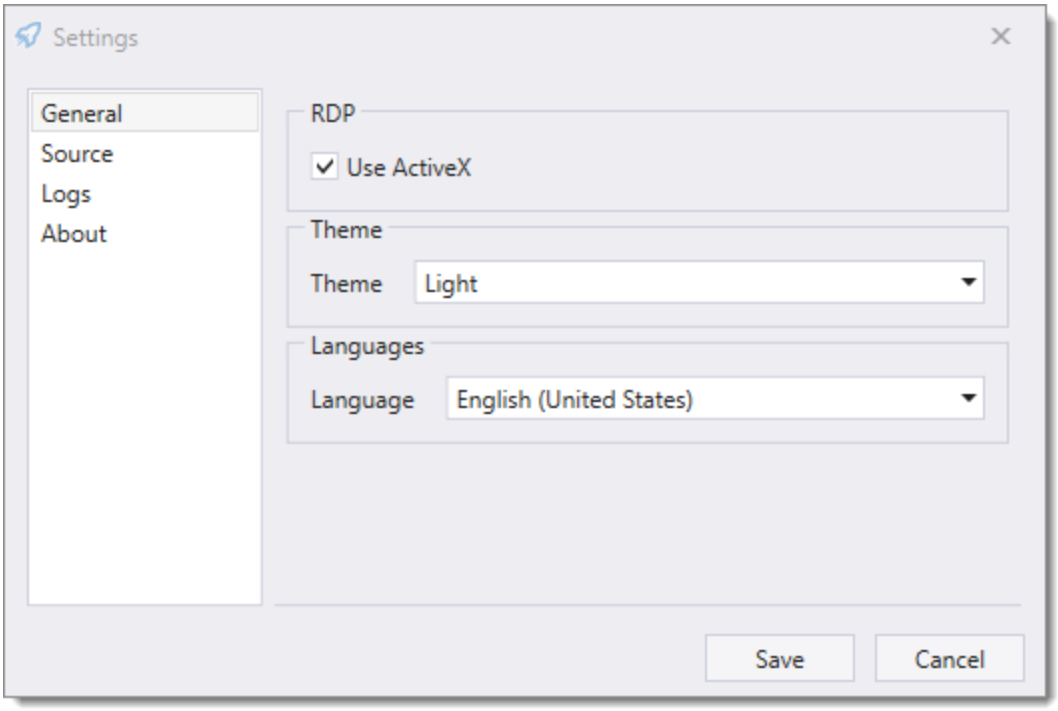
Devolutions Password Server Credentials

SETTINGS

GENERAL

In this menu you can personalize the following options:

- Use Active X to open RDP sessions. When unchecked, RDP sessions will open using FreeRDP protocol.
- Choose the color theme of Devolutions Launcher.
- Choose between the available languages. Close the application and the icon in the notification area to activate the new setting.



Devolutions Launcher Settings - General

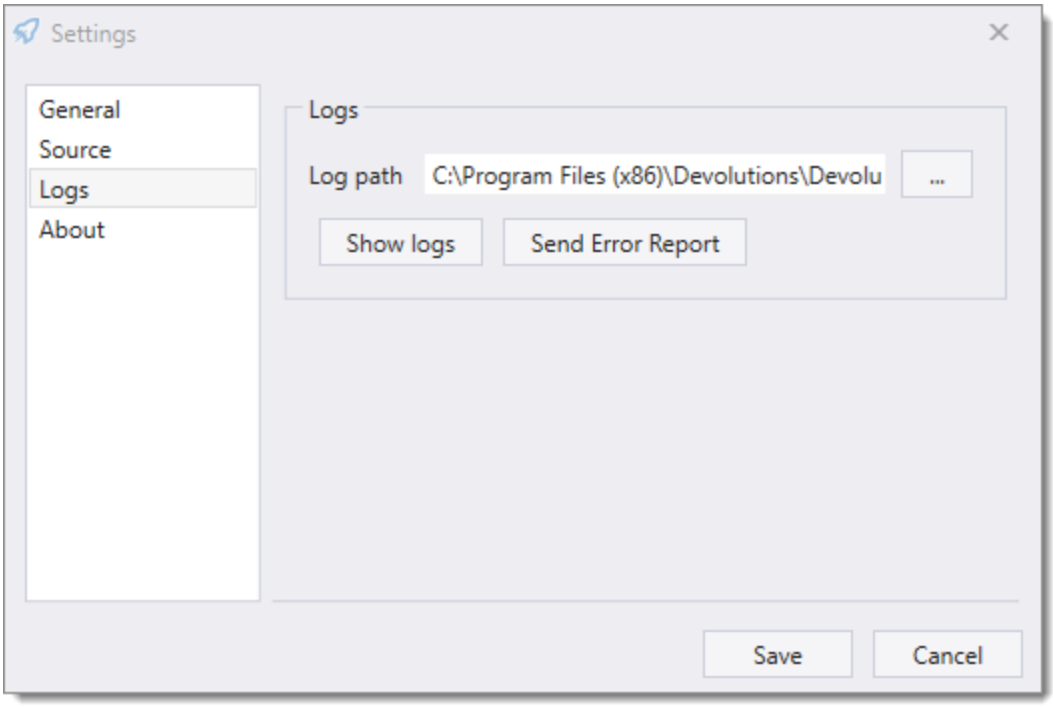
SOURCE

Log in or out of your connected source.

LOGS

The information in this section is primarily for administrators and application developers.

The log records events into a text file.



Devolutions Launcher Settings - Logs

1. Create a new log file (it can be a text document) before choosing the path.
2. Click the ellipsis button to select the path to save the log file, then save.

ABOUT

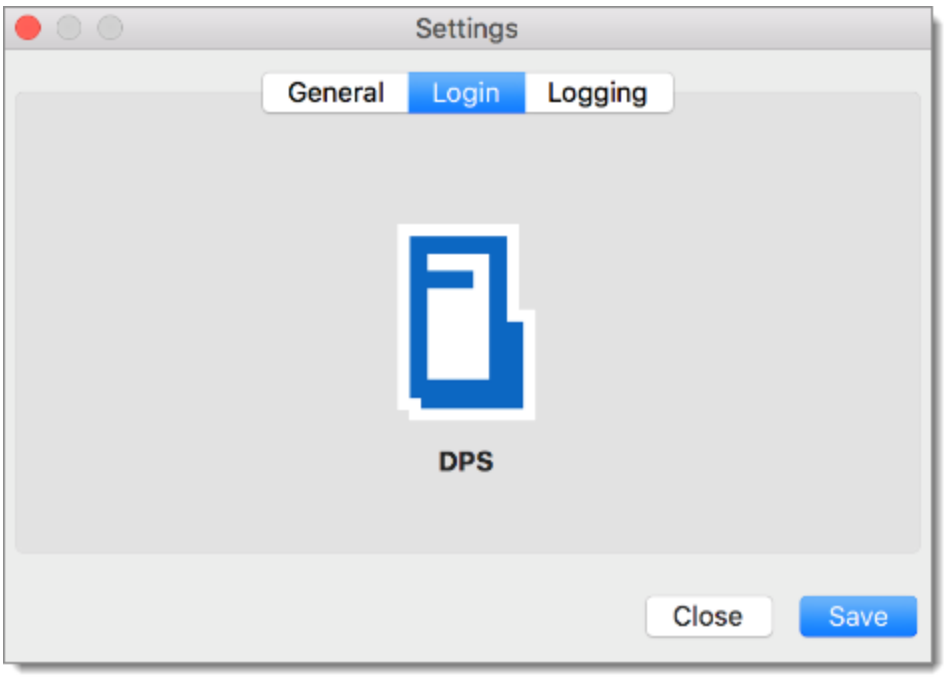
View Devolutions Launcher version and check for updates.

8.3.1.2 macOS

When you finish the installation of Devolutions Launcher, you are prompted to login with Devolutions Password Server.

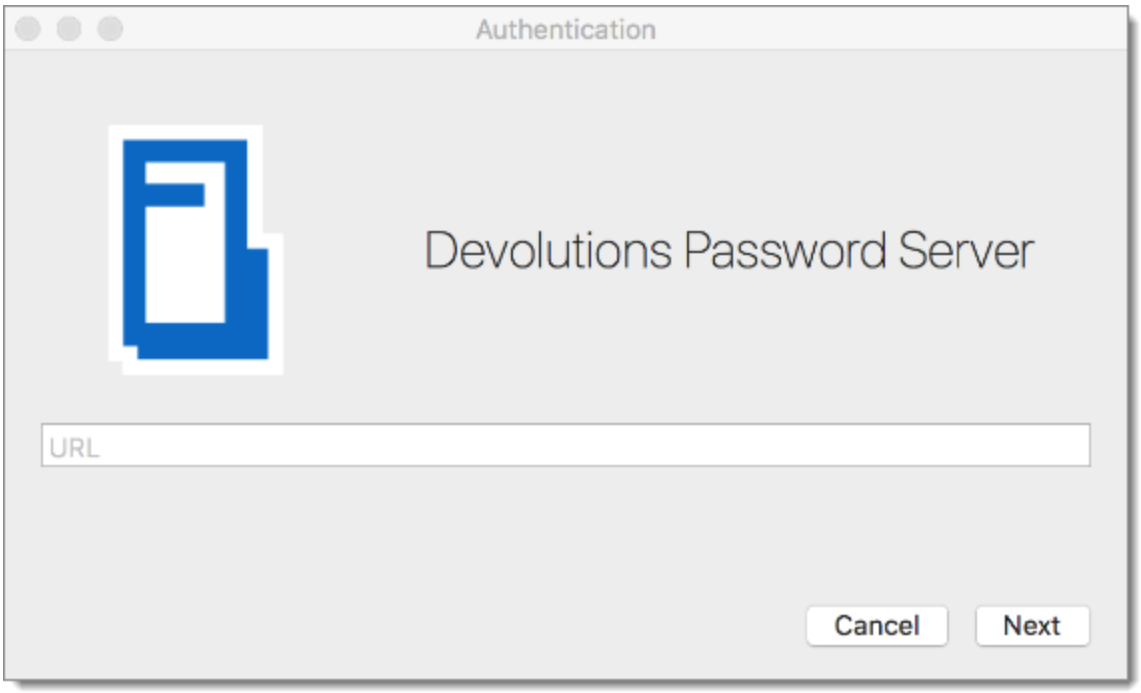
> Web source login is available in the ***Settings – Login*** of Devolutions Launcher.

1. Click ***Devolutions Password Server***.



Click Devolutions Password Server

2. Enter the Devolutions Password Server web address and click ***Next***.

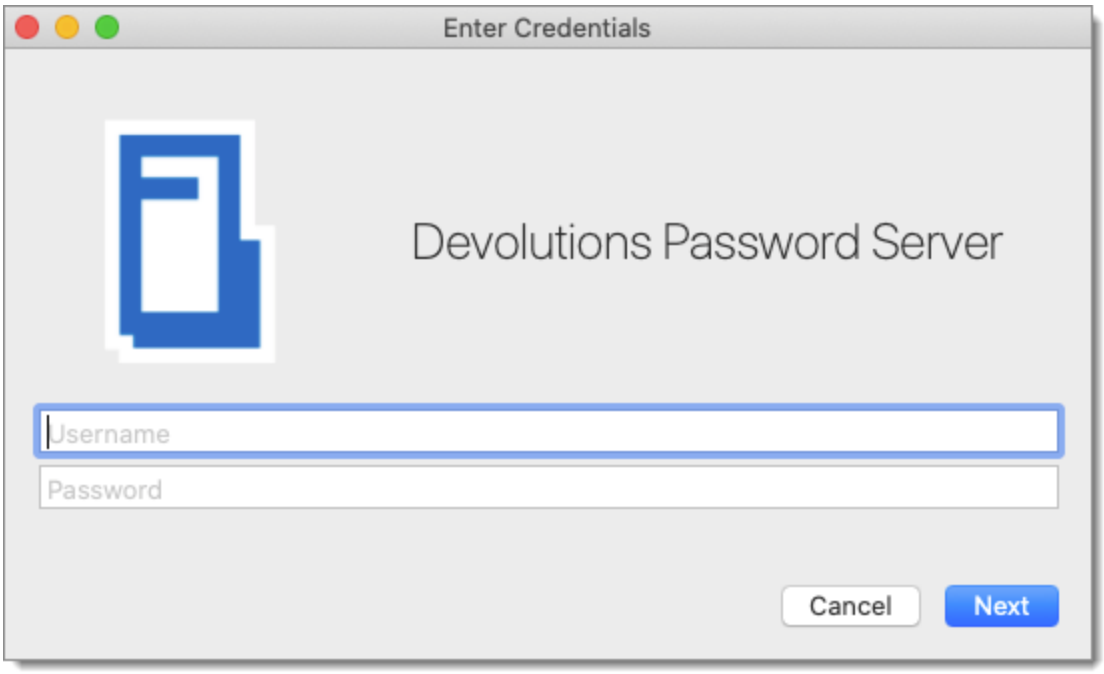


Devolutions Password Server Web Address

3. Fill in your Devolutions Password Server credentials or choose ***Membership***, if available at this time, and choose between these options:

- Domain user
- Database user
- Local Machine user
- Devolutions Password Server Custom user
- Windows authentication

You can login with **Azure Active Directory** if you use it to manage your users. In Devolutions Password Server and Remote Desktop Manager this authentication type is called **Office365**..



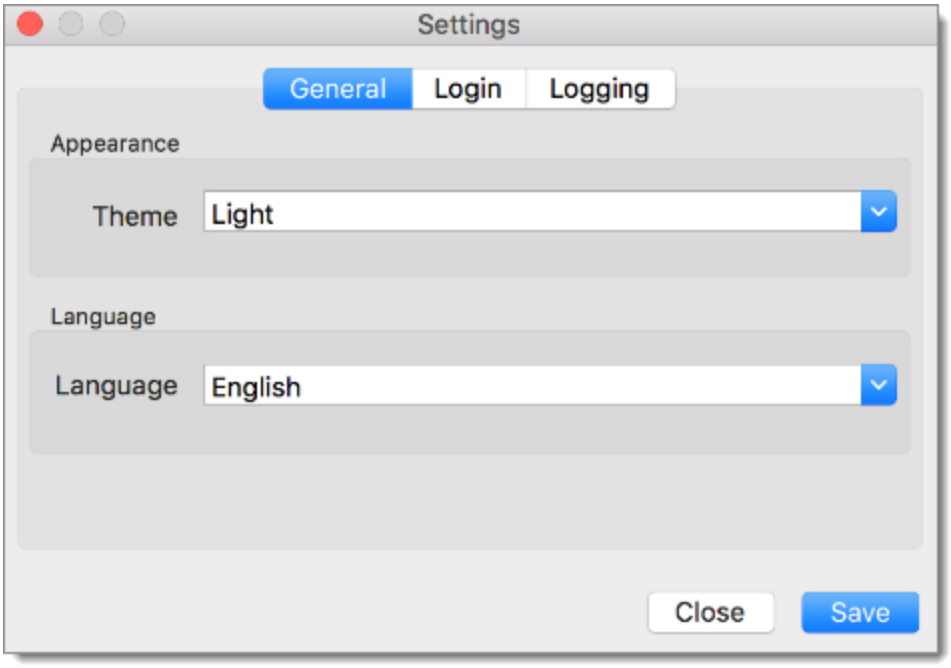
Devolutions Password Server Credentials

SETTINGS

GENERAL

In this menu you can personalize the following options:

- Choose the color theme of Devolutions Launcher.
- Choose between the available languages. Close the application to activate the new setting.



Devolutions Launcher Settings - General

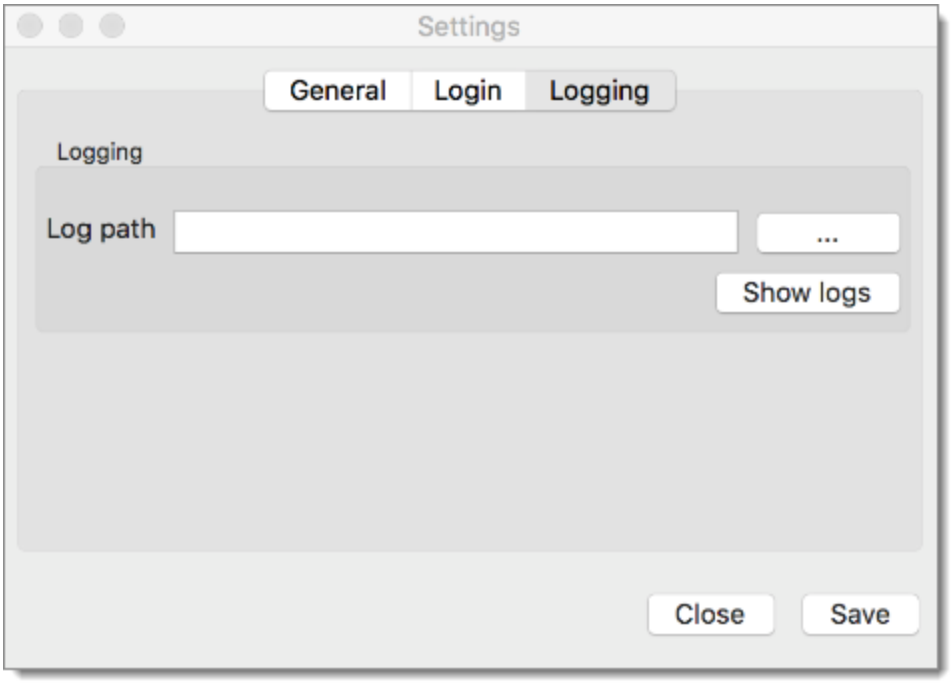
LOGIN

Log in or out of your connected source

LOGGING

The information in this section is primarily for administrators and application developers.

The log records events into a text file.

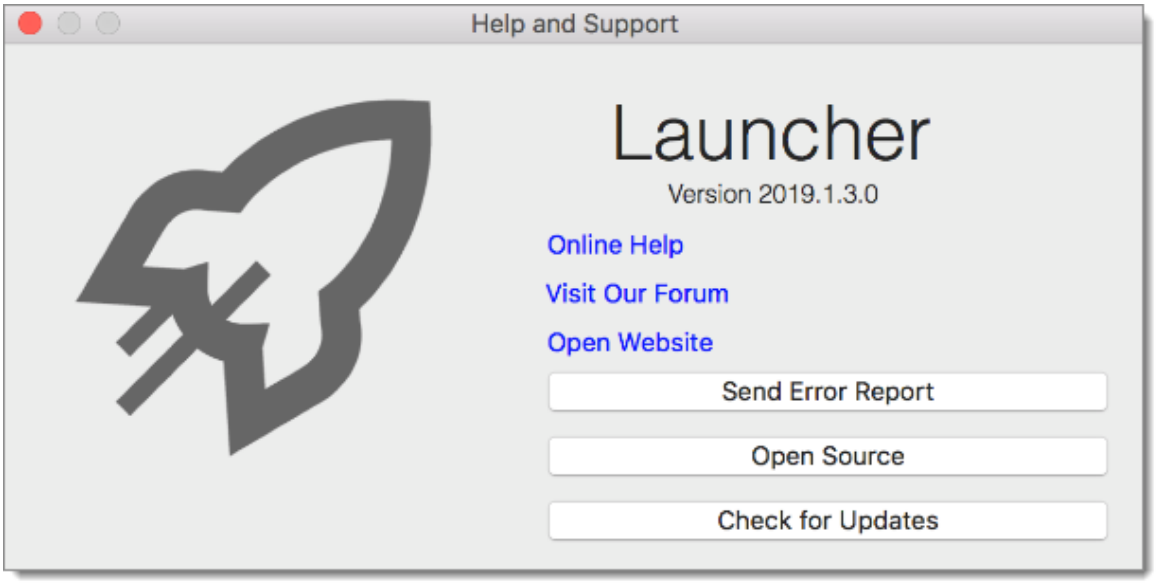


Devolutions Launcher Settings - Logs

1. Create a new log file (it can be a text document) before choosing the path.
2. Click the ellipsis button to select the path to save the log file, then save.

HELP AND SUPPORT

View Devolutions Launcher version and check for updates.



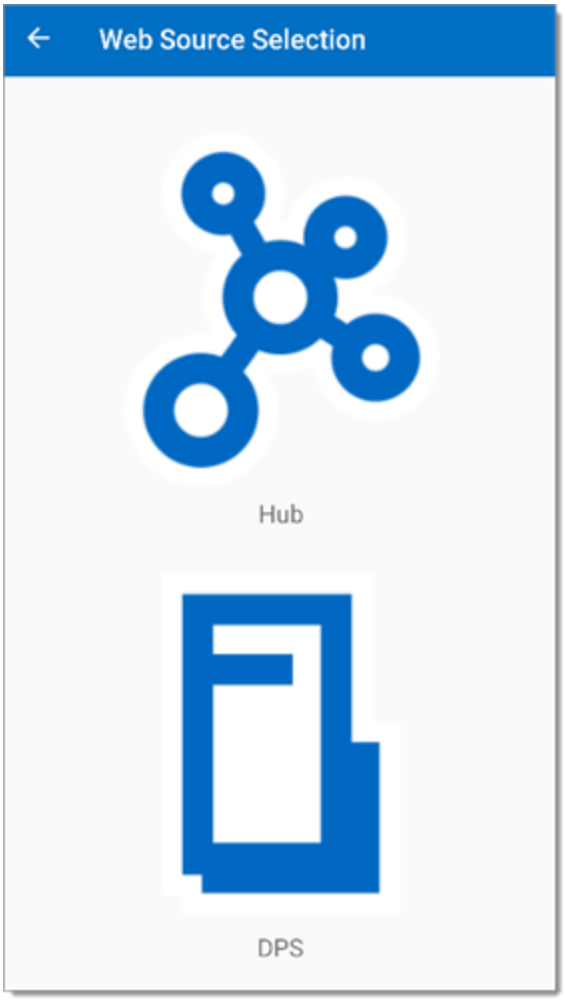
Devolutions Launcher Help and Support

8.3.1.3 Android

When you finish the installation of Devolutions Launcher, you are prompted to choose a web source between Devolutions Password Hub and Devolutions Password Server.

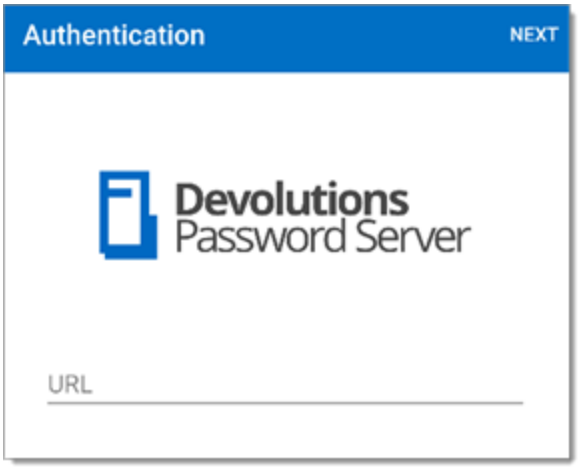
> Web source login is available in the hamburger menu, then tap ***Login*** of Devolutions Launcher.

1. Choose ***Devolutions Password Server***.



Choose a Web Source

2. Enter the Devolutions Password Server web address and tap ***Next***.



Devolutions Password Server Web Address

3. Fill in your Devolutions Password Server credentials or choose ***Membership***, if available at this time, and choose between these options:

   - Domain user
   - Database user
   - Local Machine user
   - Devolutions Password Server Custom user
   - Windows authentication

You can login with **Azure Active Directory** if you use it to manage your users. In Devolutions Password Server and Remote Desktop Manager this authentication type is called **Office365**.

Devolutions Password Server Credentials

Secure the application with a password in the hamburger menu, ***Security***. Once registered, there is no way to recover the password.

DEVOLUTIONS LAUNCHER MENU

Click the hamburger button in the top left corner to access Devolutions Launcher menu.

LOG OUT

Log out of Devolutions Launcher application.

SETTINGS

Set all the settings related to your Devolutions Launcher:

- Theme: Change the color theme of the application.
- Security: Application password, Background lock, Fingerprint activation, Lock application.
- Language: Choose between the available languages. An application relaunch is necessary.
- Sessions: Full-screen options.
- RDP: Screen size, Enabling logging and redirection.
- Terminal: Set terminal appearance.
- User interface: Pointer size mode in session.
- Help: Reset help messages.
- Application: Logs and about Devolutions Launcher.

OPEN DPS

Open a session by tapping ***Open DPS***.

HELP AND SUPPORT

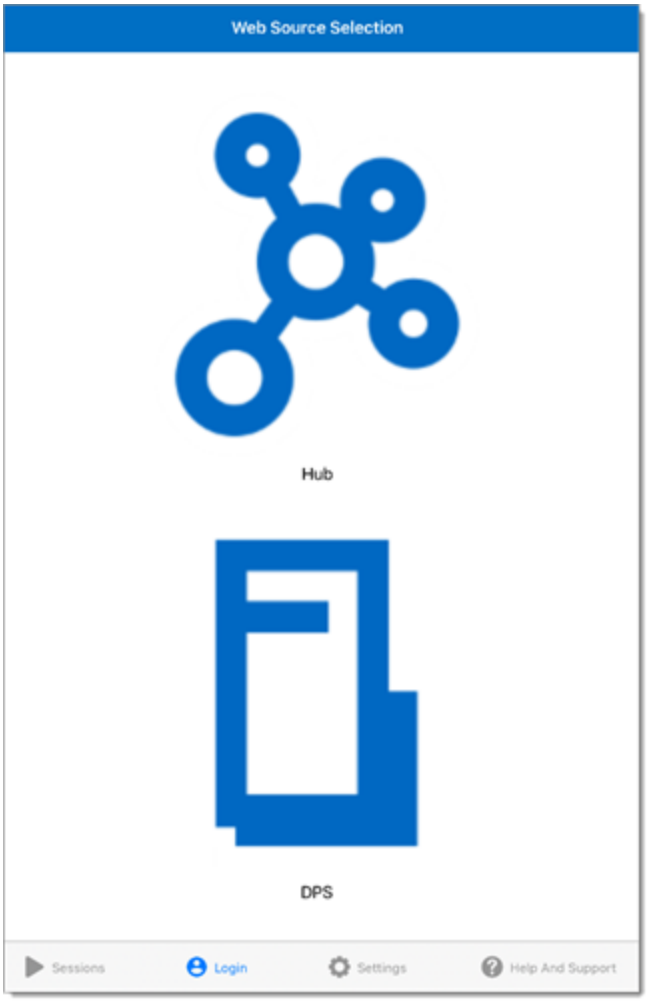
Find all the support links and help with the application.

8.3.1.4 iOS

When you finish the installation of Devolutions Launcher, you are prompted to choose a web source between Devolutions Password Hub and Devolutions Password Server..

Web source login is available in the ***Login*** of Devolutions Launcher.

1. Choose ***Devolutions Password Server***.



Devolutions Launcher Web Source Selection

2. Enter the Devolutions Password Server web address and tap ***Next***.

Devolutions Password Server Web Address

3. Fill in your Devolutions Password Server credentials or choose ***Membership***, if available at this time, and choose between these options:

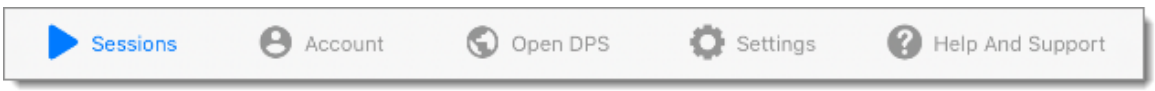
   - Domain user
   - Database user
   - Local Machine user
   - Devolutions Password Server Custom user
   - Windows authentication

You can login with **Azure Active Directory** if you use it to manage your users. In Devolutions Password Server and Remote Desktop Manager this authentication type is called **Office365**.

Remote Desktop Manager Credentials

Secure the application with a password in ***Settings - Security***. Once registered, there is no way to recover the password.

DEVOLUTIONS LAUNCHER MENU



Devolutions Launcher Menu

SESSIONS

View the open sessions

ACCOUNT

Log in or out of your connected source

OPEN DPS

Open a session by tapping ***Open DPS***.

SETTINGS

Set all the settings related to your Devolutions Launcher:

- Security: Application password, Background lock, Touch ID activation, Lock application.
- Language: Choose between the available languages. An application relaunch is necessary.
- Sessions: Full-screen option.
- RDP: Screen size, Enabling logging and redirection.
- Terminal: Set terminal appearance.
- User interface: Pointer size mode in session.
- Application: Logs and about Devolutions Launcher.

HELP AND SUPPORT

Find all the support links and help with the application.

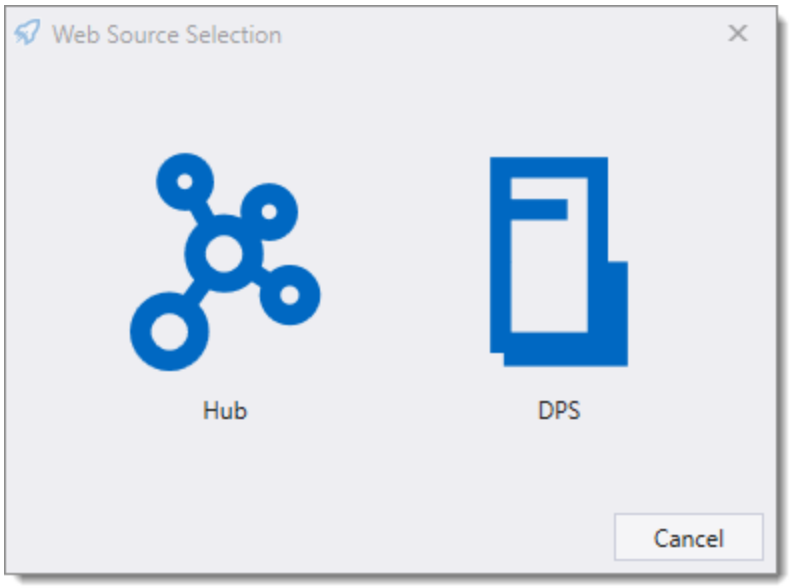
8.3.2 Devolutions Password Hub

8.3.2.1 Windows

When you finish the installation of Devolutions Launcher, you are prompted to choose a web source between Devolutions Password Hub and Devolutions Password Server.

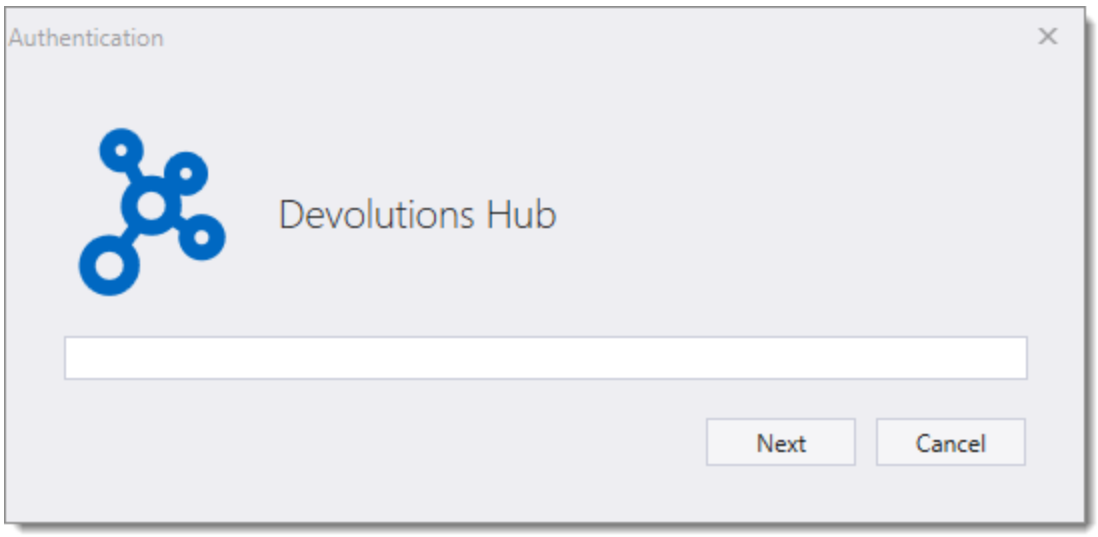
> Web source login is available in the ***Settings – Source*** of Devolutions Launcher.

1. Choose ***Devolutions Password Hub***.



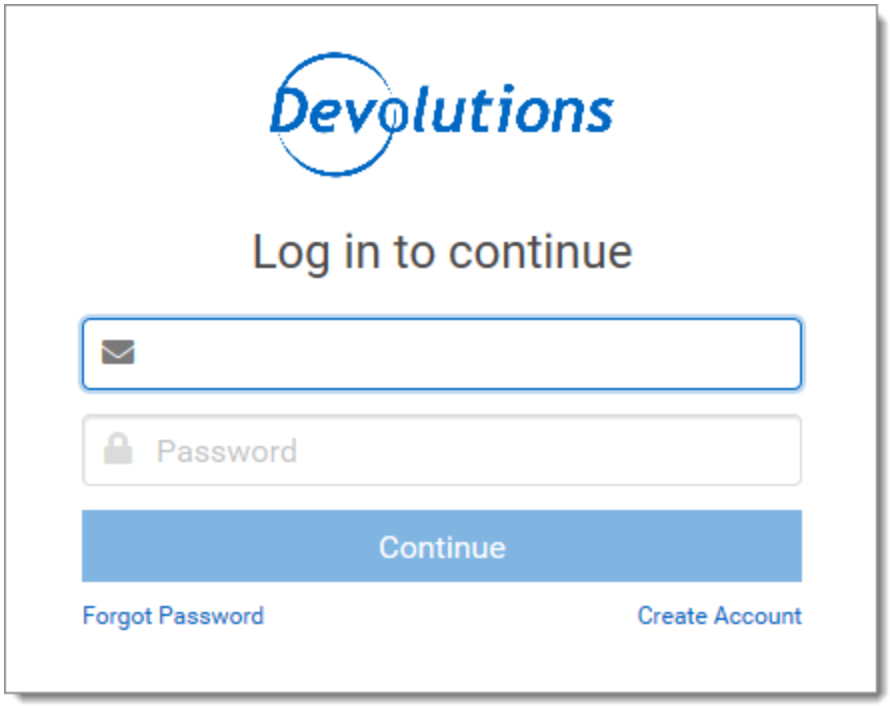
Choose a web source

2. Enter the Devolutions Password Hub web address and click ***Next***.



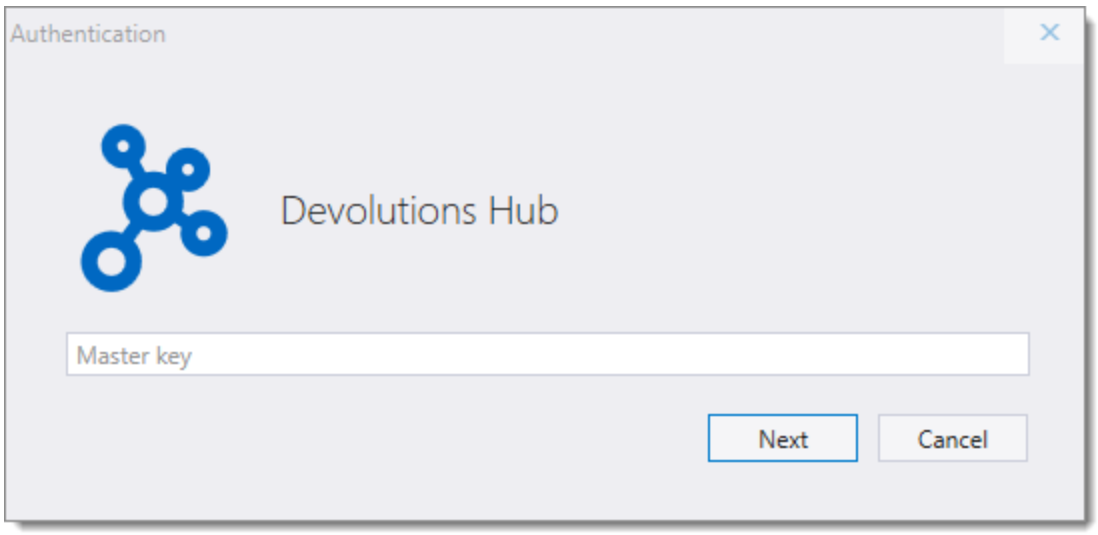
Devolutions Password Hub Web Address

3. Fill with your Devolutions Password Hub credentials and ***Continue***.



Devolutions Password Hub Credentials

4. Enter your Devolutions Password Hub masterkey and click ***Next***.



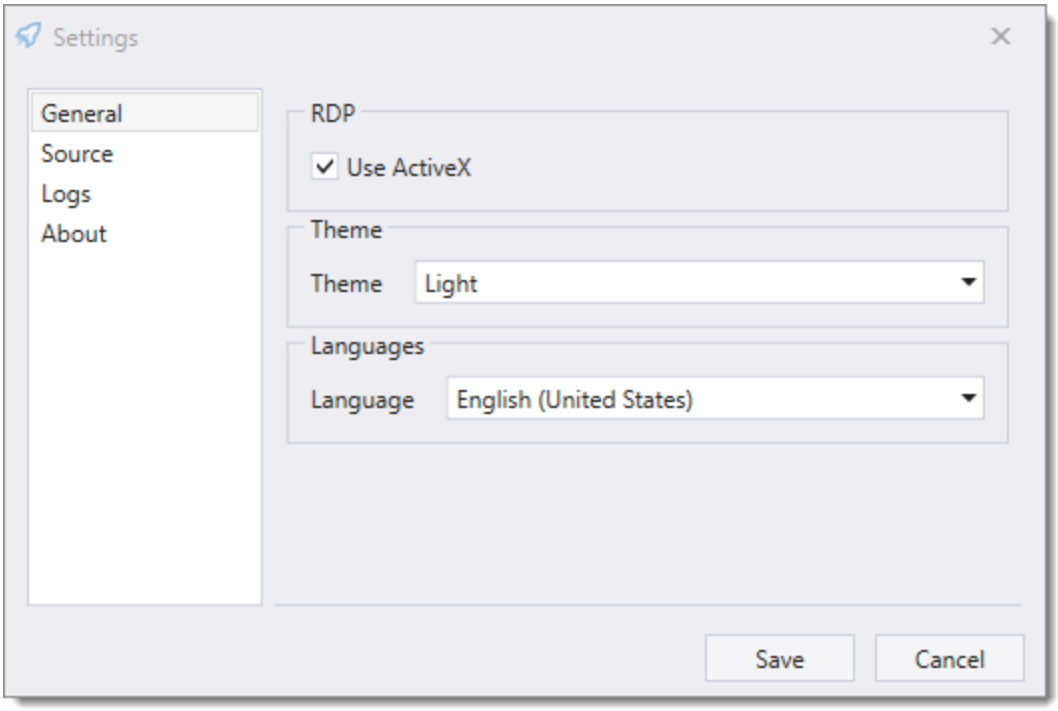
Devolutions Password Hub Master Key

SETTINGS

GENERAL

In this menu you can personalize the following options:

- Use Active X to open RDP sessions. When unchecked, RDP sessions will open using FreeRDP protocol.
- Choose the color theme of Devolutions Launcher.
- Choose between the available languages. Close the application and the icon in the notification area to activate the new setting.



Devolutions Launcher Settings - General

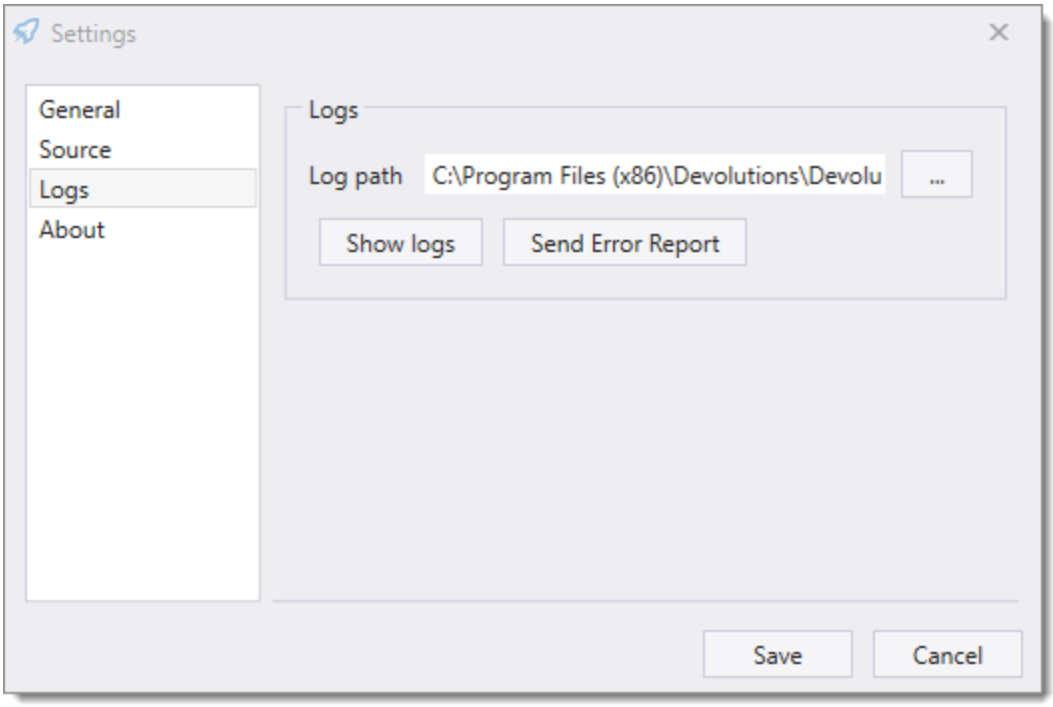
SOURCE

Log in or out of your connected source.

LOGS

The information in this section is primarily for administrators and application developers.

The log records events into a text file.



Devolutions Launcher Settings - Logs

1. Create a new log file (it can be a text document) before choosing the path.
2. Click the ellipsis button to select the path to save the log file, then save.

ABOUT

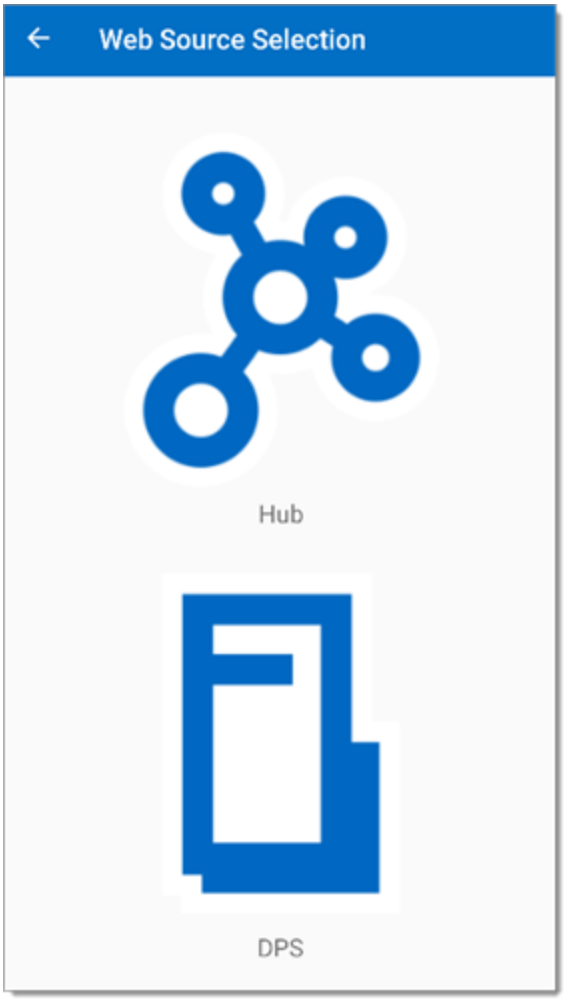
View Devolutions Launcher version and check for updates.

8.3.2.2 Android

When you finish the installation of Devolutions Launcher, you are prompted to choose a web source between Devolutions Password Hub and Devolutions Password Server.

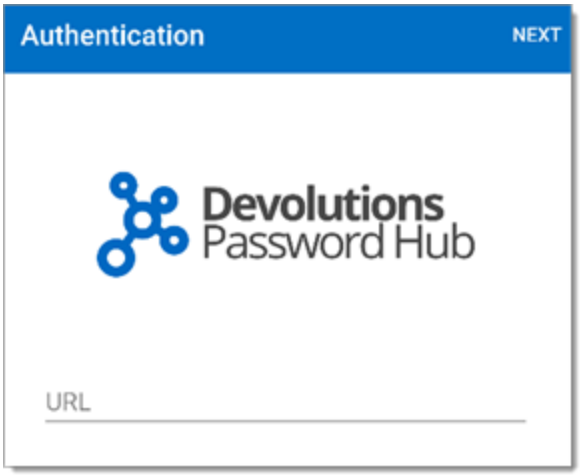
> Web source login is available in the hamburger menu, then tap ***Login*** of Devolutions Launcher.

1. Choose ***Devolutions Password Hub***.



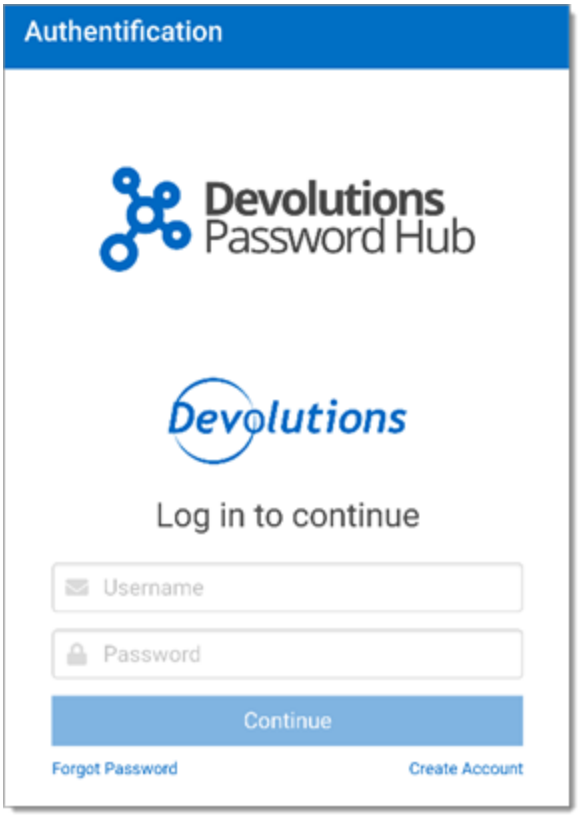
Choose a Web Source

2. Enter the Devolutions Password Hub web address and tap ***Next***.



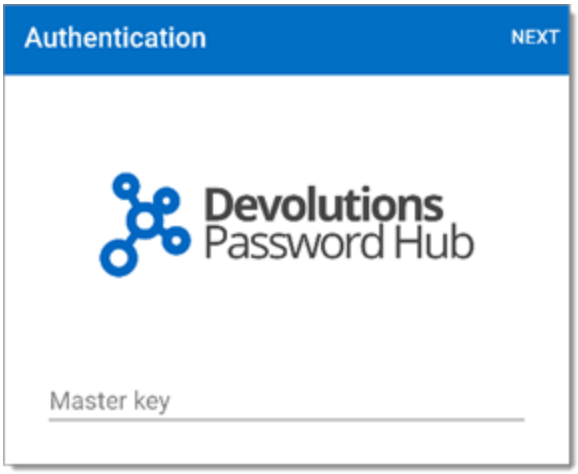
Devolutions Password Hub Web Address

3. Fill with your Devolutions Password Hub credentials and ***Continue***.



Devolutions Password Hub Credentials

4. Enter your Devolutions Password Hub Master key and click ***Next***.



Devolutions Password Hub Master Key

DEVOLUTIONS LAUNCHER MENU

Click the hamburger button in the top left corner to access Devolutions Launcher menu.

LOG OUT

Log out of Devolutions Launcher application.

SETTINGS

Set all the settings related to your Devolutions Launcher:

- Theme: Change the color theme of the application.
- Security: Application password, Background lock, Fingerprint activation, Lock application.
- Language: Choose between the available languages. An application relaunch is necessary.
- Sessions: Full-screen options.
- RDP: Screen size, Enabling logging and redirection.
- Terminal: Set terminal appearance.
- User interface: Pointer size mode in session.
- Help: Reset help messages.
- Application: Logs and about Devolutions Launcher.

OPEN HUB

Open a session by tapping ***Open Hub***.

HELP AND SUPPORT

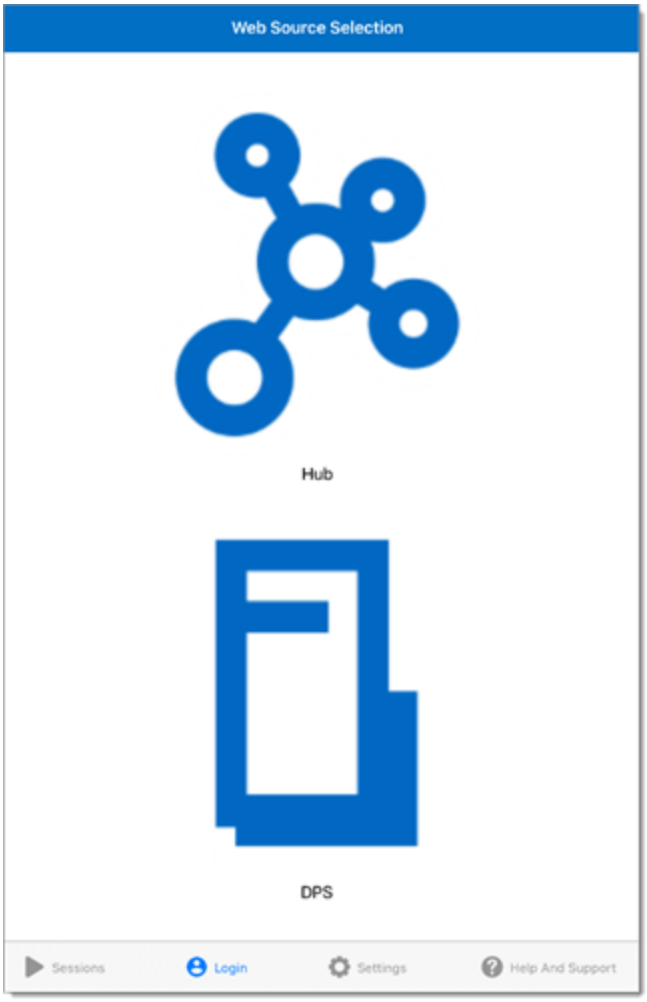
Find all the support links and help with the application.

8.3.2.3 iOS

When you finish the installation of Devolutions Launcher, you are prompted to choose a web source between Devolutions Password Hub and Devolutions Password Server..

> Web source login is available in the ***Login*** of Devolutions Launcher.

1. Choose ***Devolutions Password Hub***.



Devolutions Launcher Web Source Selection

2. Enter the Devolutions Password Hub Web address and tap ***Next***.

Devolutions Password Hub Web Address

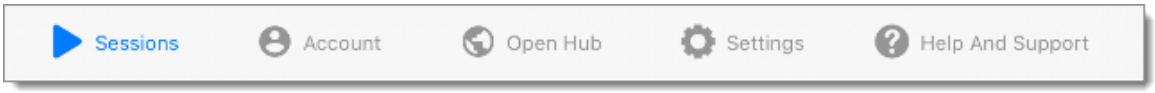
3. Fill with your Devolutions Password Hub credentials and ***Continue***.

Devolutions Password Hub Credentials

4. Enter your Devolutions Password Hub Master key and click ***Next***.

Devolutions Password Hub Master Key

DEVOLUTIONS LAUNCHER MENU



Devolutions Launcher Menu

SESSIONS

View the open sessions

ACCOUNT

Log in or out of your connected source

OPEN HUB

Open a session by tapping ***Open Hub.***

SETTINGS

Set all the settings related to your Devolutions Launcher:

- Security: Application password, Background lock, Touch ID activation, Lock application.
- Language: Choose between the available languages. An application relaunch is necessary.
- Sessions: Full-screen option.
- RDP: Screen size, Enabling logging and redirection.
- Terminal: Set terminal appearance.
- User interface: Pointer size mode in session.
- Application: Logs and about Devolutions Launcher.

HELP AND SUPPORT

Find all the support links and help with the application.

8.4 Utilization

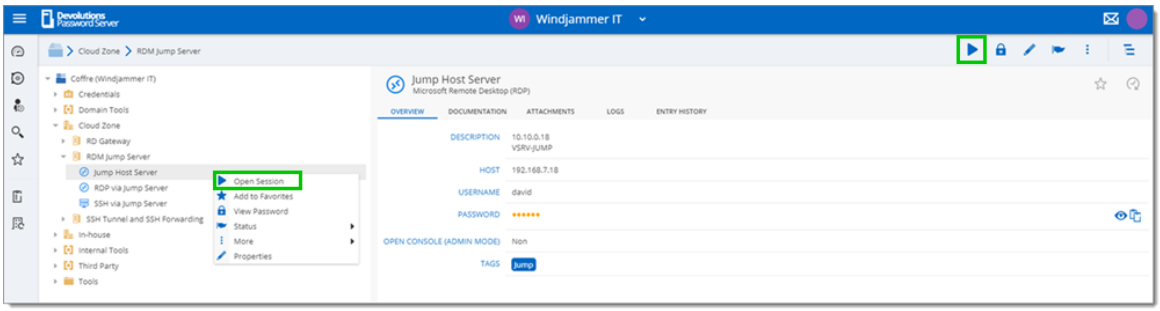
8.4.1 Windows and macOs

HOW TO OPEN REMOTE CONNECTIONS WITH DEVOLUTIONS LAUNCHER

An overview of Devolutions Launcher

OPEN A SESSION WITH DEVOLUTIONS PASSWORD SERVER

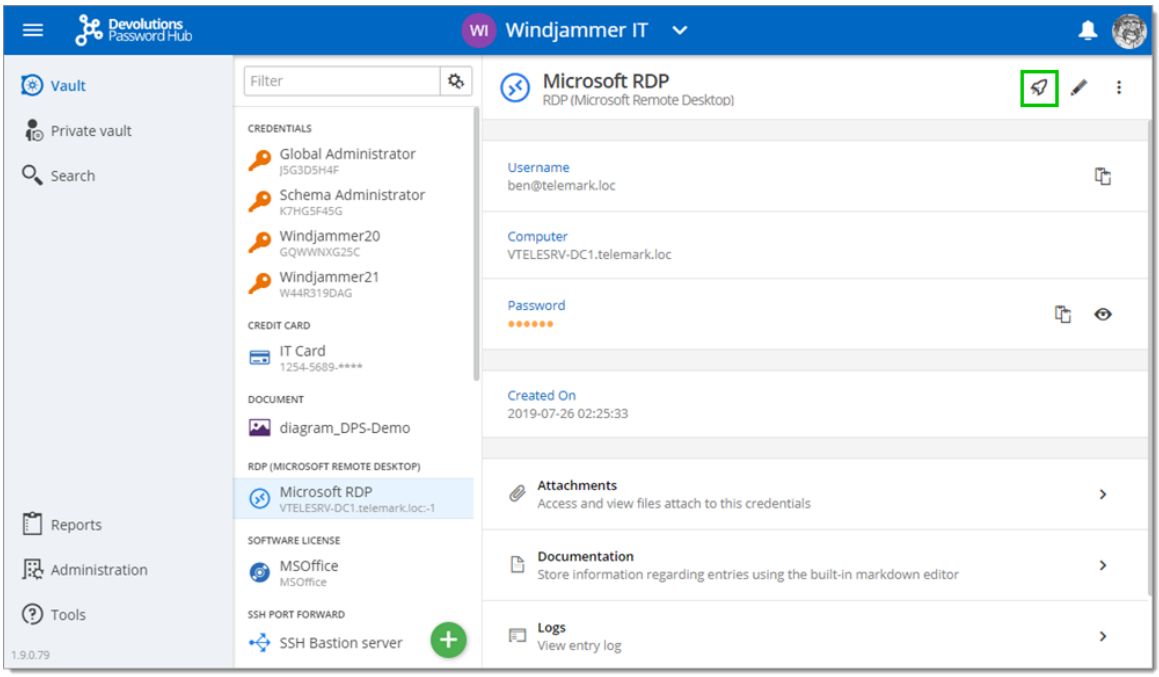
Click the play button or open a session in the right-click contextual menu.



Open a Devolutions Password Server session

OPEN A SESSION WITH DEVOLUTIONS PASSWORD HUB

Click the ***Devolutions Launcher*** icon.



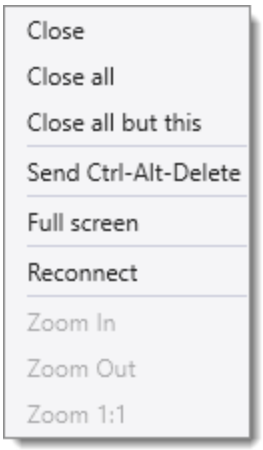
Open a Devolutions Password Hub session

SESSION SETTINGS IN DEVOLUTIONS LAUNCHER

Undock or float a session by clicking and holding the tab away from the window and releasing it.

Re dock it by clicking and holding the tab, releasing it on the upper part of Devolutions Launcher.

To use the shortcut ***Ctrl-Alt-Delete*** in a session, right-click on the session tab to open the menu and click on the ***Send Ctrl-Alt-Delete*** button.



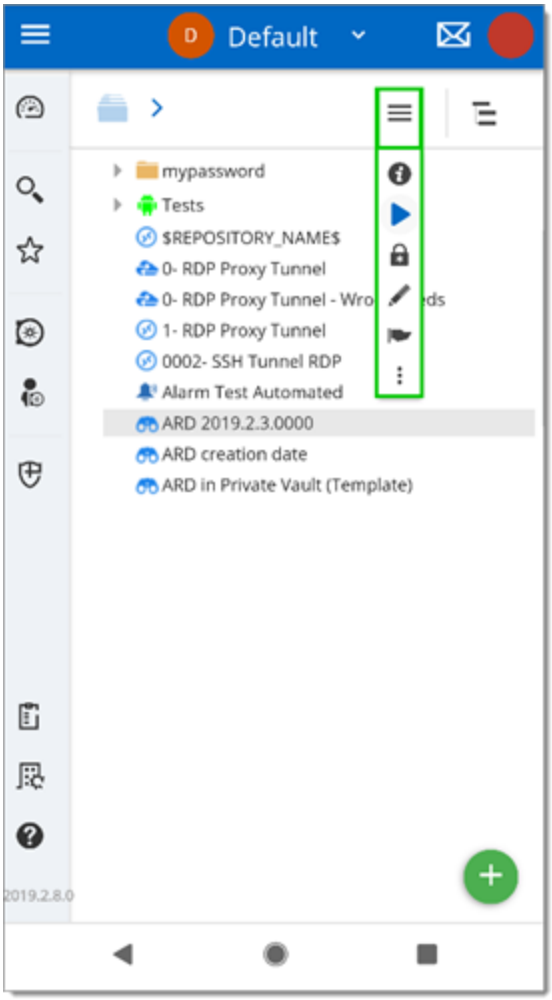
Session Settings

8.4.2 Android and iOS

OPEN A SESSION WITH ANDROID AND IOS FROM DEVOLUTIONS PASSWORD SERVER

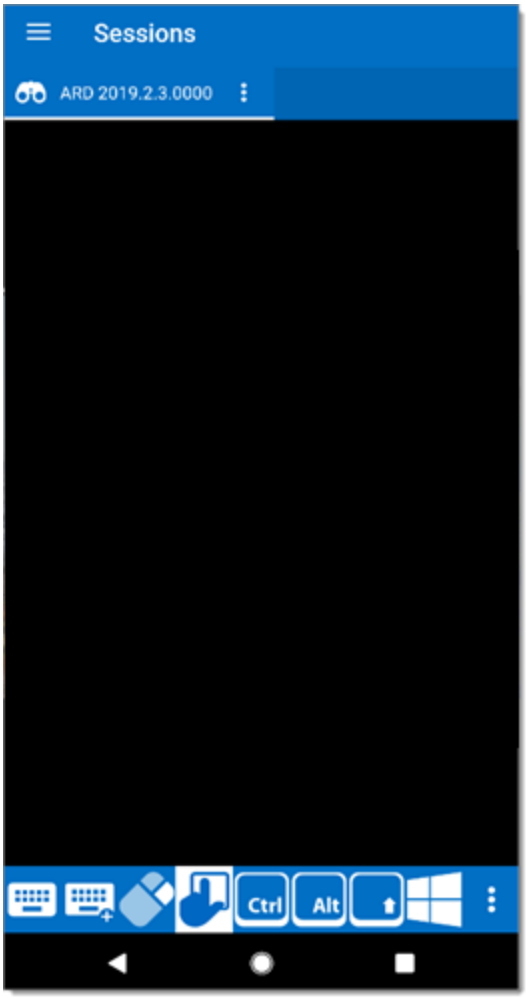
If the hamburger menu is hidden, in the ***Vault*** section, follow these steps to launch a session:

1. Click on a session in Devolutions Password Server from your Android or iOS device.
2. Close it to go back to the vault view.
3. Press on the hamburger menu at the top right corner than the play button to launch the session.



Android Hamburger Menu

Your remote connection opens in Devolutions Launcher.



Android Sessions

The bottom menu allows to show or hide the keyboard, perform a right-click or move the cursor of the remote connection with the touch interface of your device.

Shortcut keys are displayed and other features are available in the hidden menu.

Support/Resources

Part IX

9 Support/Resources

9.1 FAQ (Frequently Asked Questions)

WHAT IS DEVOLUTIONS PASSWORD SERVER?

Devolutions Password Server is a specialized data source for our various client applications of the **Remote Desktop Manager** platform.

WHY BUY DEVOLUTIONS PASSWORD SERVER?

Ideal for businesses that would prefer to store their data in-house, want to deploy their own SSL certificate or firewall or who need Active Directory integration with role management.

WHAT ARE THE KEY BENEFITS OF DEVOLUTIONS PASSWORD SERVER?

Devolutions Password Server is installed on your hardware, in your environment, or with your ISP to give you total control of everything, including:

- Active Directory integration
- Role management
- Hardware
- Operating System
- Firewall / Application Delivery
- Load Balancing / Fault tolerant environment for the web server layer.
- Database, including clustering / failover capabilities.
- Backups
- SSL certificates

Devolutions Password Server also offers an improved security model, as database access is limited to the server and no direct connection is established. This secure architecture is a significant improvement over standard client-server architecture. (SQL Server data source)

CAN I GET A TRIAL OF DEVOLUTIONS PASSWORD SERVER?

Yes - Request a trial

DOES DEVOLUTIONS PASSWORD SERVER INCLUDE A CLIENT LICENSE OF REMOTE DESKTOP MANAGER?

Devolutions Password Server does not include any client licenses.

IS DEVOLUTIONS PASSWORD SERVER SUBSCRIPTION BASED?

Yes, Devolutions Password Server is subscription based. You can subscribe for one (1) year or three (3) years at a time. Giving you unlimited client connectivity for that period of time.

WHAT IF I NO LONGER WANT/NEED A DEVOLUTIONS PASSWORD SERVER? IS MY DATA STILL ACCESSIBLE?

Yes, once your Devolutions Password Server subscription is expired you can still access the data using one of our applications. However the Devolutions Password Server data source will no longer be accessible. You will need to reconfigure your clients to connect directly to the database using a SQL Server data source. Since Active Directory integration will not be allowed anymore, you will need to reassign user permissions.

CAN I UPGRADE FROM A SQL SERVER DATA SOURCE TO DEVOLUTIONS PASSWORD SERVER?

Yes, the underlying SQL server database structure for the SQL Server data source is a subset of the Devolutions Password Server database structure. When installing/configuring the Devolutions Password Server simply specify the existing database and choose upgrade.

Note: Before executing any database modification it is always a good idea to make sure you have a proper backup of the database.

CAN I DOWNGRADE FROM A DEVOLUTIONS PASSWORD SERVER DOWN TO SQL SERVER DATA SOURCE?

Yes, since the database for Devolutions Password Server is a superset of the SQL Server data source. Simply connect to the database using the SQL Server data source and your sessions will all be available. Keep in mind that not all Devolutions Password Server features will be accessible when using the SQL Server data source, you will need to review all security permissions.

9.2 Follow Us

OVERVIEW

Get the hottest information about our products - tips and tricks, case studies and new release announcements!

This is not a marketing newsletter. We focus on the issues that matter to you, whether you're looking for up-to-the-minute software tutorials, additional outside resources, or a peek at how others are using our products.

Links	
	Facebook
	LinkedIn
	RSS feeds

	Twitter
	YouTube
	Blog
	Forum
	Spiceworks
	Reddit
	Instagram

9.3 Previous Versions

DESCRIPTION

Here are the links to the pdf manuals of past releases.

Devolutions Password Server 4.6

Devolutions Password Server 4.5

Devolutions Password Server 4.0

Devolutions Password Server 3.2

Devolutions Password Server 3.0

Devolutions Password Server 2.5

9.4 Technical Support

Hours: Monday to Friday 7:30 a.m. to 6:00 p.m. EST

Language: English-Français-Deutsch

Email: ticket@devolutions.net

Forum: https://forum.devolutions.net/

Phone: +1 844 463.0419

EXTENDED AND PREMIUM SUPPORT PLANS

Subscribers of a paid support plan receive an email address and a plan ID. You should send your support requests to the appropriate email address and provide your plan ID in the subject line.

Please consult our Support Policy for more information.

9.5 Knowledge Base

9.5.1 Azure portal configuration guide for Office365 authentication

DESCRIPTION

Microsoft Azure AD subscription is required to configure Office365 authentication in Devolutions Password Server.

The following topic contains the procedure to configure Azure and Devolutions Password Server properly to use Office365 authentication.

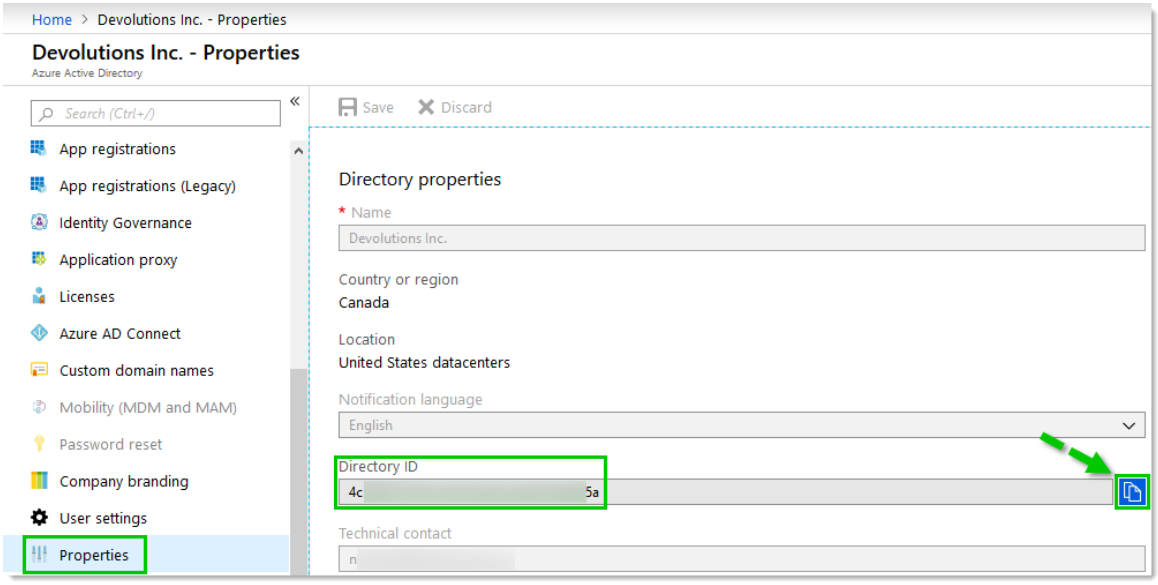
REQUIREMENTS

- Devolutions Password Server Scheduler installed and running.
- Microsoft Azure AD subscription.
- An Azure Public client (mobile & desktop) Application for the Remote Desktop Manager Native application.
- 2 Azure AD Web Application. One for the Devolutions Password Server Web application and the other one for the **Users** and **Roles** Cache application.

CREATION OF AZURE AD APPLICATIONS AND DEVOLUTIONS PASSWORD SERVER OFFICE365 CONFIGURATION.

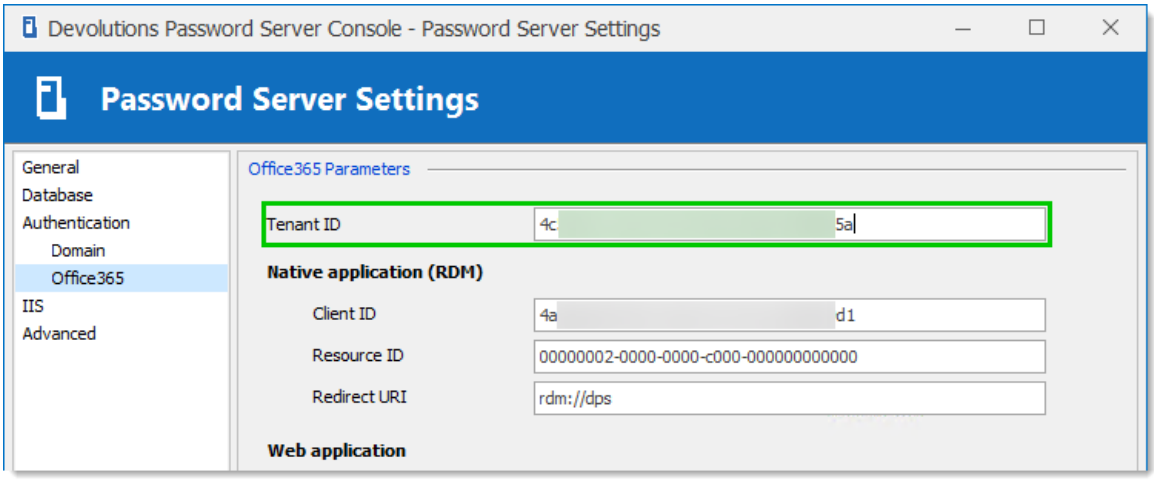
1. Log in to your Microsoft Azure Portal using administrator credentials at https://portal.azure.com.
2. To simplify the configuration steps and to easily copy and paste all the required parameters, please have side by side the Azure Portal and the Devolutions Password Server Console opened.
3. Once logged in, go to ***Azure Active Directory - Properties***.

   3.1. Click on the **Copy to clipboard** button beside the Directory ID property.



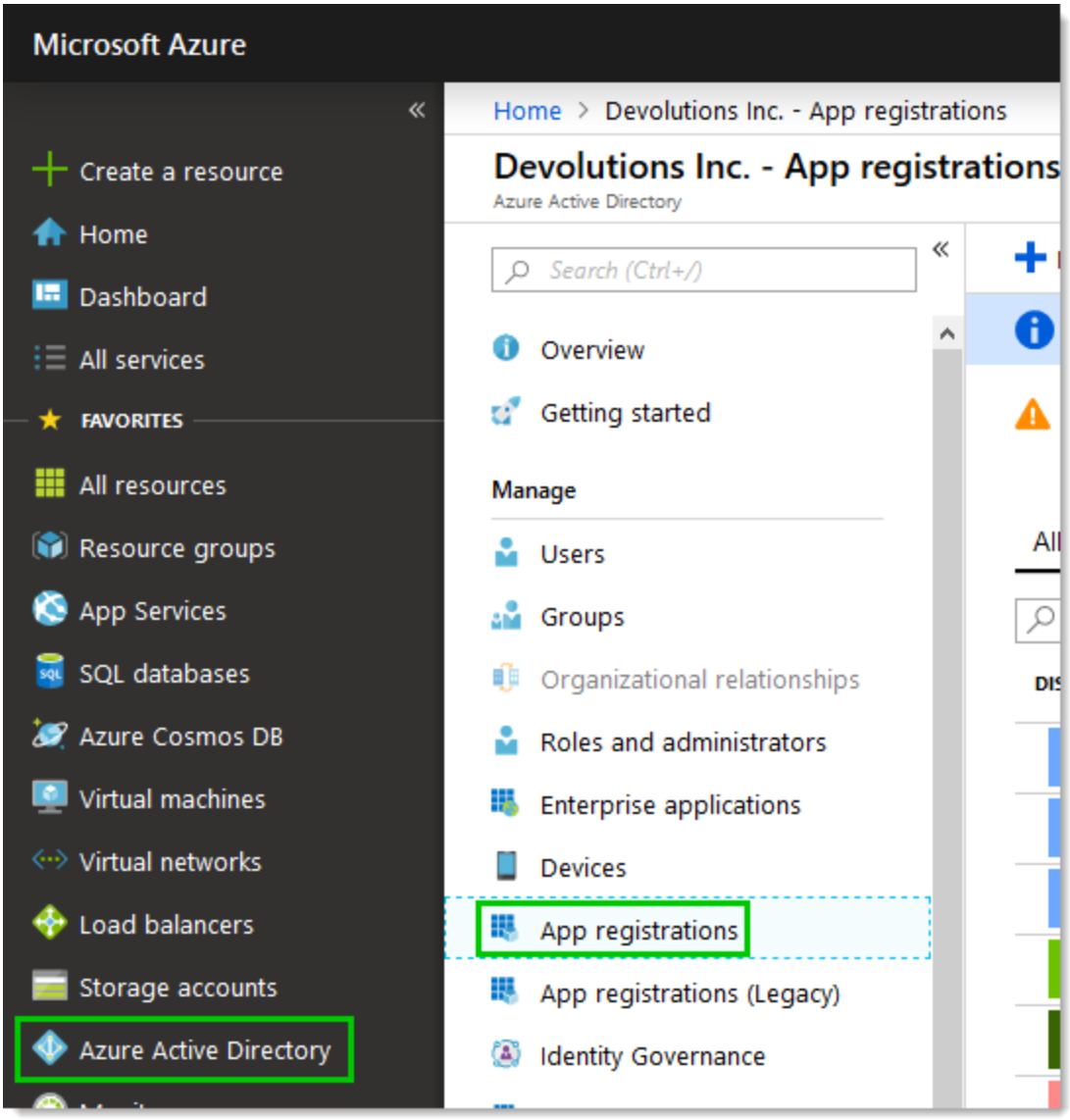
Azure AD Directory ID

3.2. Paste this value in the **Tenant ID** field of the Devolutions Password Server **Office365** tab.



Office365 Tenant ID

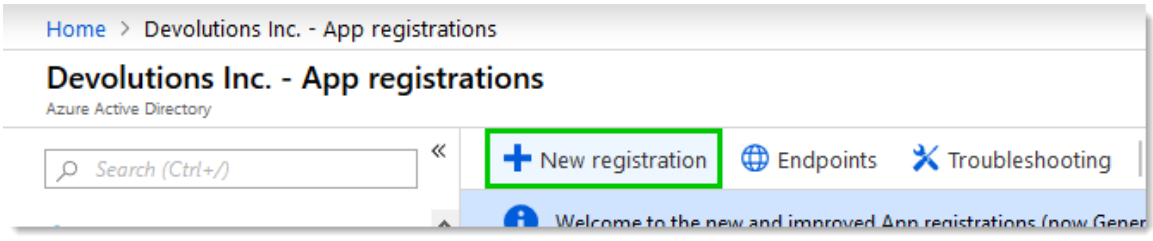
4. Go to ***Azure Active Directory - App registrations***.



Microsoft Azure Portal

5. DEVOLUTIONS PASSWORD SERVER NATIVE APPLICATION (RDM)

5.1. Create the application using **New registration** button.

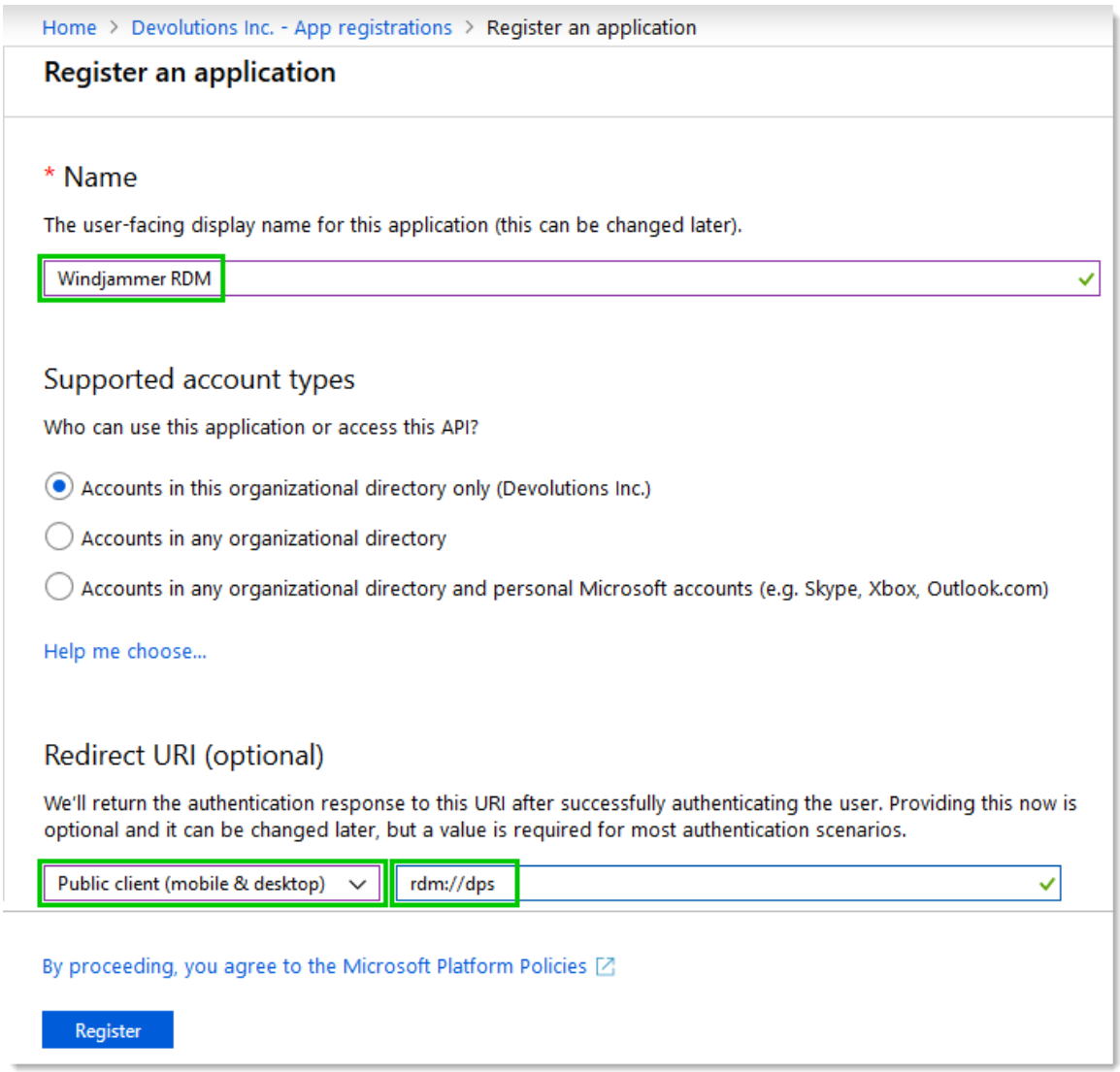


Azure AD - App registrations

5.2. Choose a significant name for the application. This name will not be used outside of Azure Portal.

5.3. Set which **Supported account types** that will be allowed to connect. Usually selecting **Accounts in this organizational directory only** is more than enough for your Azure AD authentication.

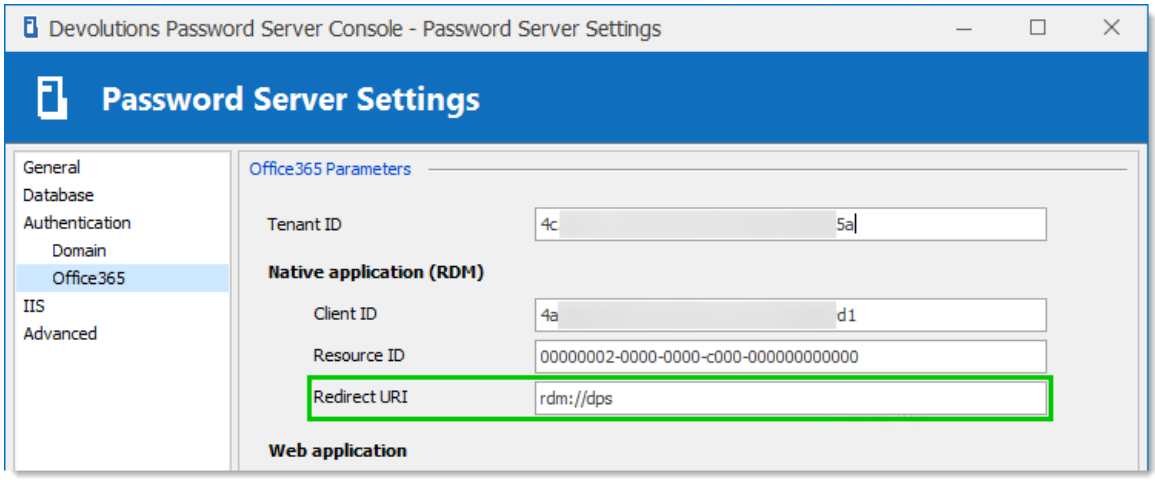
5.4. Set the **Redirect URI** to **Public client (mobile & desktop)** and set a valid URI. This value must respect the Azure URI format and must be the same in the Devolutions Password Server Office365 settings.



Azure Client (RDM) application parameters

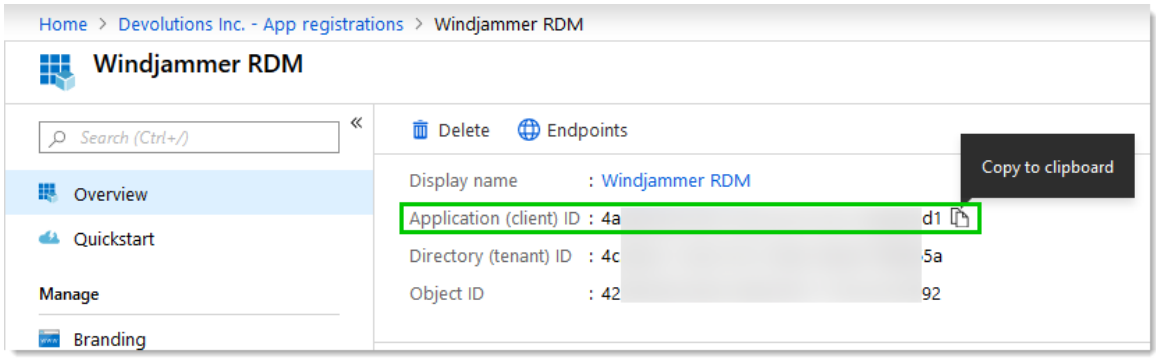
5.5. Copy this URI and click on the **Register** button to complete the application registration.

5.6. Paste the URI in the **Redirect URI** field of the **Native application (RDM)** section of the Devolutions Password Server **Office365** tab.



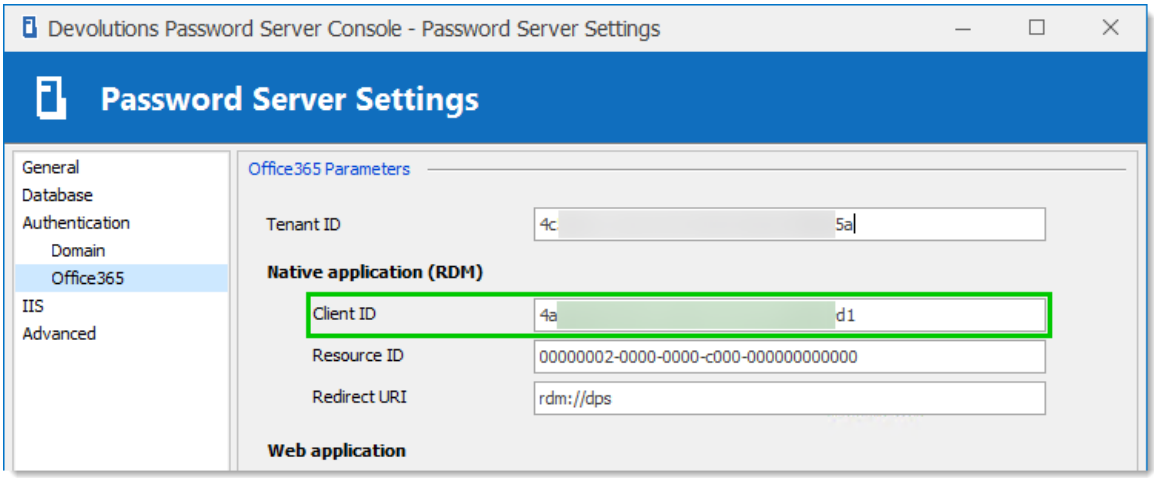
Native Application (RDM) - Redirect URI

5.7. Click on the **Copy to clipboard** button beside the **Application (client) ID** of the Azure client (RDM) application.



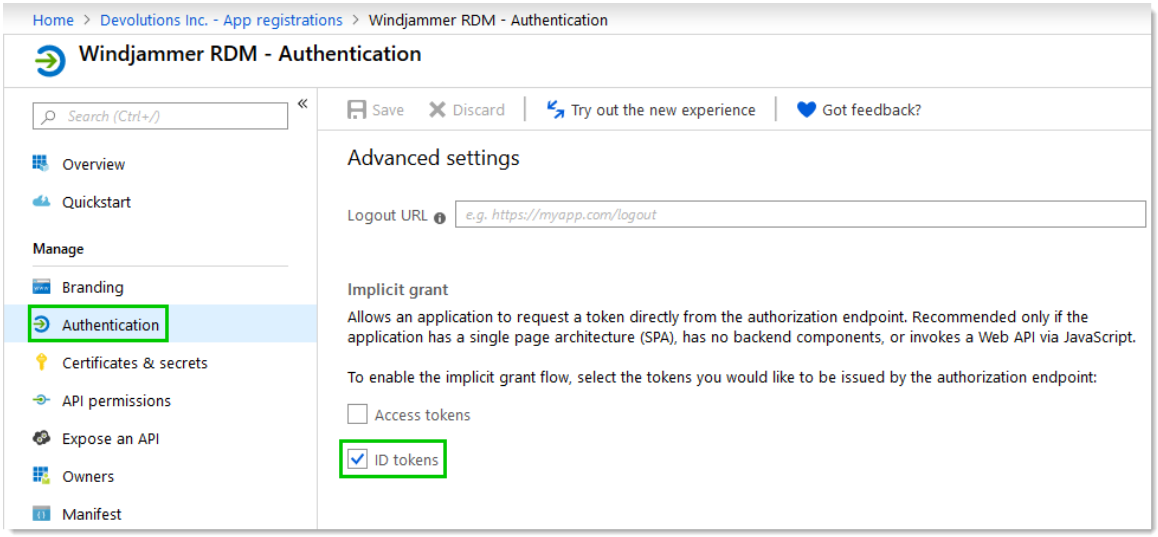
Azure Client (RDM) Application ID

5.8. Paste the **Application (client) ID** in the **Client ID** field of the **Native application (RDM)** section of the Devolutions Password Server **Office365** tab.



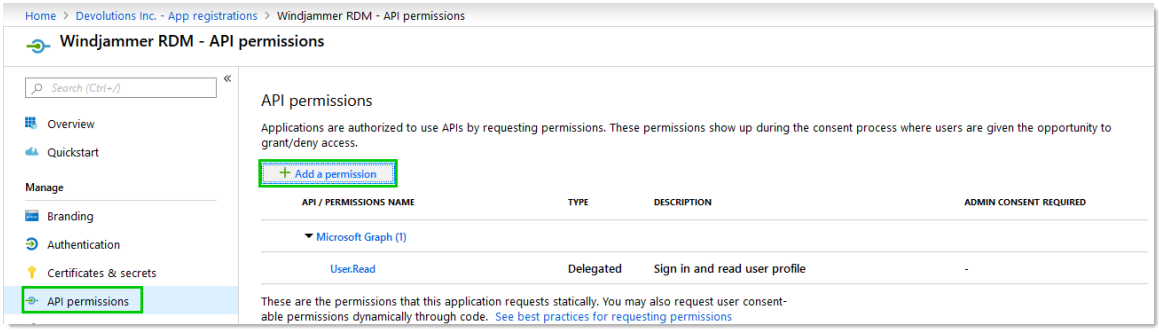
Native Application (RDM) - Client ID

5.9. Select the **Authentication** tab of the Azure client (RDM) application and enable the **ID tokens** under **Advanced settings** section.



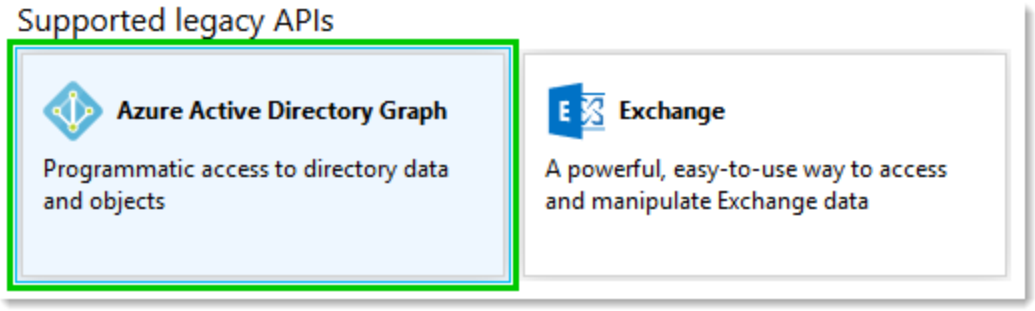
Azure Client (RDM) Application - Authentication

5.10. Select the **API Permissions** tab of the Azure client (RDM) application and click on the **Add a permission** button.



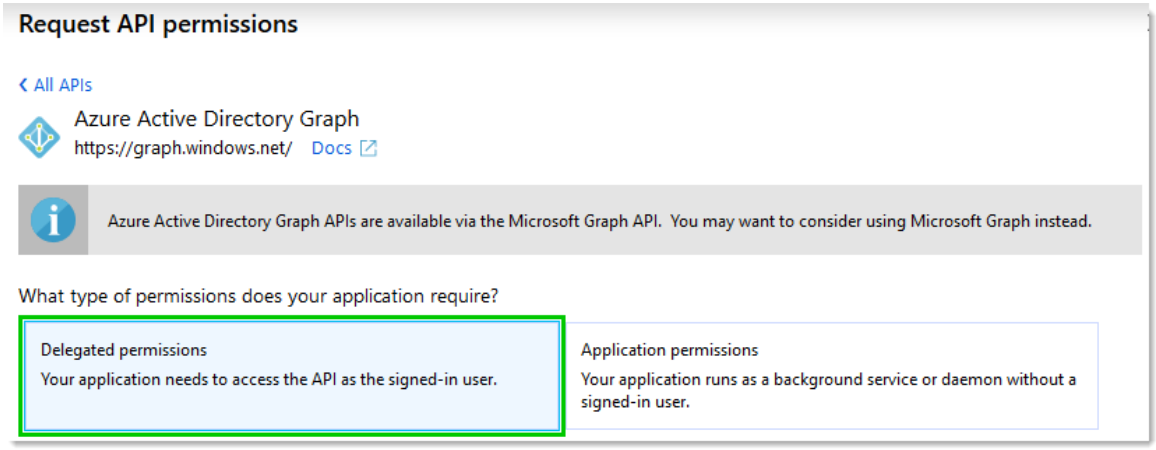
Azure Client (RDM) Application - Add a permission

5.11. At the bottom of the permissions list, click on the **Azure Active Directory Graph** button.



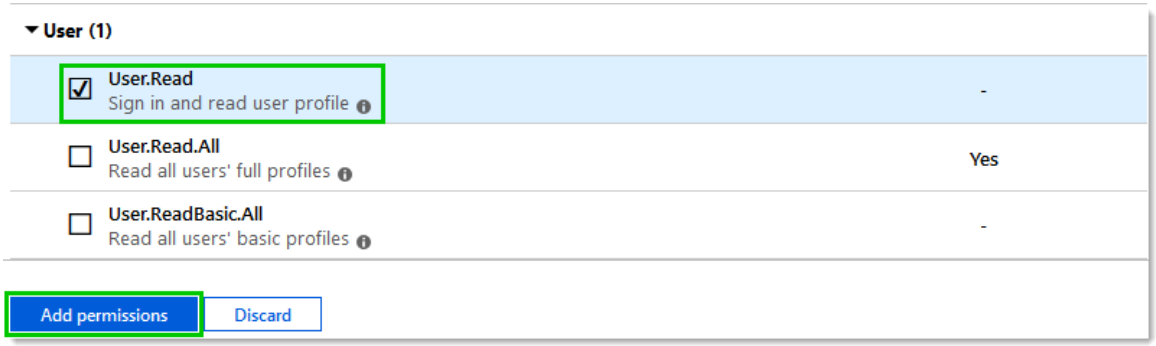
Azure Client (RDM) Application - Azure Active Directory Graph

5.12. Click on the **Delegated permissions** button.



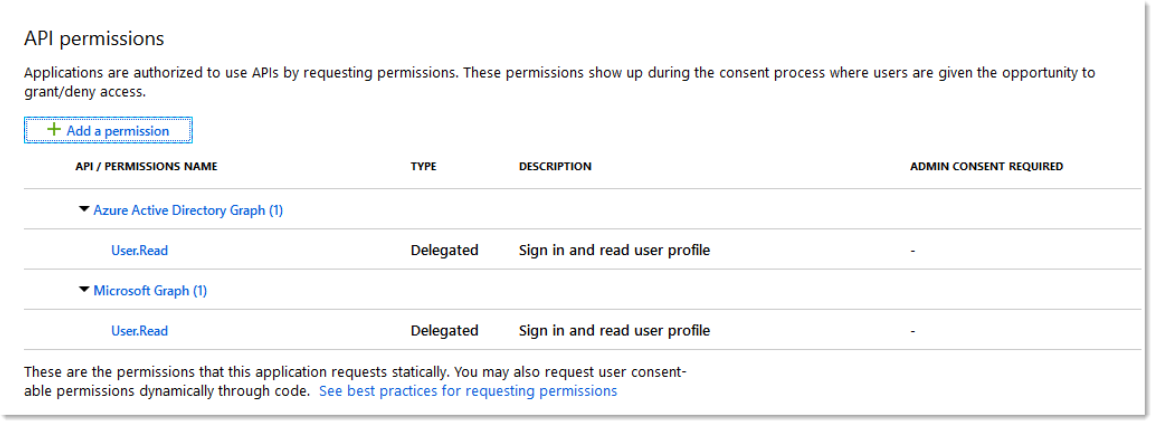
Azure Client (RDM) Application - Delegated Permissions

5.13. Select **User.Read** under **User** section and click on the **Add permissions** button.



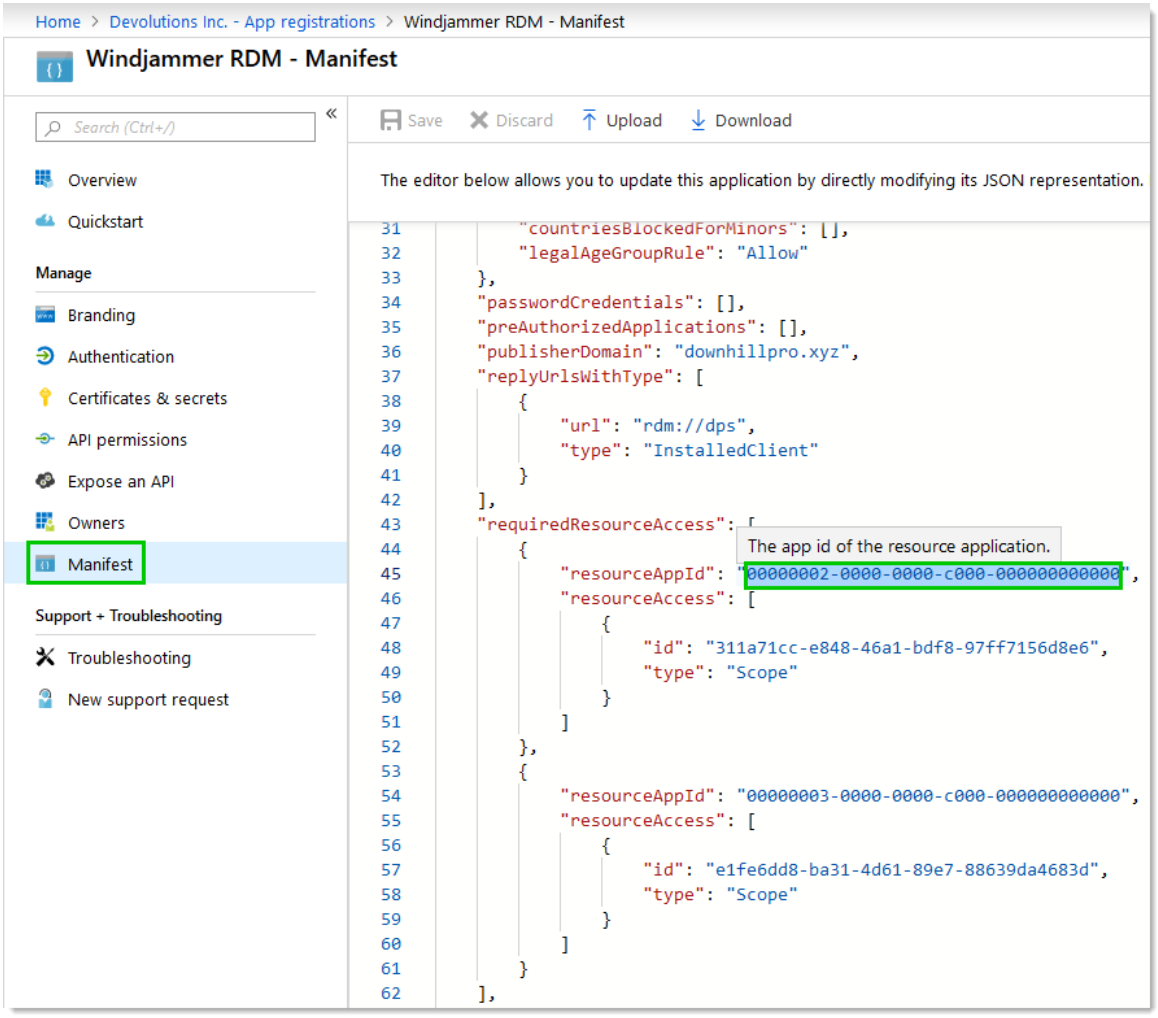
Azure Client (RDM) Application - User.Read Permission

5.14. The following screen shows the actual permissions set for the Azure client (RDM) application.



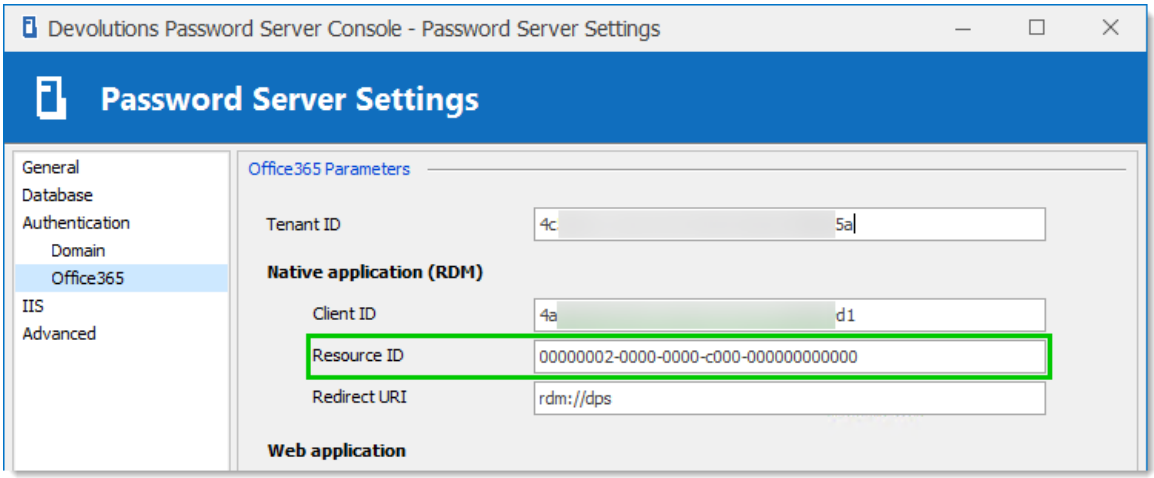
Azure Client (RDM) Application - Permissions

5.15. Select the **Manifest** tab and copy the resource application ID of the Azure client (RDM) application which contains the **00000002** value at the beginning.



Azure Client (RDM) Application Manifest - Resource ID

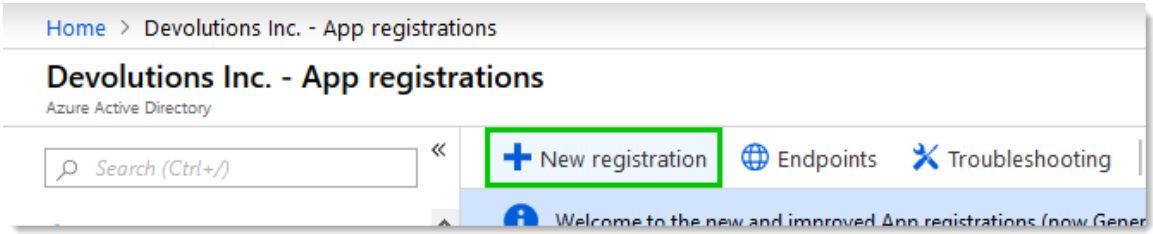
5.16. Paste the resource application ID in the **Resource ID** field of the **Native application (RDM)** section of the Devolutions Password Server **Office365** tab.



Native Application (RDM) - Resource ID

6. DEVOLUTIONS PASSWORD SERVER WEB APPLICATION

6.1. Create the application using the **New registration** button in Azure portal.

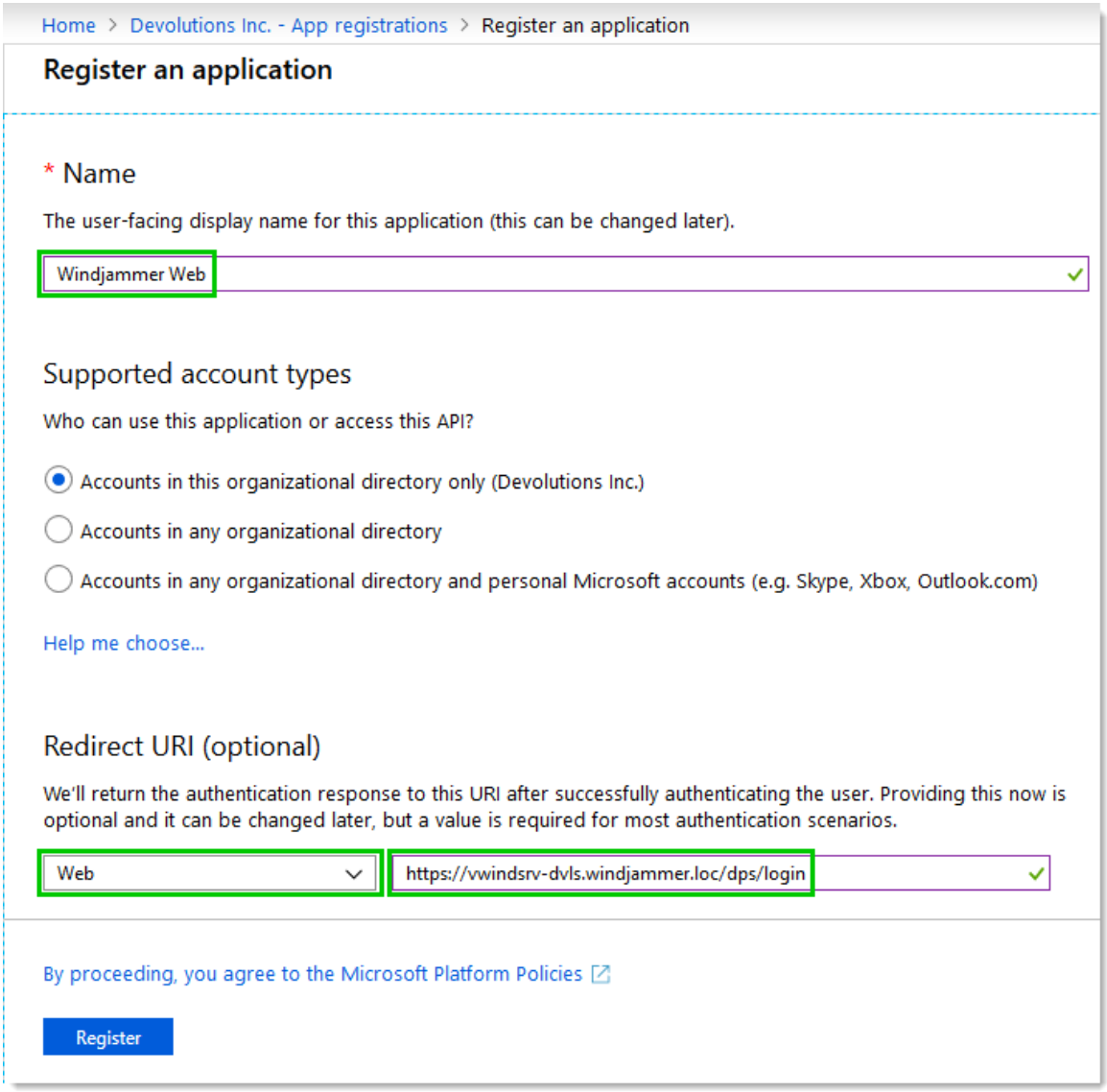


Azure AD - App registrations

6.2. Choose a significant name for the application. This name will not be used outside of Azure Portal.

6.3. Set which **Supported account types** that will be allowed to connect. Usually selecting **Accounts in this organizational directory only** is more than enough for your Azure AD authentication.

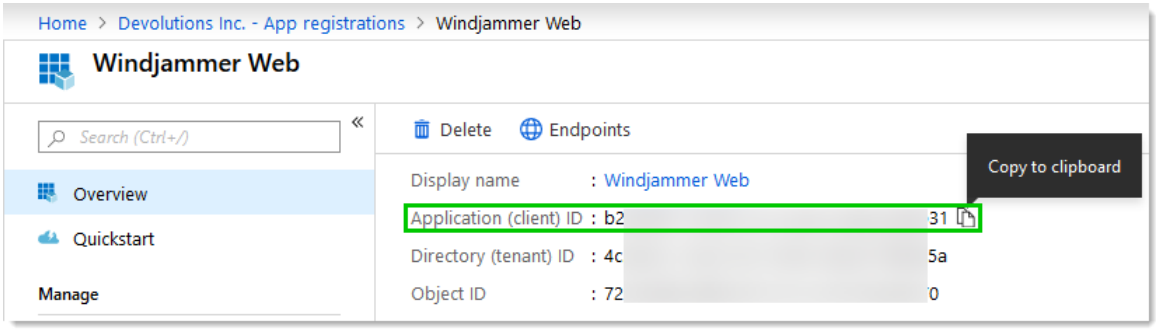
6.4. Set the **Redirect URI** to Web and set a valid URL. This property must be set with the URL to reach your Devolutions Password Server instance with **/login** at the end.



Azure Web Application Paramaters

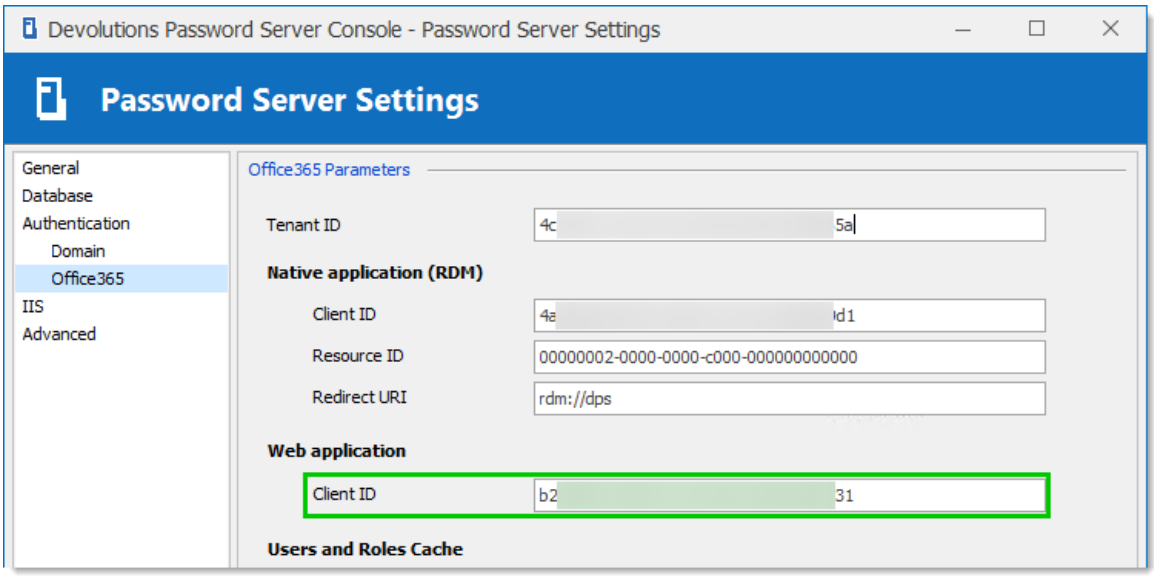
6.5. Then, click on the **Register** button to create the application.

6.6. Click on the **Copy to clipboard** button of the **Application (client) ID**.



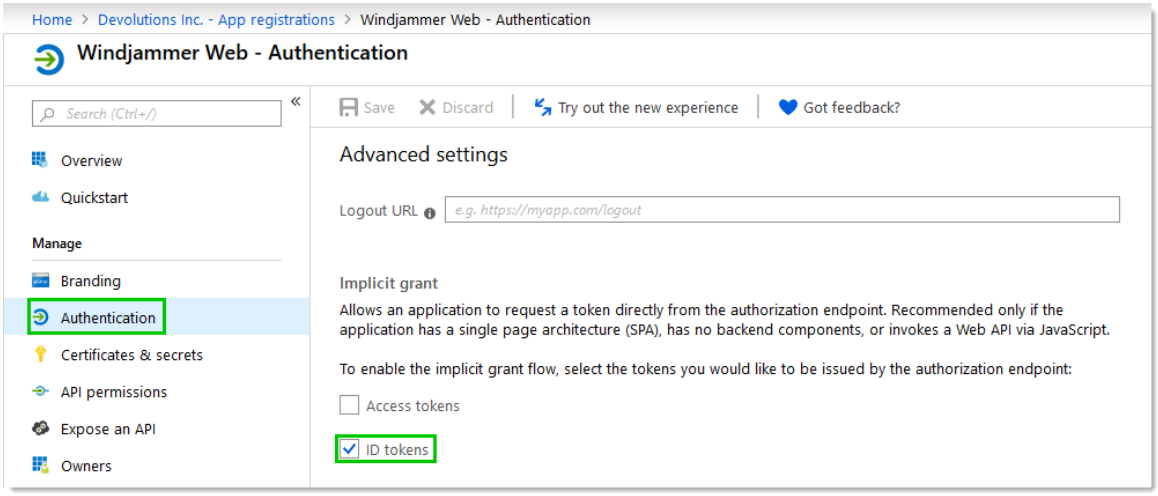
Azure Web Application ID

6.7. Paste the **Application (client) ID** in the **Client ID** field of the **Web application** section of the Devolutions Password Server **Office365** tab.



Web Application - Client ID

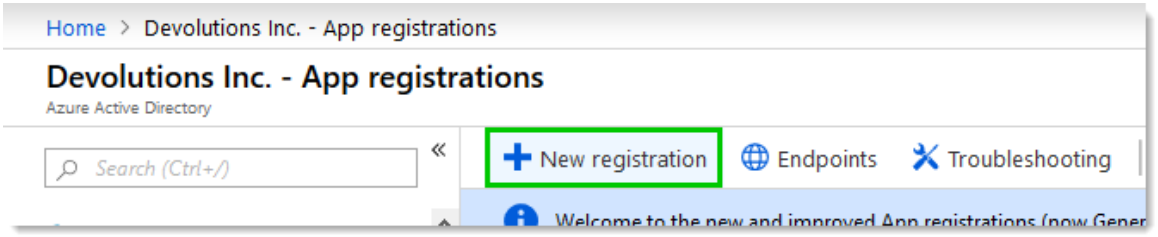
6.8. Select the **Authentication** tab of the Azure Web application and enable the **ID tokens** under **Advanced settings** section.



Azure Web Application - Authentication

7. DEVOLUTIONS PASSWORD SERVER USERS AND ROLES CACHE APPLICATION

7.1. Create the application using **New application registration** button.

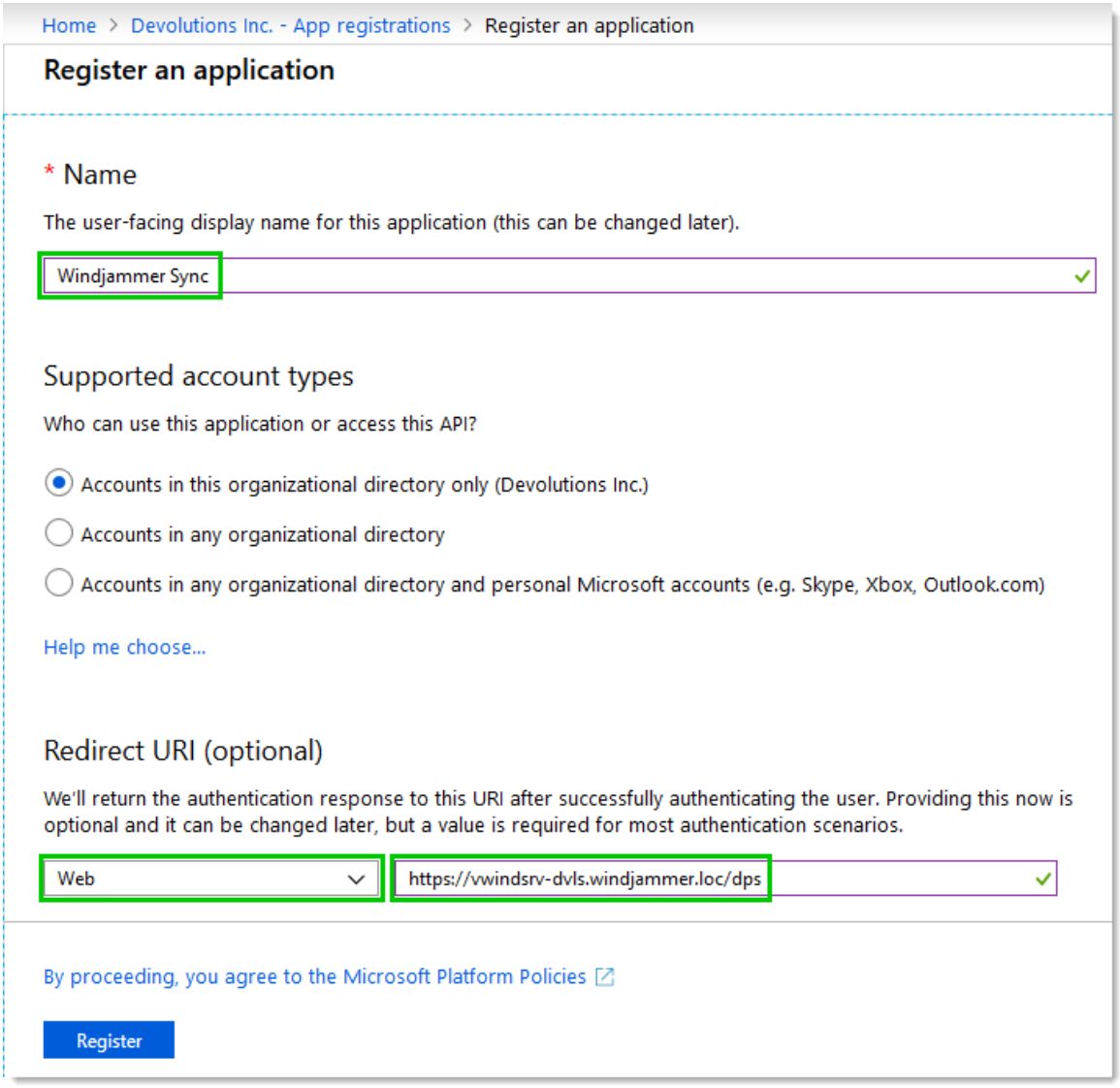


Azure AD - App registrations

7.2. Choose a significant name for the application This name will not be used outside of Azure Portal.

7.3. Set which **Supported account types** that will be allowed to connect. Usually selecting **Accounts in this organizational directory only** is more than enough for your Azure AD authentication.

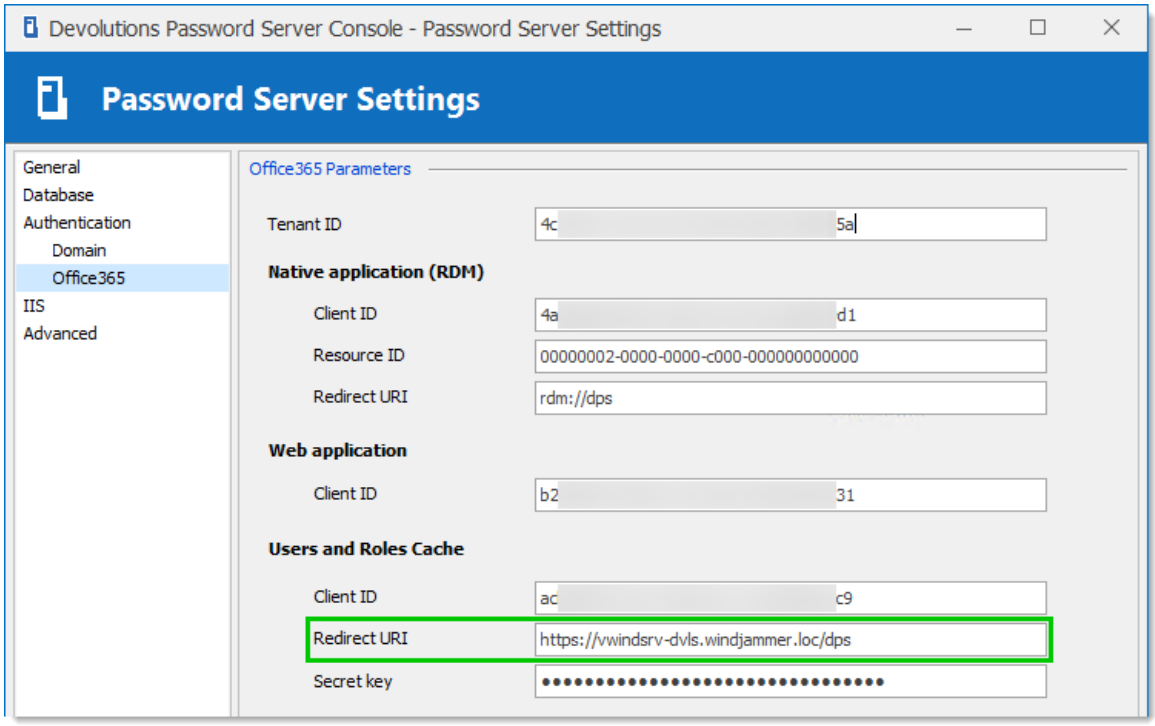
7.4. Set the **Redirect URI** to Web and set a valid URL.



Azure Sync Application Paramaters

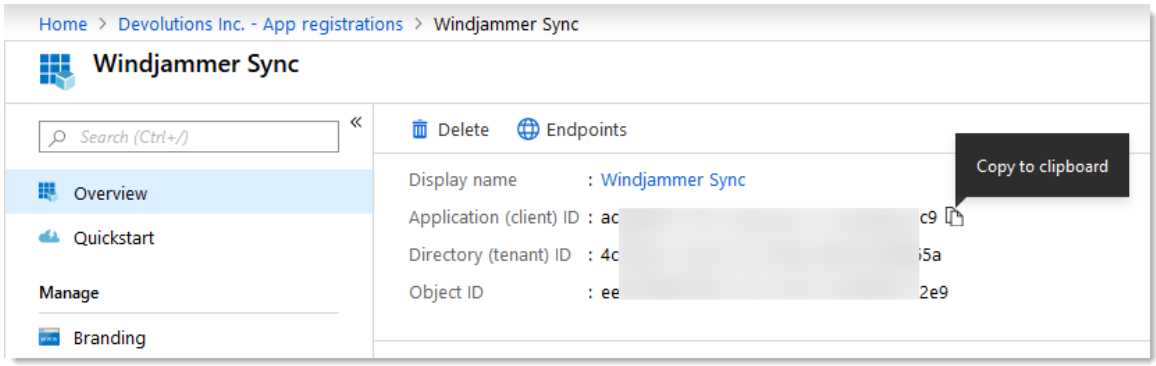
7.5. Copy this URI and click on the **Register** button to create the application.

7.6. Paste the URI in the **Redirect URI** field of the **Users and Roles Cache** section of the Devolutions Password Server **Office365** tab.



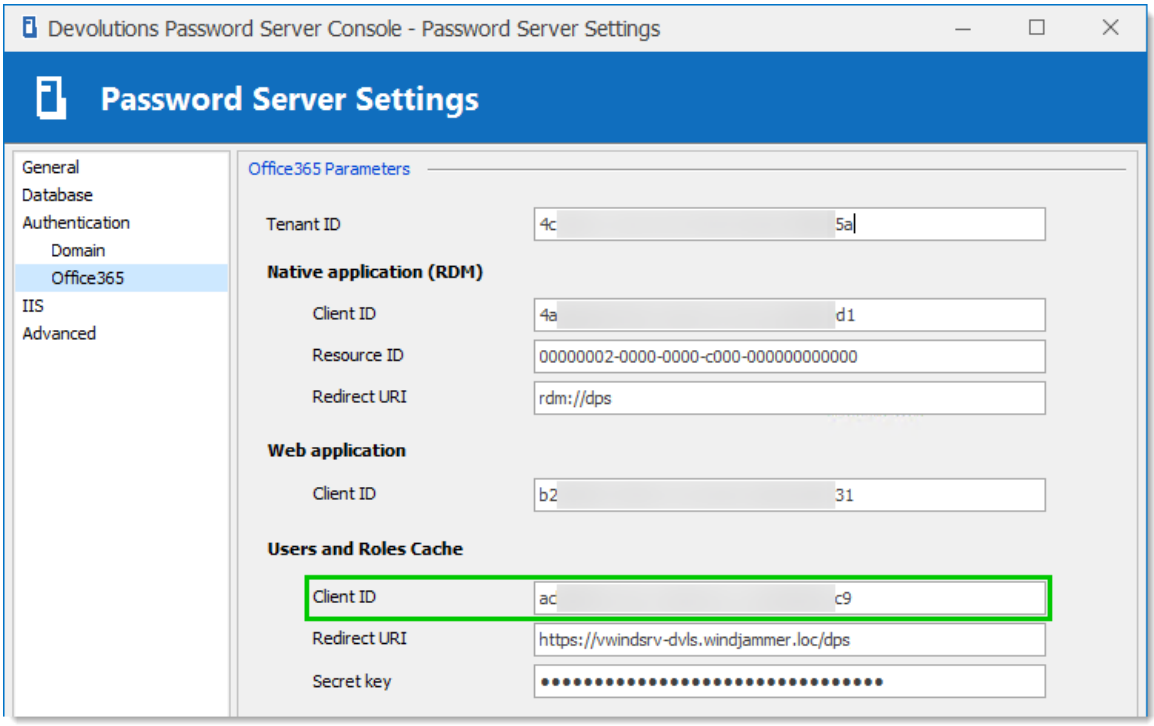
Users and Roles Cache - Redirect URI

7.7. Click on the **Copy to clipboard** button of the **Application (client) ID**.



Azure Sync Application - Application (Client) ID

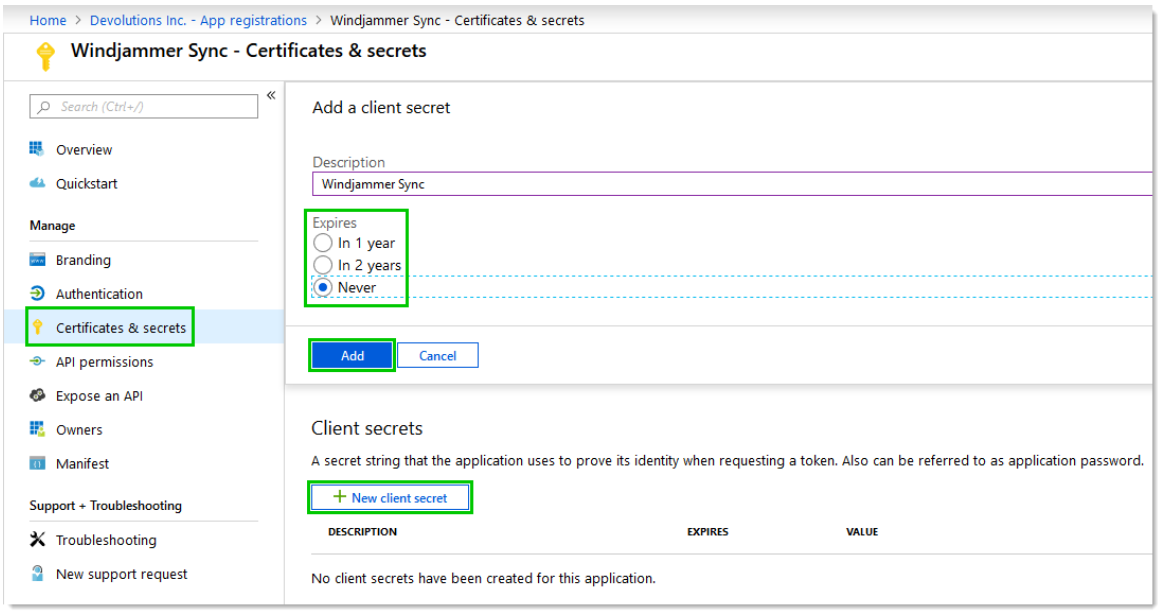
7.8. Paste the **Application (client) ID** in the **Client ID** field of the **Users and Roles Cache** section of the Devolutions Password Server **Office365** tab.



Users and Roles Cache - Client ID

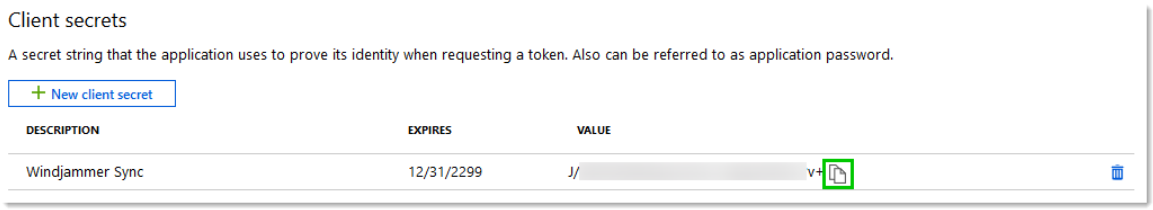
7.9. In the Azure Sync application, select **Certificates & Secrets** to create a new client secret.

7.10. Click on the **+ New client secret** button, set a description and when this client secret key will expire. Then click on the **Add** button.



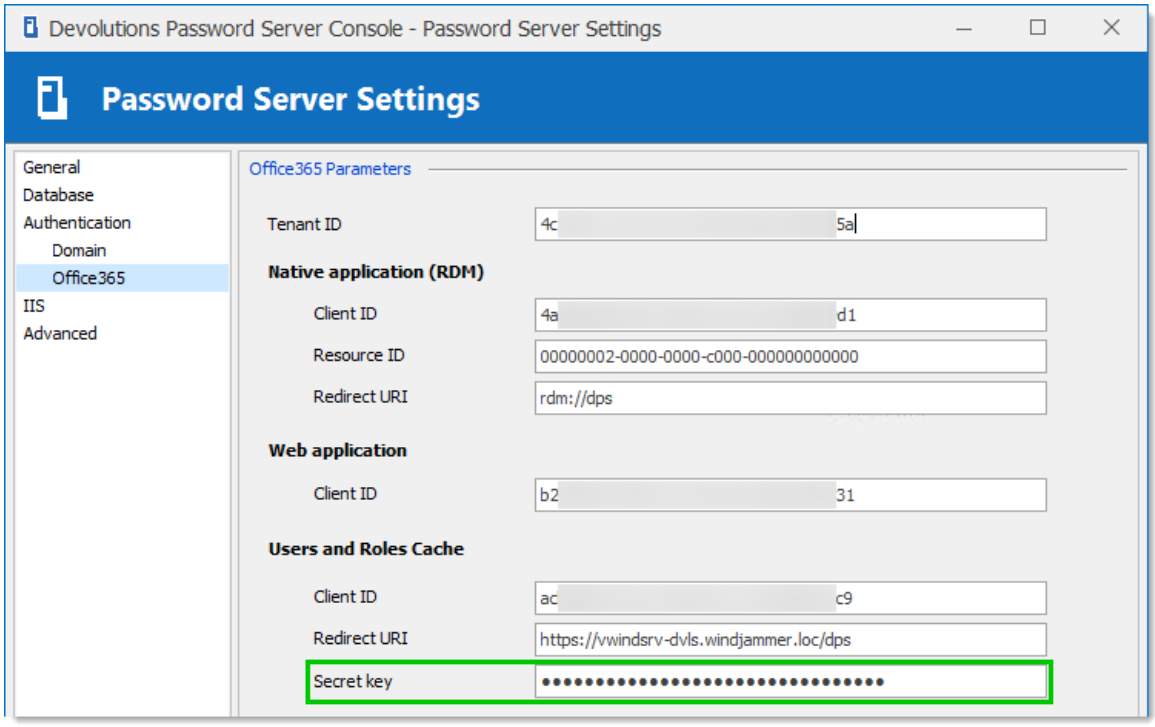
Azure Sync Application - Client secret Creation

7.11. Click on the **Copy to clipboard** button of the **Client secret**. Be sure to save the **Client secret** in a safe place as once you will switch to another page of the Azure portal, the copy button will no longer be available.



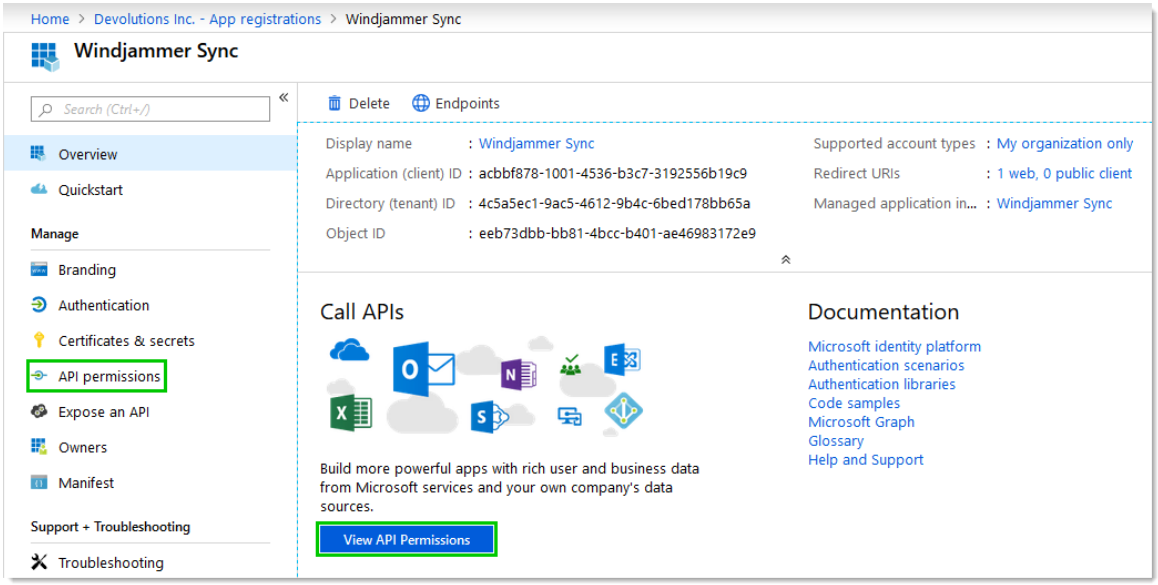
Azure Sync Application - Client secret

7.12. Paste the **Client secret** in the **Secret key** field of the **Users and Roles Cache** section of the Devolutions Password Server **Office365** tab.



Users and Roles Cache - Secret key

7.13. the Azure Sync application, select **API permissions** or click on the **View API Permissions** button to set the proper permissions on the Sync application.

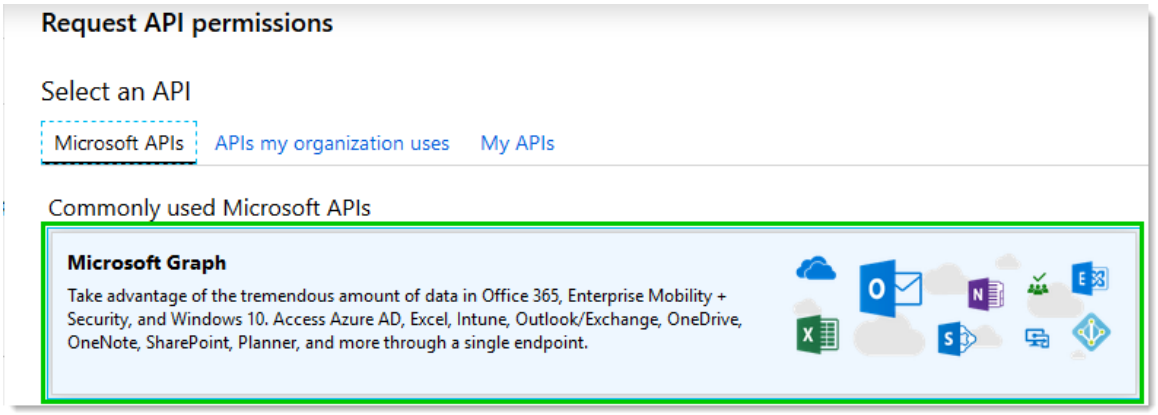


Azure Sync Application Permissions

7.14. Click on the **+ Add a permissions** button.

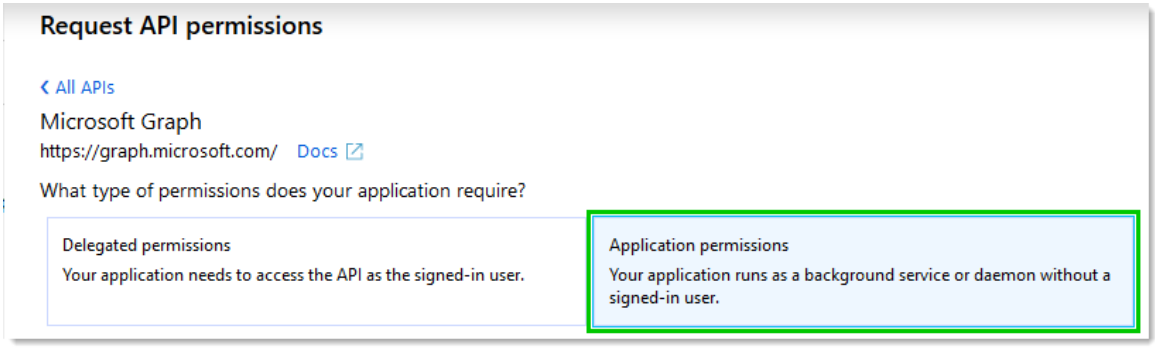
Azure Sync Application API Permissions

7.15. Select **Microsoft Graph**.



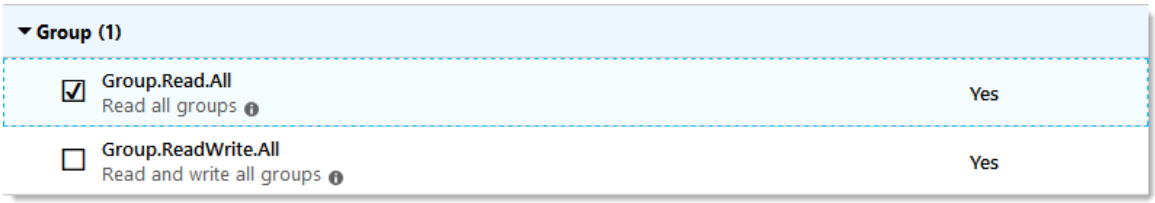
Azure Sync Application Request Permissions - Microsoft Graph

7.16. Select **Application permissions**.

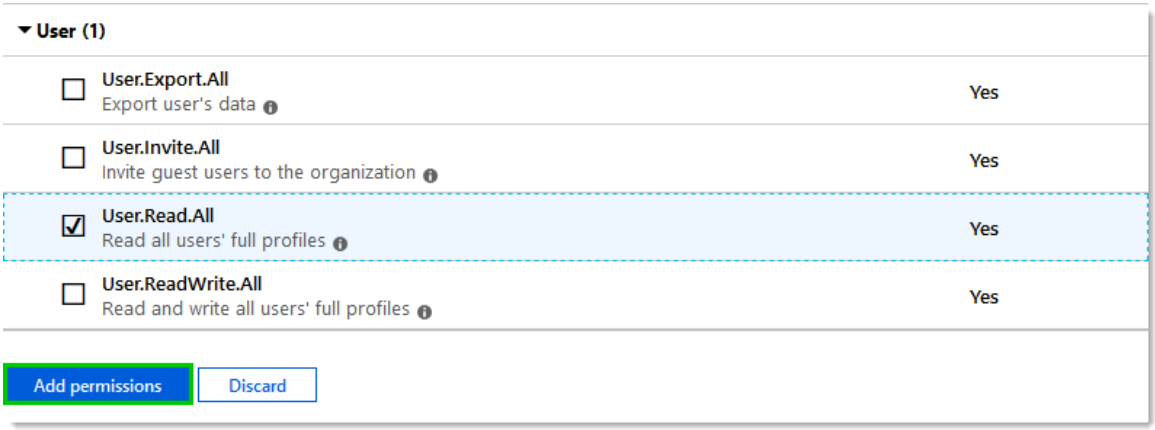


Azure Sync Application - Application Permissions

7.17. Select **Group.Read.All** permission under section Group and **User.Read.All** permission under User section. Then click on the **Add permissions** button.

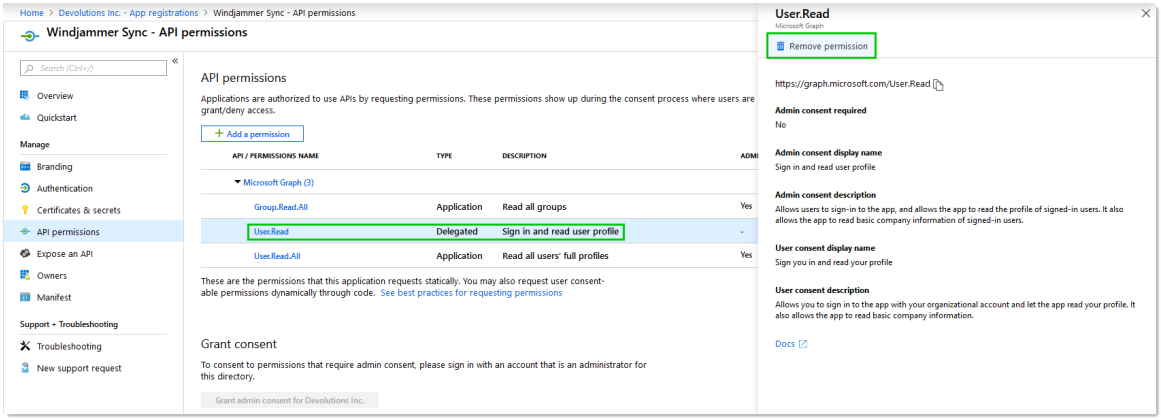


Azure Sync Application - Group Permission



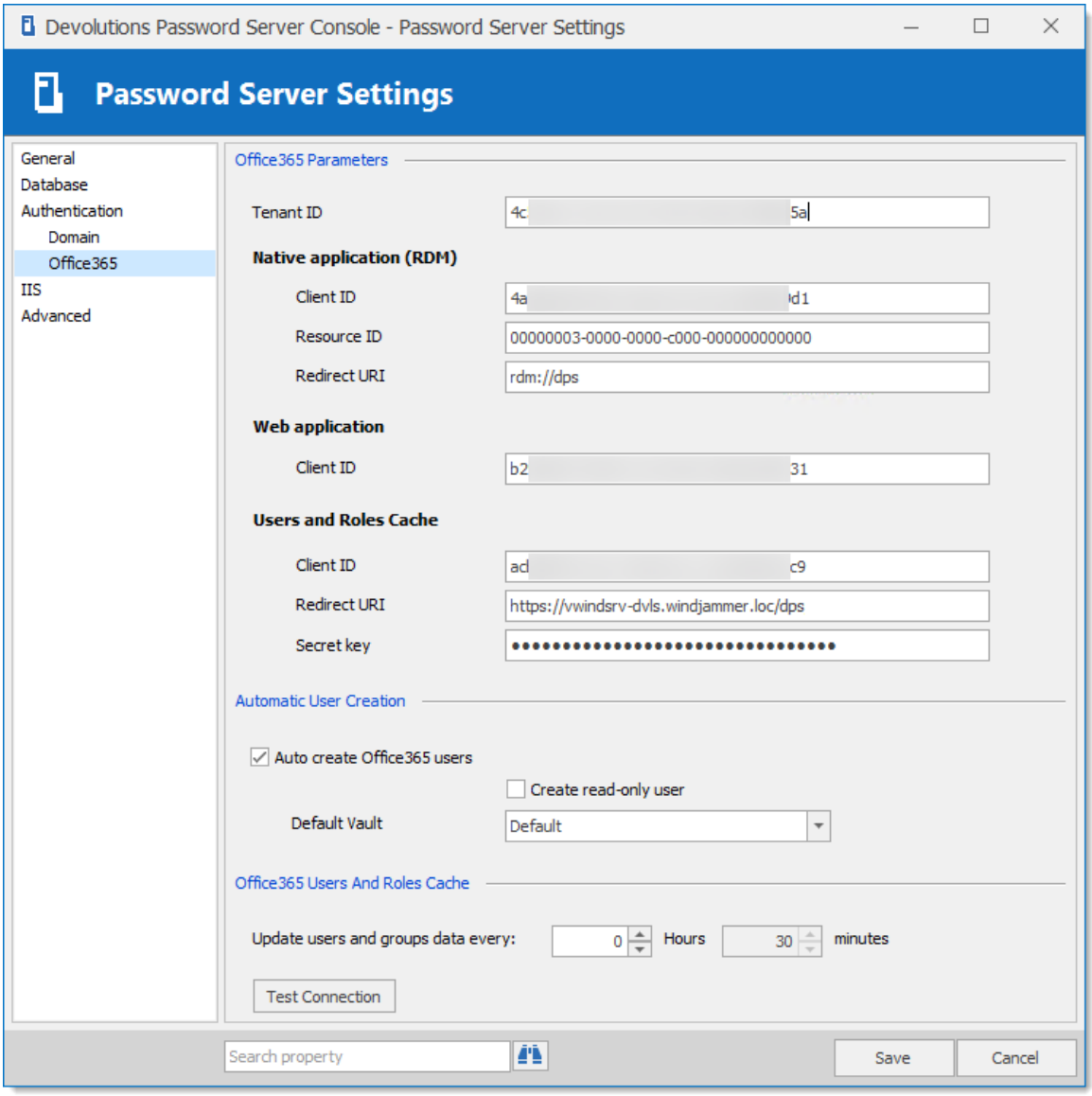
Azure Sync Application - User Permission

7.18. Select the **User.Read Delegated** permission and click on the **Remove permission** button as this permission isn't required for the Sync application.



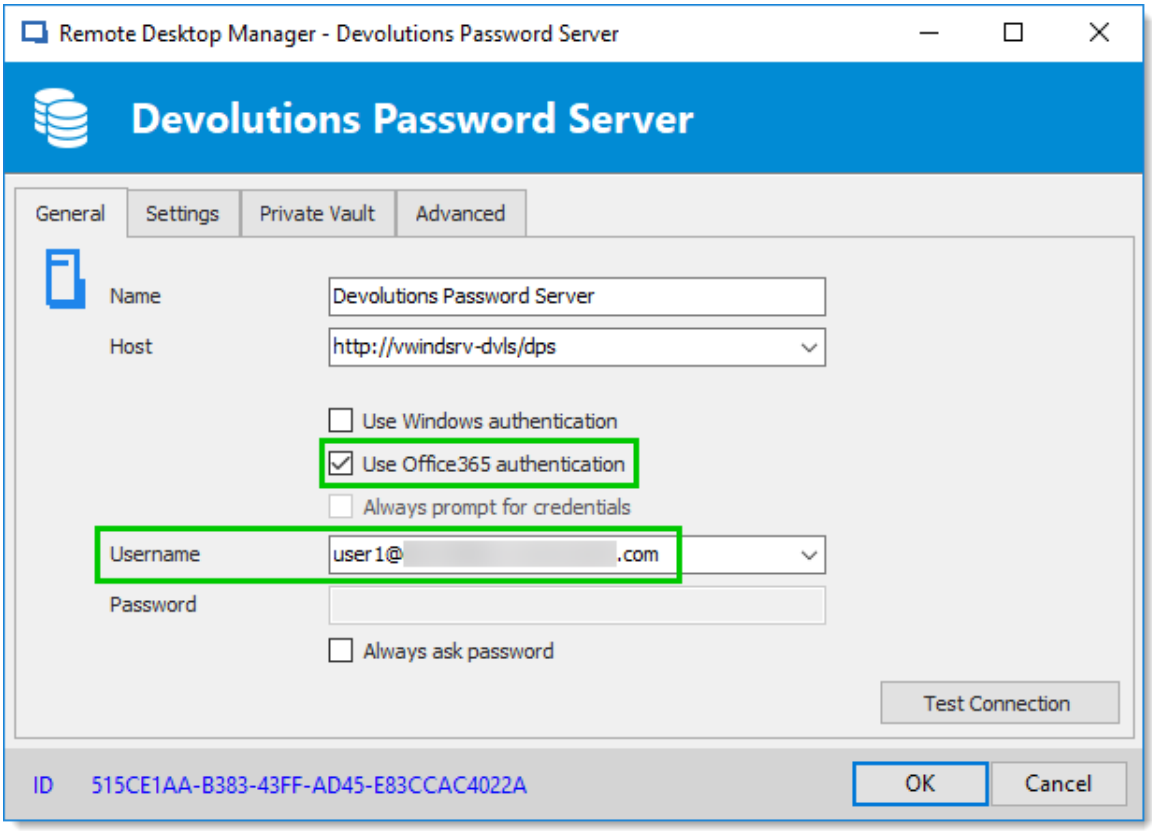
Azure Sync Application - Remove Permission

8. This is how the Devolutions Password Server Office365 tab settings should look like.

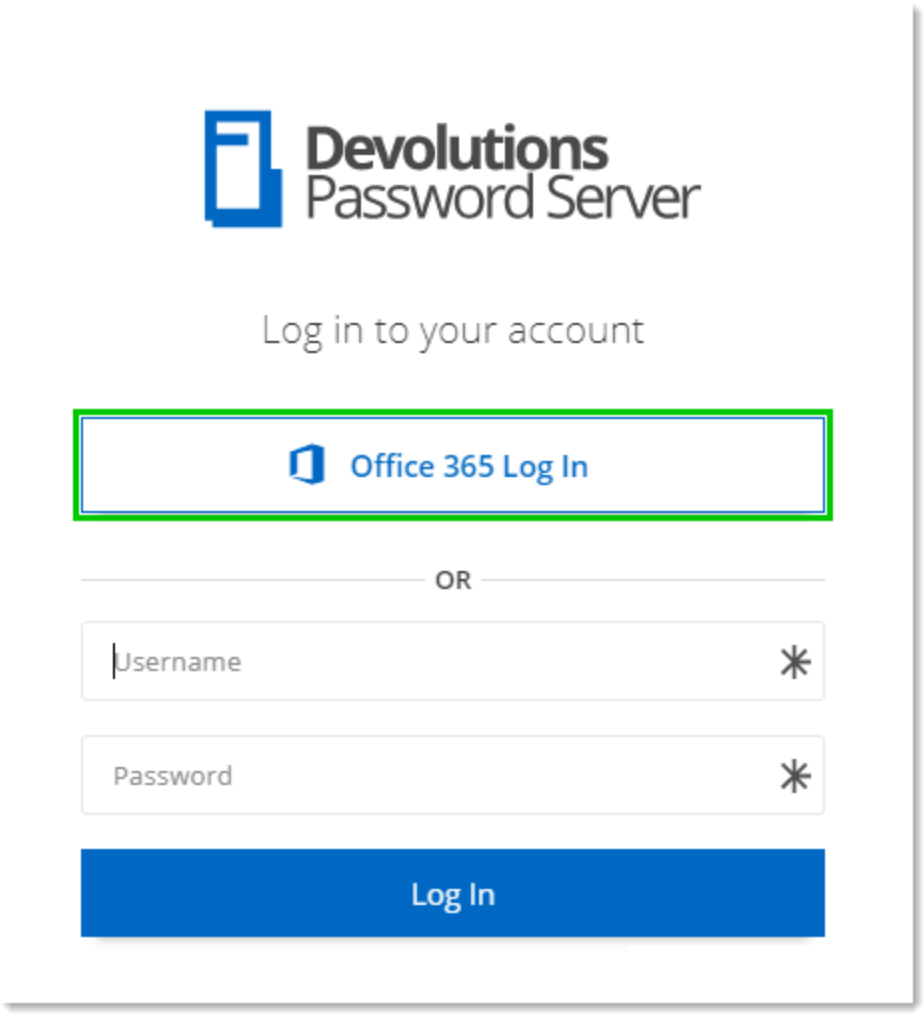


Devolutions Password Server Office 365 Tab settings

9. Finally, enable the **Use Office365** authentication option in ***File - Data Sources*** in Remote Desktop Manager or use the **Office 365 Log In** button on the web interface.



Remote Desktop Manager Data Source Configuration



Devolutions Password Server Login page

9.5.2 Backup and restore Devolutions Password Server

DESCRIPTION

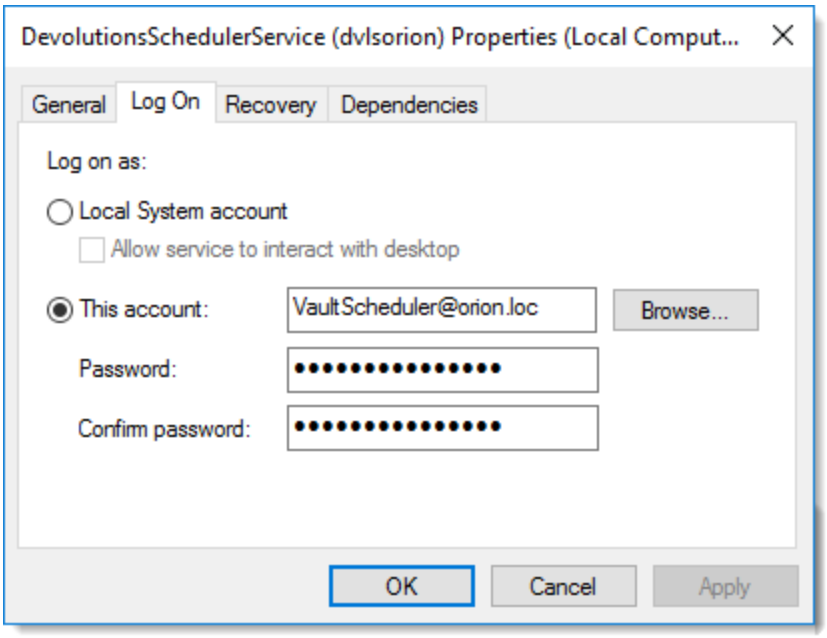
The following topic describes the requirements and the step to properly configure the Devolutions Password Server Backup Scheduler and instructions on how to restore your Devolutions Password Server instance succeeding a disaster.

Check the backup of the SQL database and the web application folder integrity by restoring them in a staging environment.

BACKUP CONFIGURATION

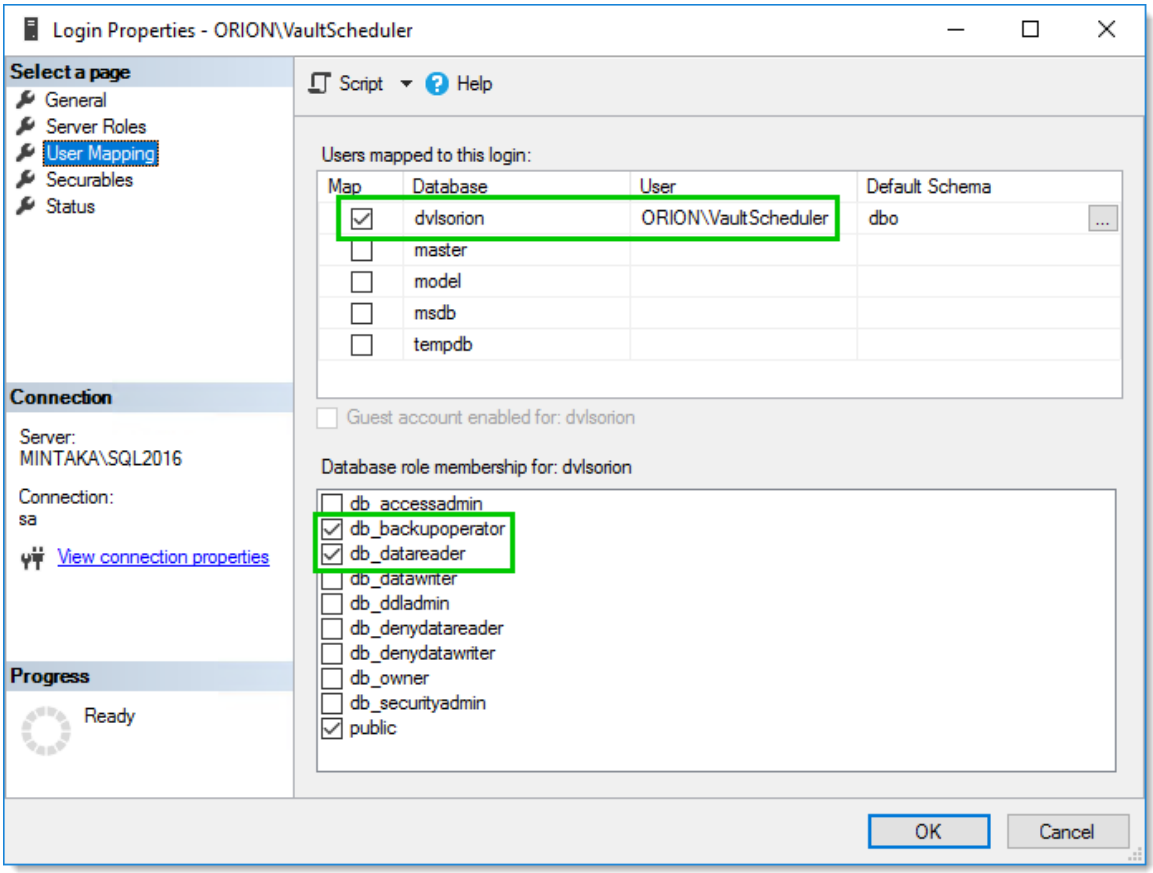
1. Install the **DevolutionsSchedulerService** with the **Install Scheduler** button of the Devolutions Password Server Console if it is not already installed. For more information please see Devolutions Password Server Console.

2. Create a domain service account that will be use to run the service.



DevolutionsSchedulerService - Log On properties

3. This service account must have proper permission on the destinations folder(s) to create files and needs at least the db_datareader and db_backupoperator rights on the SQL database.

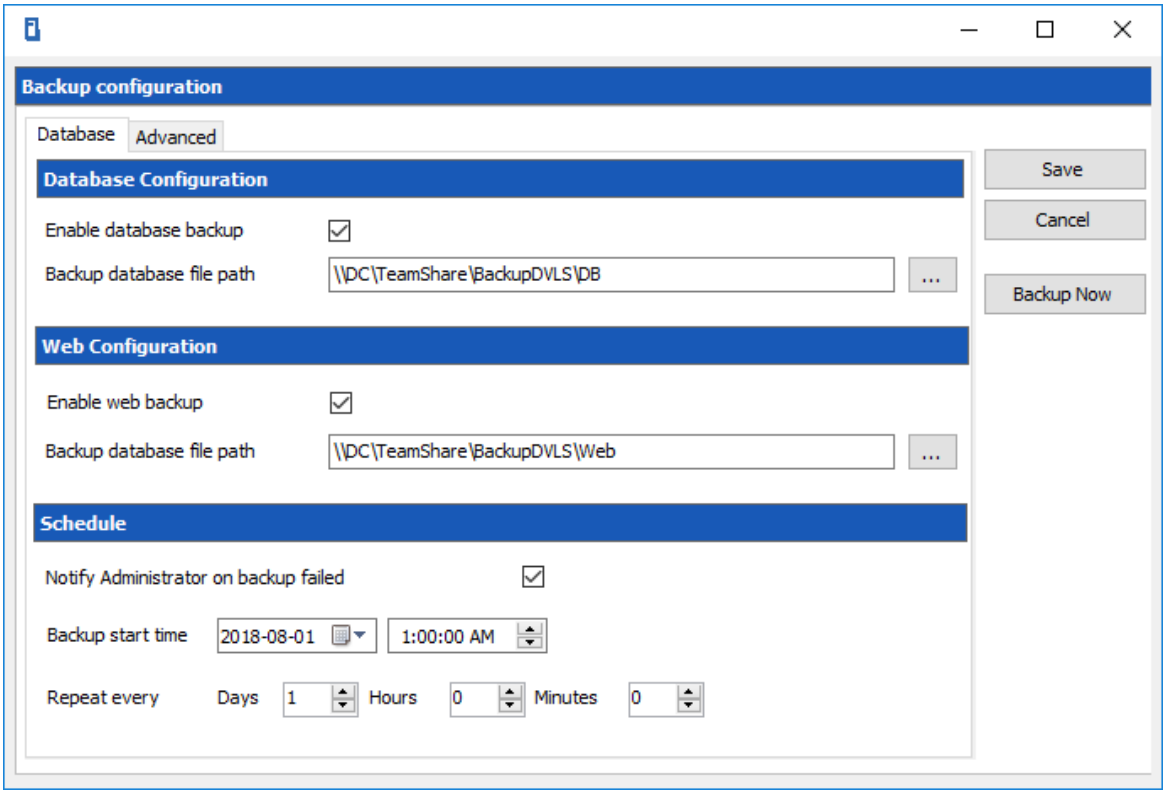


Service account - SQL Permissions

4. Create a network folder, it can be one for the database backup and one for the web application backup, that both the server which hosted the Devolutions Password Server instance and the SQL Server will have access to.

5. Configure the options in the **Backup Manager**. For more information please see Backup Manager.

6. In the following sample:
   - The database backup is **enabled** and will be saved in folder ***TeamShare\BackupDVLS\DB*** on DC machine.
   - The web backup is **enabled** and will be saved in folder ***TeamShare\BackupDVLS\Web*** on DC machine.
   - The **administrators** will be notified on **backup failed**
   - The scheduled backup has been started on August 1st, 2018 at 1:00 AM.
   - The scheduler will repeat the backup process every day.



Backup Scheduler Configuration - Database Tab

RESTORE STEPS

The following instructions explain how to restore the Devolutions Password Server environment. The first part explains the restore process on an existing installation and the second part details the steps to restore Devolutions Password Server on new machines.

Ensure that all prerequisites are installed on the machine where the Devolutions Password Server instance is hosted. For more information please see Installing Web Roles prerequisites.

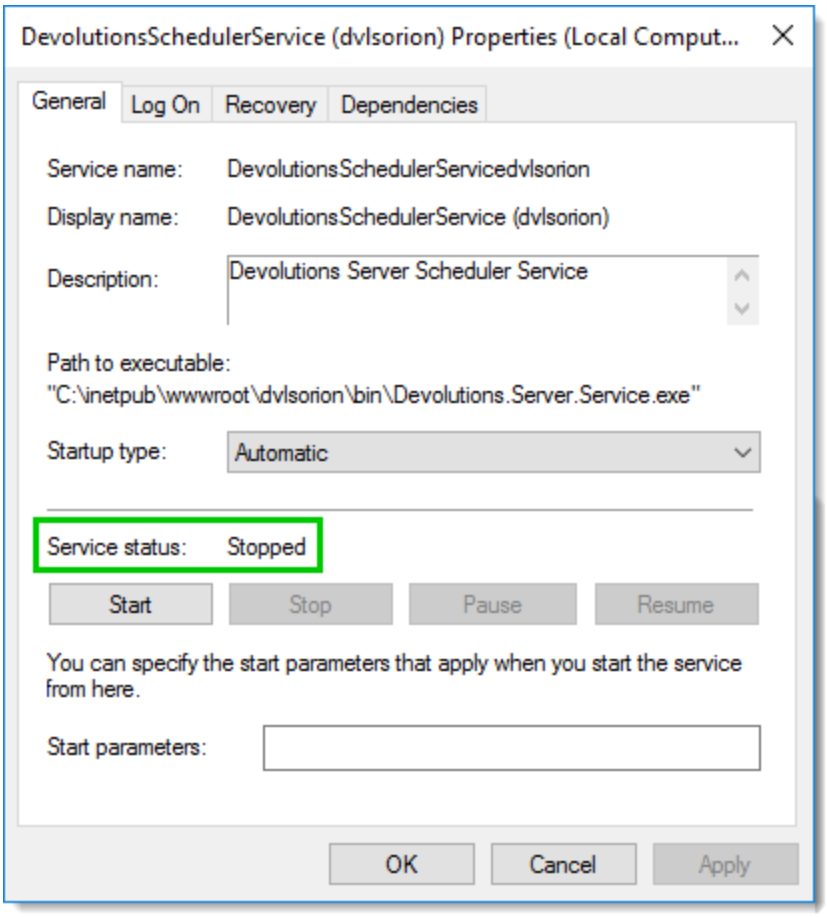
If the Devolutions Password Server deployment is hosted in a **Load Balancing** or **High Availability** topology, please see Manage Encryption Keys.

Be sure that the database and the web application match before launching the restore process or this could lead to unwanted behavior.

1. If the restore process goal is to overwrite the current installation :

   a. Ensure that the instance users have the offline mode enabled and they are not making any modifications.

   b. Ensure that the **DevolutionsSchedulerService** service is not running.

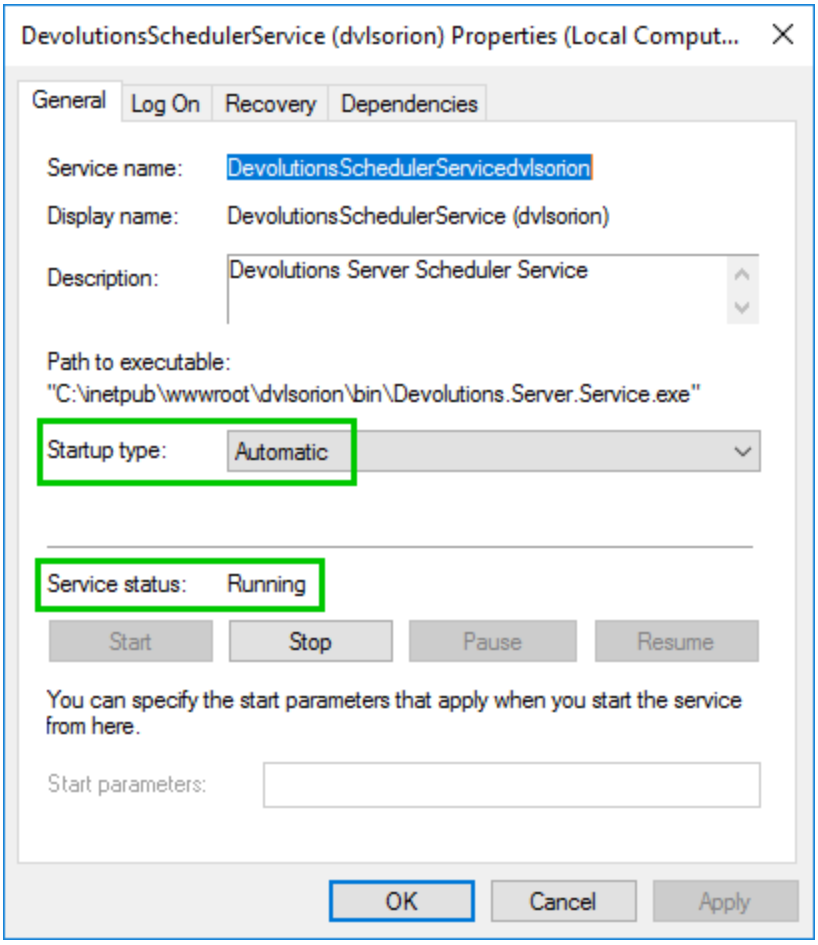


DevolutionsSchedulerService

   c. **Restore** the **SQL database**.

   d. Overwrite the web application folder with the content of the web application .zip file.

   e. Start the **DevolutionsSchedulerService** service and ensure that the **Startup** type is set to **Automatic**.



DevolutionsSchedulerService

f. Reconfigure the **Backup Scheduler** feature.

2. If the goal is to restore Devolutions Password Server and the SQL database on new servers :

   a. **Restore** the **SQL database** on the new server.

   b. Fix every SQL login account that have been used to connect on the database from .

   c. Follow instructions of Create Devolutions Password Server instance topic.

   d. **Overwrite** the web application folder with the content of the web application .zip file.

   e. **Reconfigure** the **Backup Scheduler** feature.

9.5.3 Command Line Interface

A Command Line Interface (CLI) is a Companion Tool which allows DPS users to access credentials with the command line.

Listed below are the available command line:

CONFIG

Parameters:

-v --vault

The default vault id to use for the other commands: 0000000-0000-0000-0000-000000000000

-s --server

The address of the server to connect to.

If you call config without parameters, it will return the current settings.

Options:

-j --json

The command output will be formatted in JSON format.

Examples:

DPS> config

Server: http://localhost/dvls/api

Vault: 0000000-0000-0000-0000-000000000000

DPS> config --server http://localhost/dvls/api

DPS> config -v 12345678

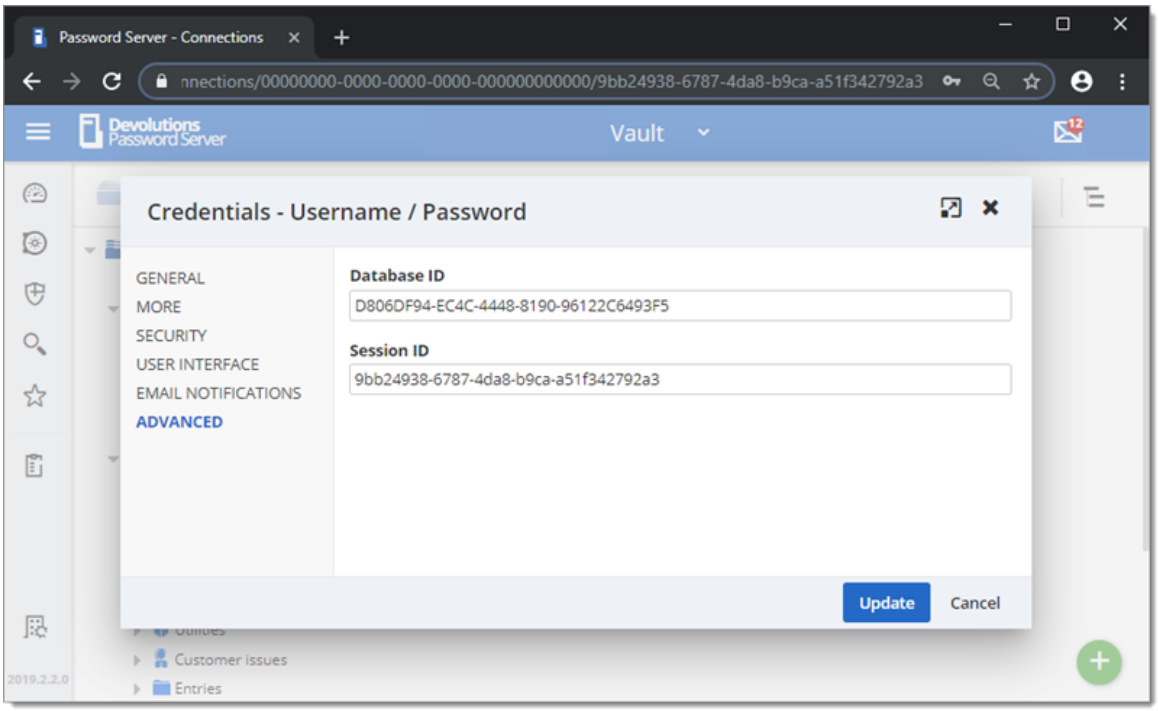
```
DPS> config --json

{"server":"http://localhost/dvls/api","vault":"00000000-0000-0000-0000-
000000000000"}
```

GET

Returns the credentials of an entry based on its id.

Parameters:

The entry's id can be found in its advance property or in the last part of its URL.



Advanced Credentials - Username / Password

Options:

-j --json

The command output will be formatted in JSON format.

-d --domain

Only returns the domain.

-u --username

Only returns the username.

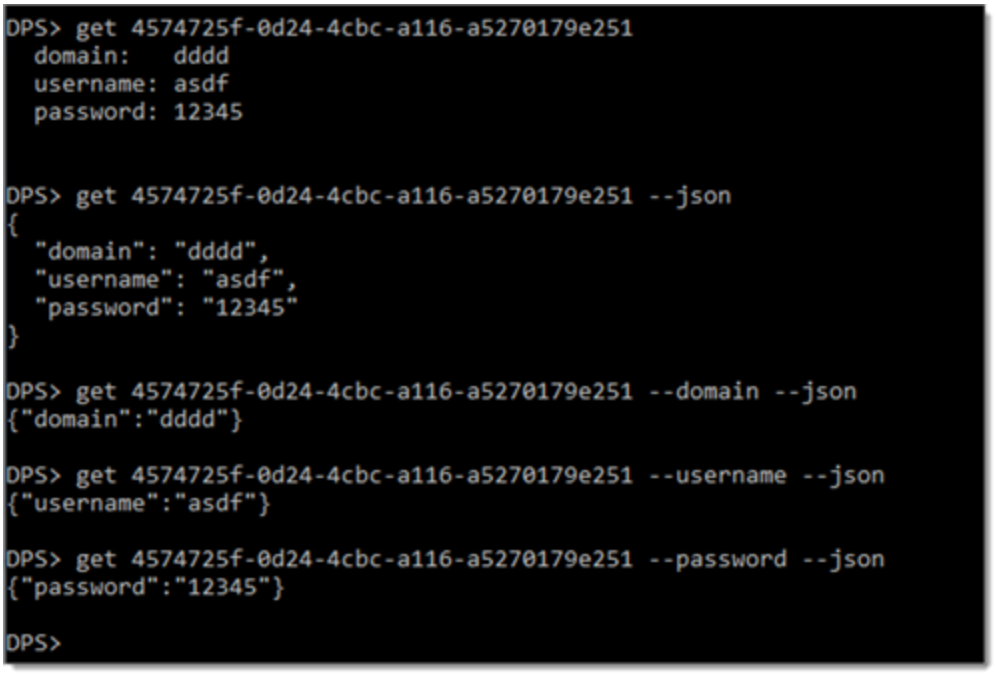
-p --password

Only returns the password.

Examples:

```
DPS> get 4574725f-0d24-4cbc-a116-a5270179e251
  domain:   dddd
  username: asdf
  password: 12345

DPS> get 4574725f-0d24-4cbc-a116-a5270179e251 --json
{
  "domain": "dddd",
  "username": "asdf",
  "password": "12345"
}
DPS> get 4574725f-0d24-4cbc-a116-a5270179e251 -u
asdf
DPS> get 4574725f-0d24-4cbc-a116-a5270179e251 -p
```

12345



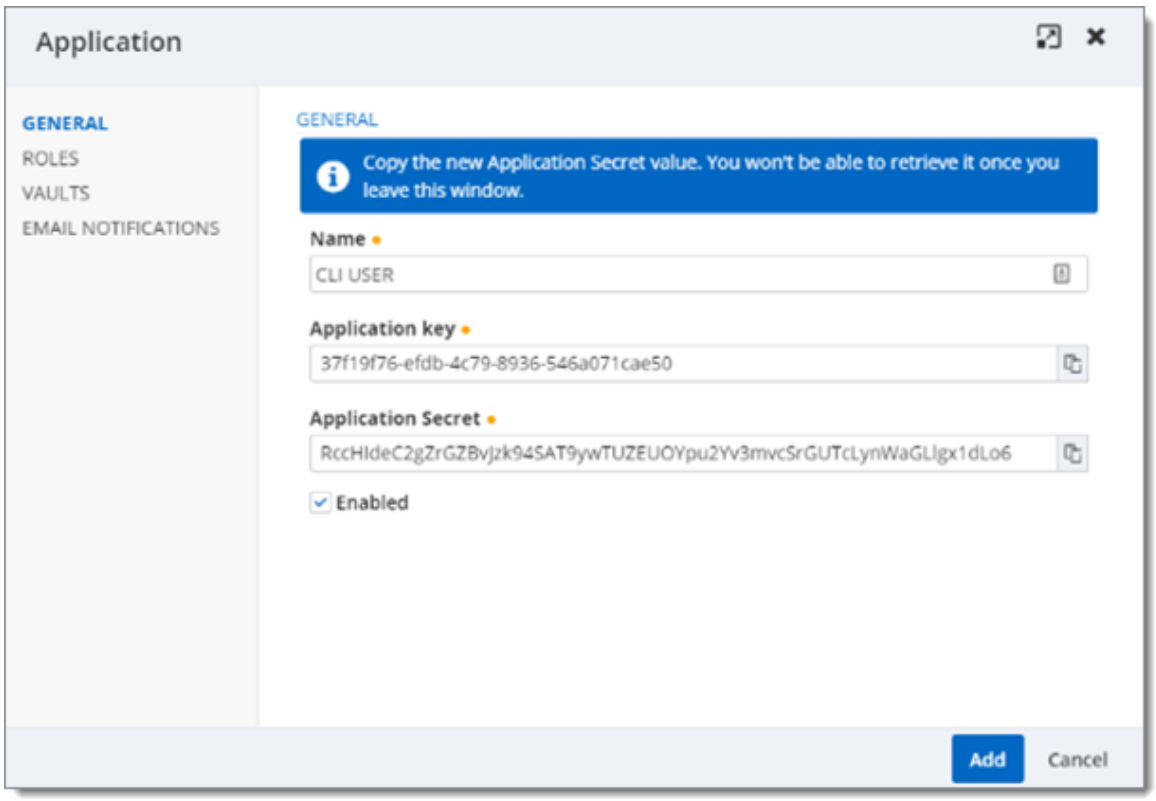
Get Example

LOGIN

Parameters:

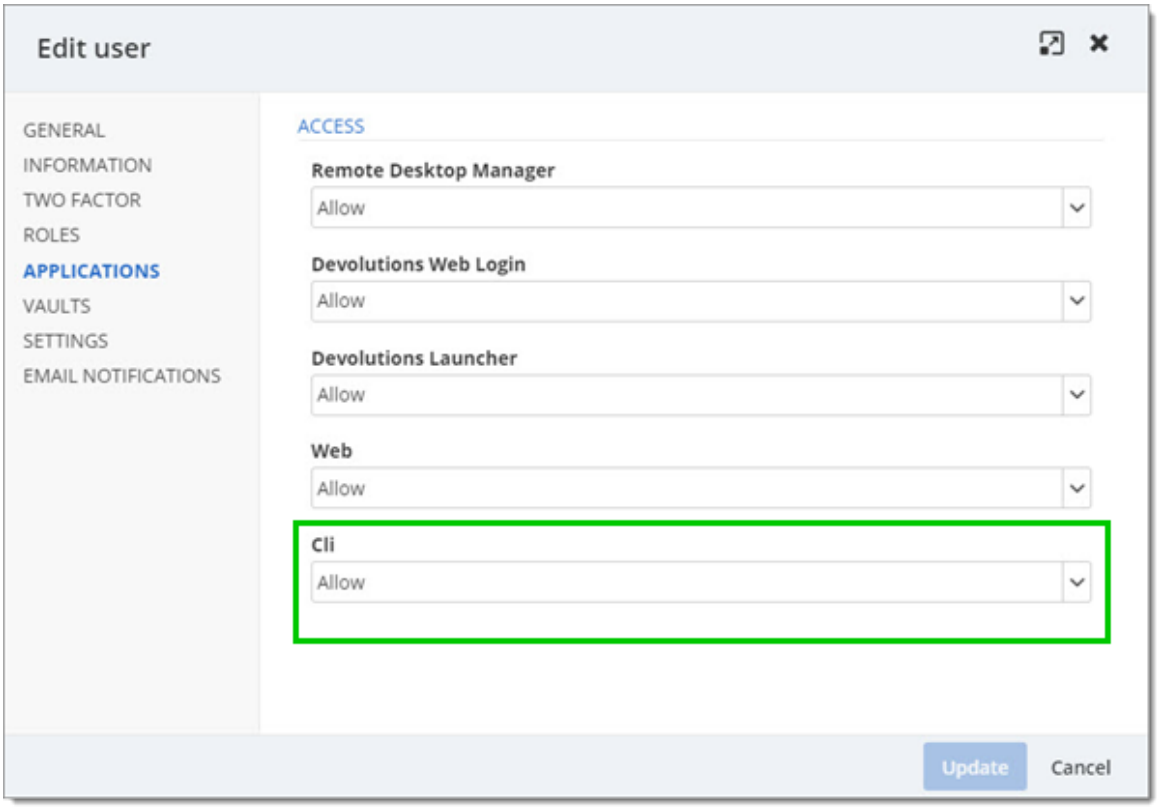
First parameter: the username (the key, if the user is of the type application)

Second parameter: the password (the secret, if the user is of the type application)



Application User

The user/application must have the right to use the CLI



Applications Edit User CLI

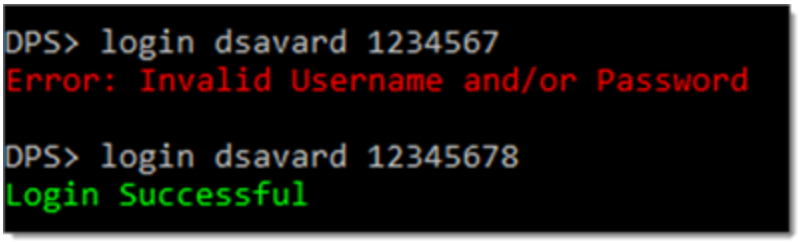
Options:

-j --json

The command output will be formatted in JSON format.

Examples:

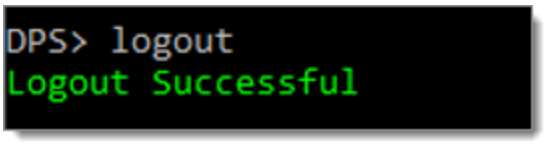
DPS> login dsavard 12345



Login Example

LOGOUT

Logout the current user.



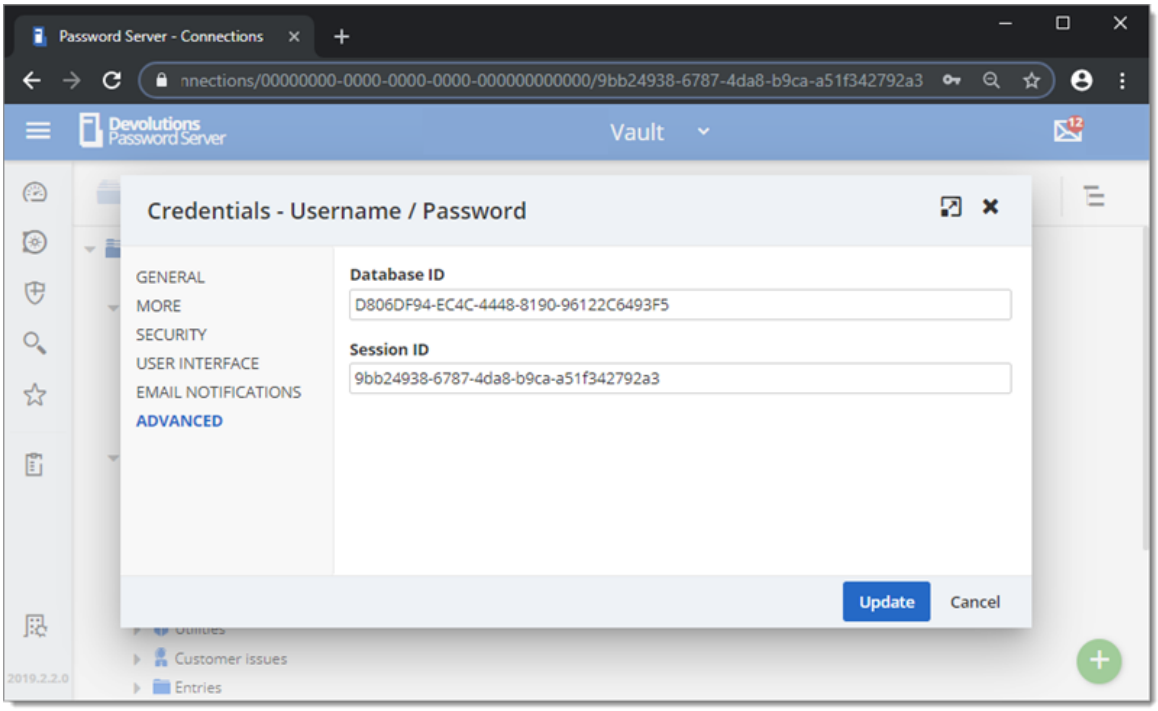
Logout Example

SET

Update the credentials of an entry.

Parameters:

The entry's id can be found in its advance property or in the last part of its URL.



Advanced Credentials - Username / Password

Options:

-j --json

The command output will be formatted in JSON format.

-d --domain new-value

Update the domain.

-u --username new-value

Update the username.

-p --password new-value

Update the password.

Examples:

DPS> set 4574725f-0d24-4cbc-a116-a5270179e251 --domain newdomain

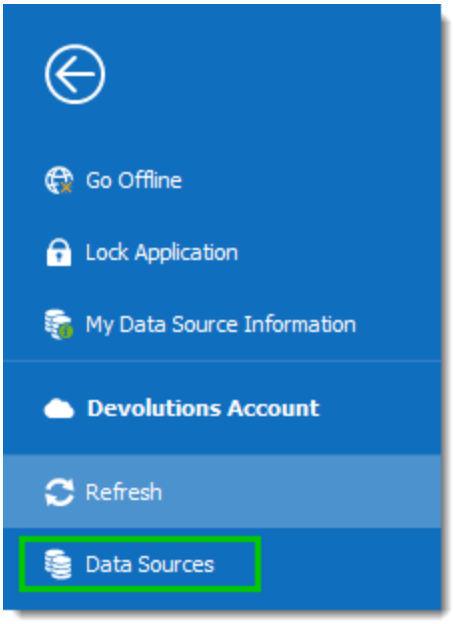
Entry has been successfully updated

Set Example

9.5.4 Configure Client Data Source

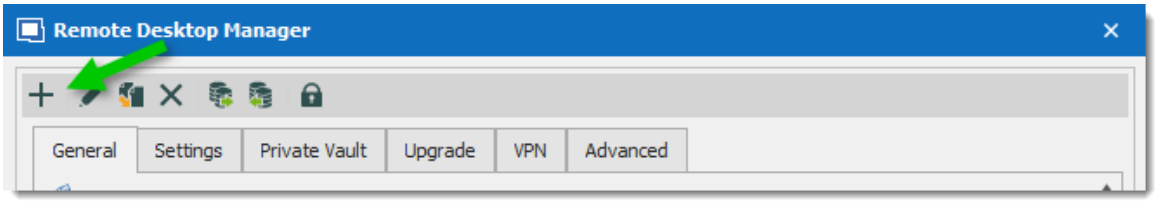
CREATE DEVOLUTIONS PASSWORD SERVER DATA SOURCE

1. Select ***File - Data Sources***.



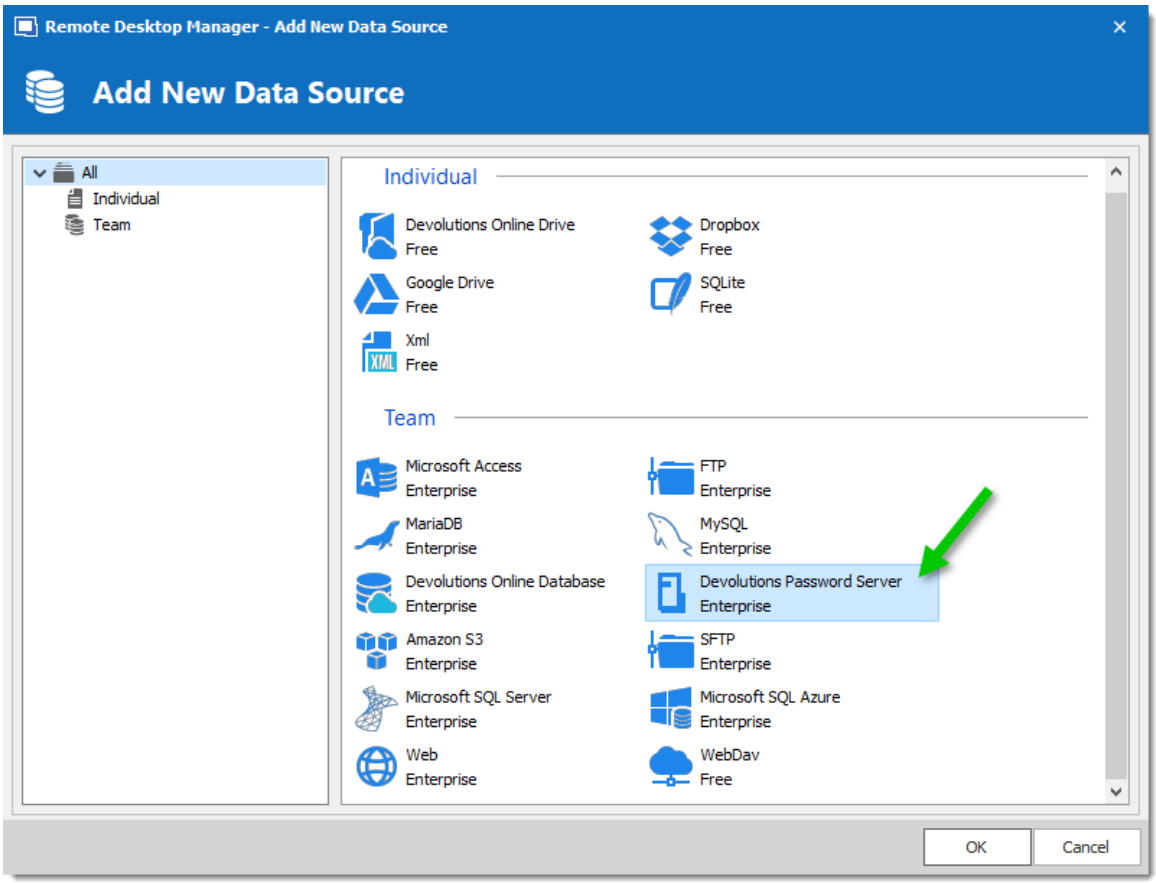
File - Data Sources

2. **New Data Source**.



Data Source Configuration Dialog

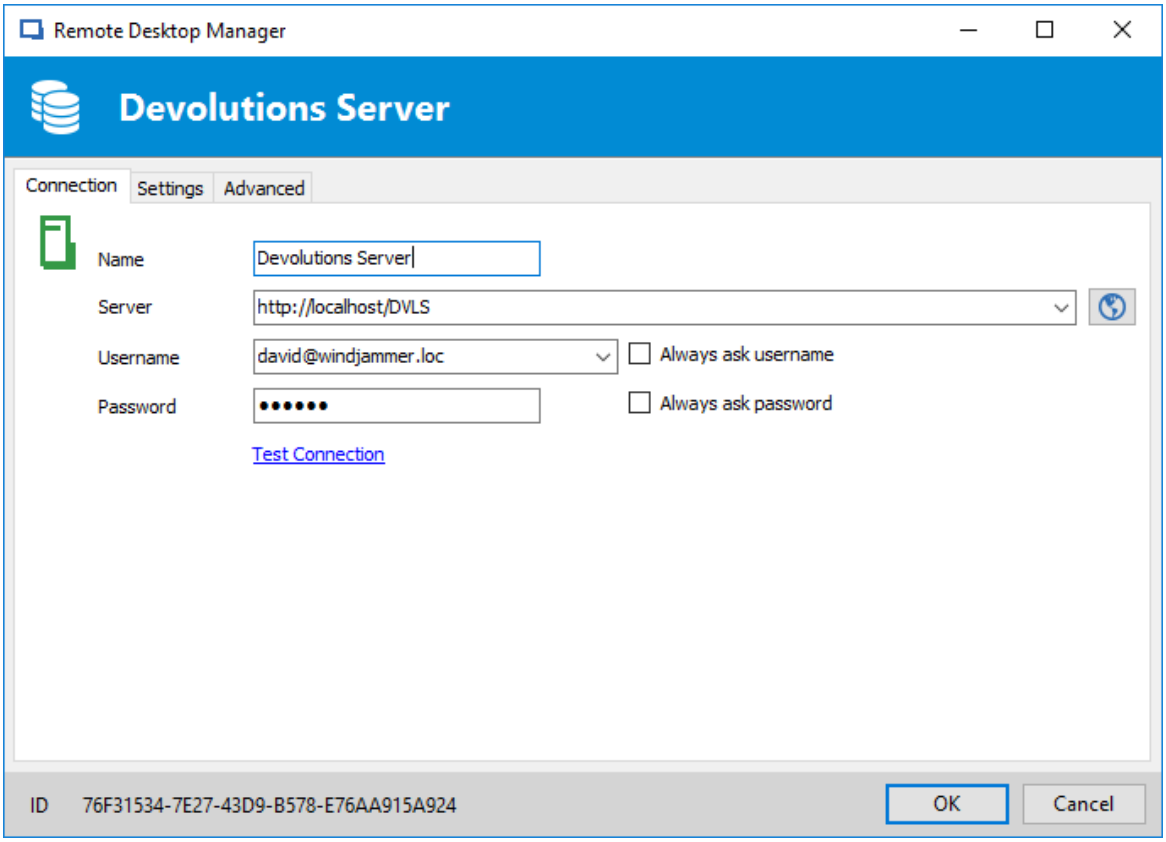
3. Select the **Devolutions Password Server** data source.



Add New Data Source Dialog

4. **Specify settings**.

If you specify **%USERDOMAIN%\%USERNAME%** in the user text area, the value of the corresponding environment variables will be used.



Data Source Configuration

NOTES

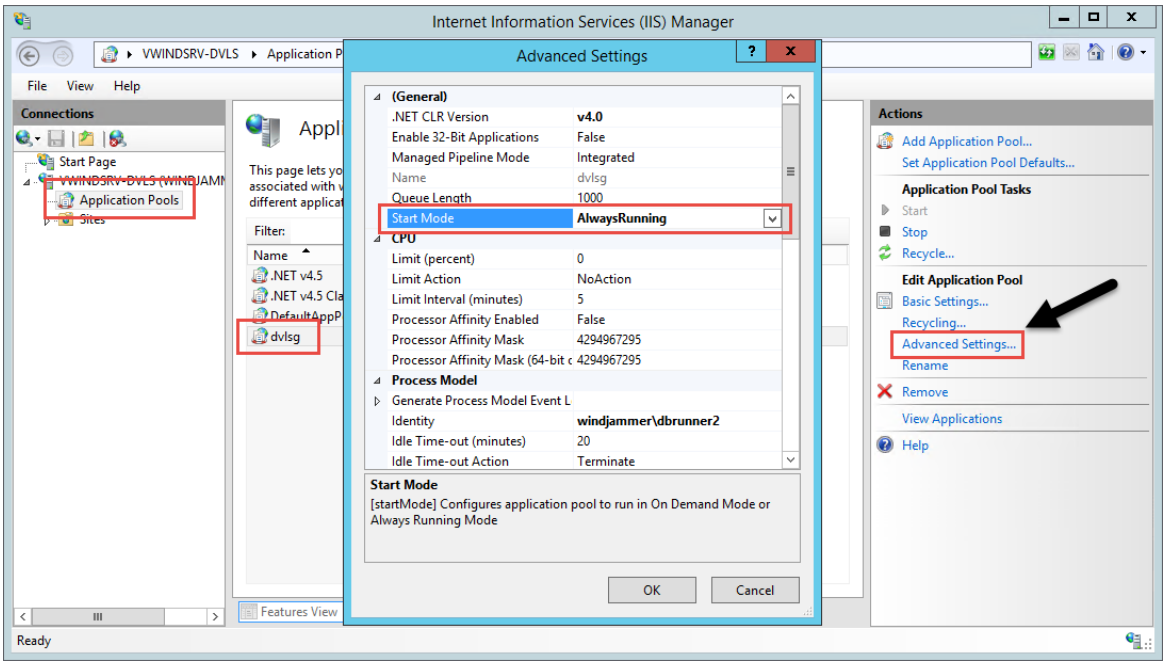
If the server is configured to only allow SSL, ensure you specify the protocol by using https:// as the protocol.

9.5.5 Configure Devolutions Password Server to be always available

DESCRIPTION

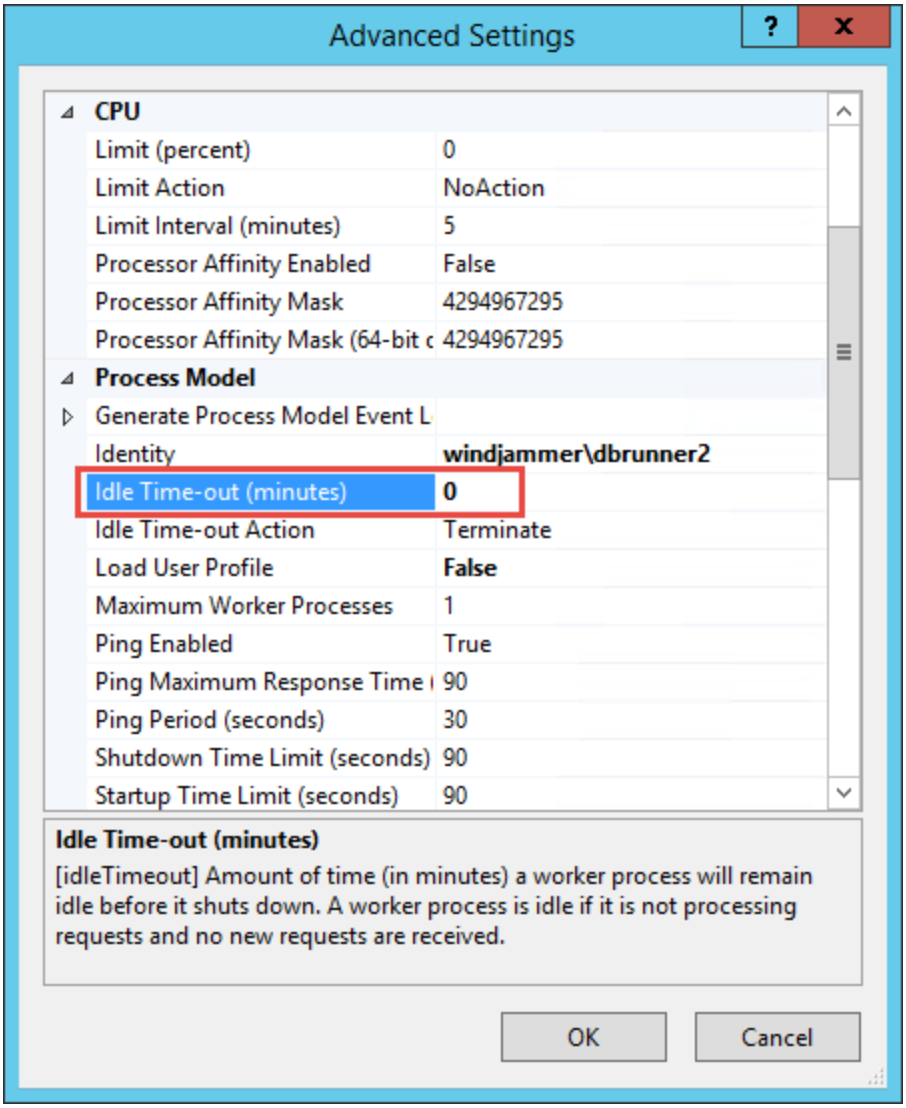
To prevent that the Devolutions Password Server web application will recycle periodically and to be on idle mode, please follow these instructions.

1. Open **IIS Manager** and expand the **Tree View** and select **Application Pools**. In the **Application Pools** list, select your web application and click on **Advanced Settings** in the Actions panel on the right. Then, change the **Start Mode** option to the value **AlwaysRunning**.



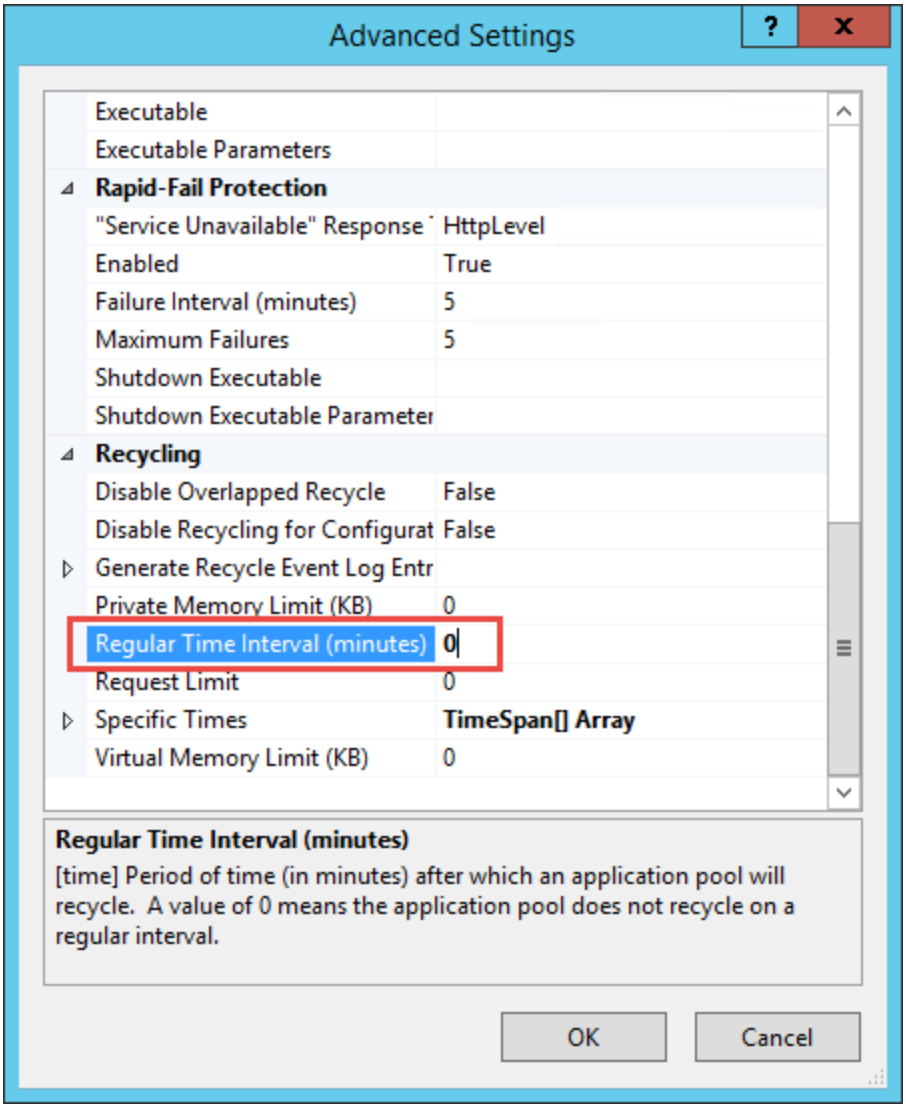
IIS Manager Advanced Settings

2. Still in the **Advanced Settings**, set the **Idle Time-Out (minutes)** option to the value **0**. When this value is set to a value different to zero, on the first connection to the web site after an idle period, the application pool needs to create a new process, loads all needed frameworks. These operations can be very slow.



Application Pool Advanced Settings Dialog

3. Finally, set the **Regular Time Interval (minutes)** option to the value **0**. This will prevent the application pool to recycle periodically.



Application Pool Advanced Settings Dialog

9.5.6 Configure Devolutions Password Server to use integrated security

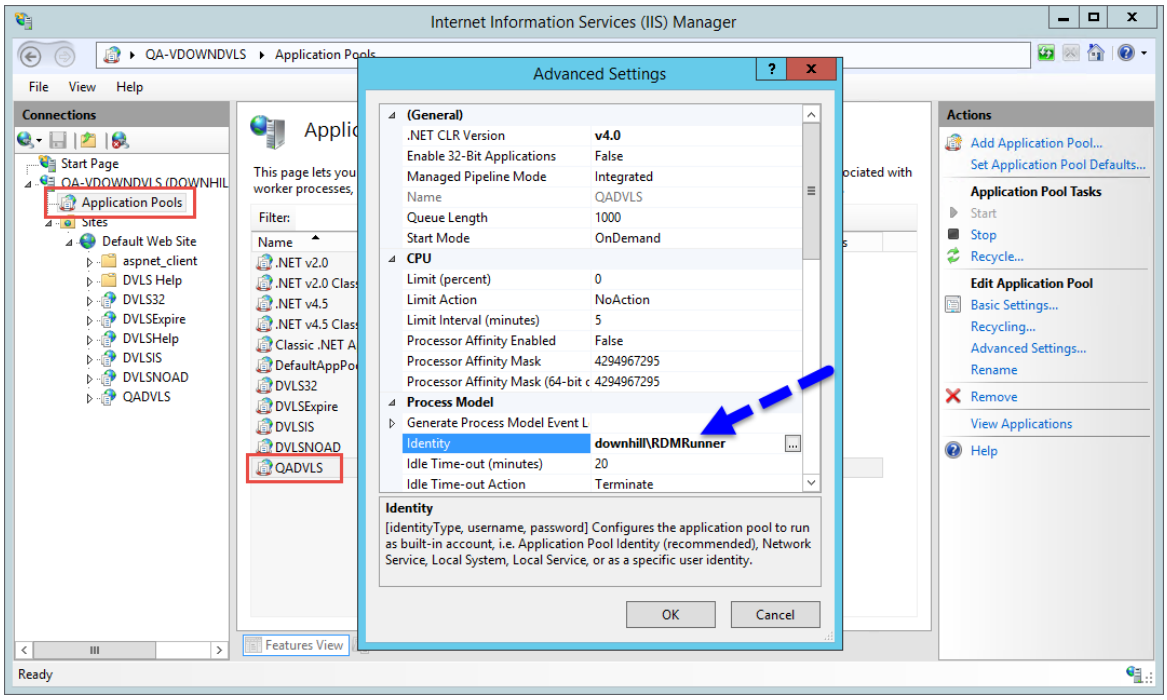
DESCRIPTION

In order for integrated security to be used to connect to the database, you must set the **Application pool** to use a domain account to run under.

STEPS

To make these instructions simpler, we will name the domain account **RDMRunner,** please adapt to your requirements.

- Create the **VaultRunner** account in the domain;
- Grant access to the SQL Server instance to **VaultRunner**;
- Grant access to the database to **VaultRunner**;
- In **IIS Manager**, expand the **Application pool** section and locate the application pool used by your Devolutions Password Server site. By default it has the same name as the name of the web application;
- In the **Advanced Settings**, edit the **Identity** setting to set the **VaultRunner** account.



Application Pools Identity

9.5.6.1 How to Grant access to SQL Server instance

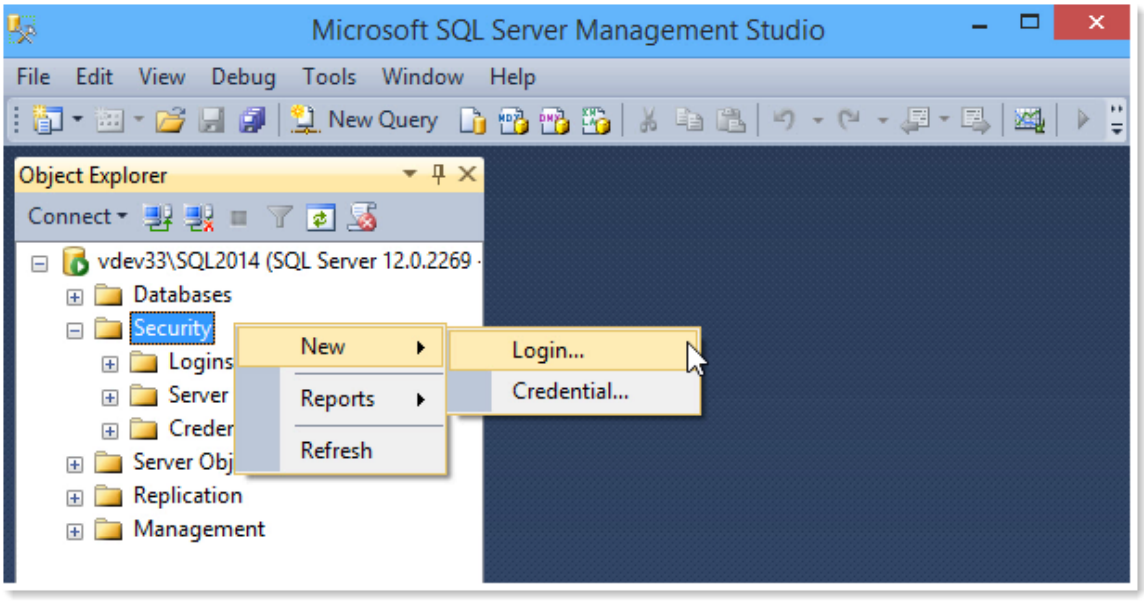
DESCRIPTION

In order to use **Integrated Security** you will need to grant access and specific permissions to the domain account used to connect to the SQL Server Instance.

STEPS

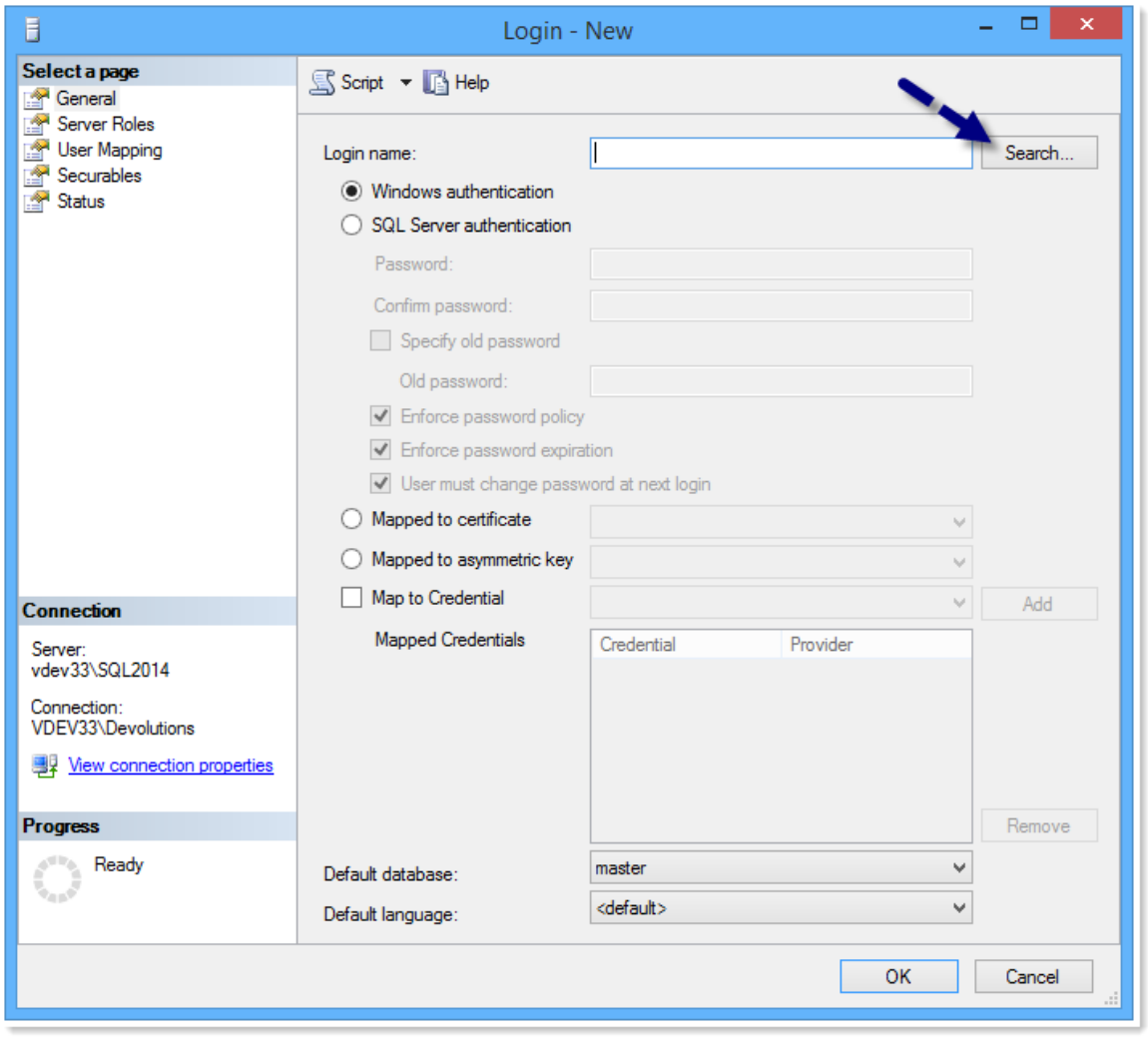
To make these instructions simpler, we will name the domain account **VaultRunner,** please adapt to your requirements.

1. Using **Microsoft SQL Server Management Studio**, right-click on the **Security** branch and select ***New*** - ***Login***.



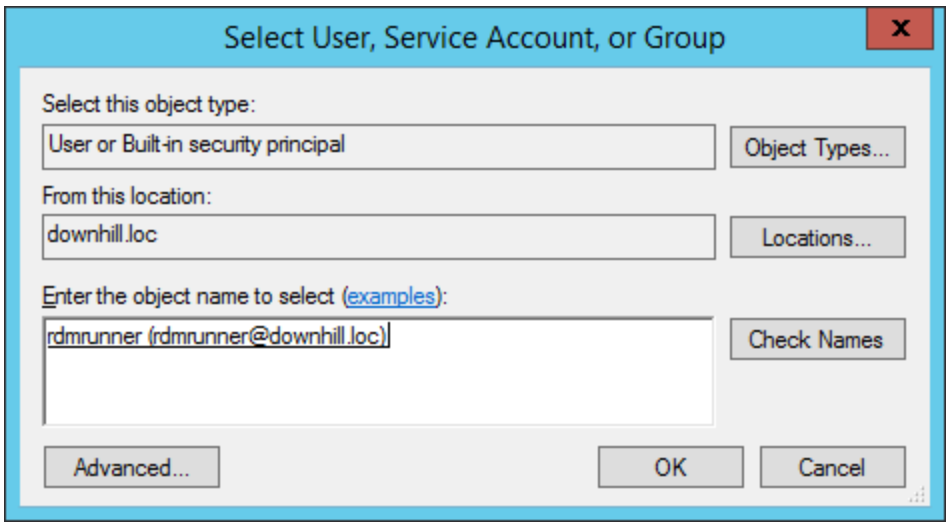
MSSQL

2. In the dialog, click on **Search**.



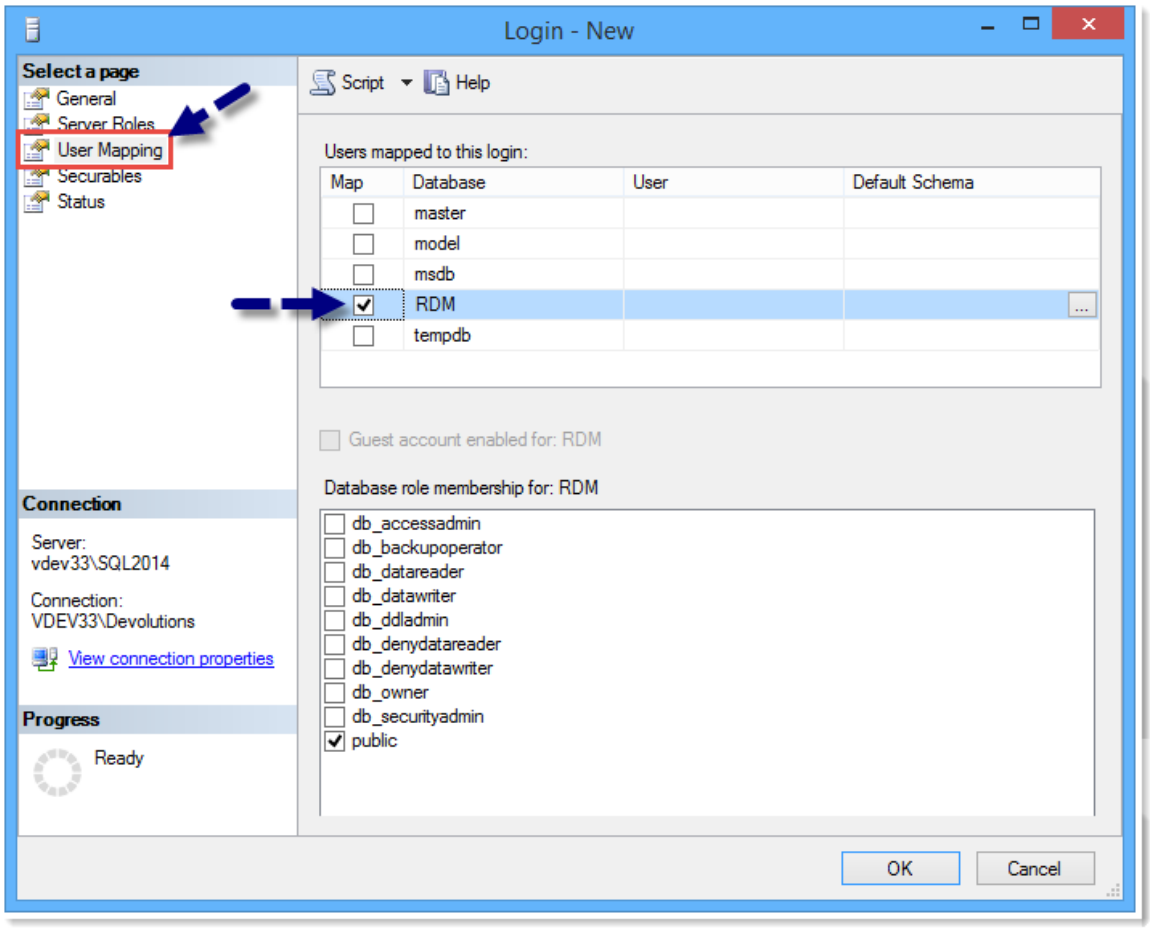
Login - New

3. Change the location to your domain and then select the **VaultRunner** user account.



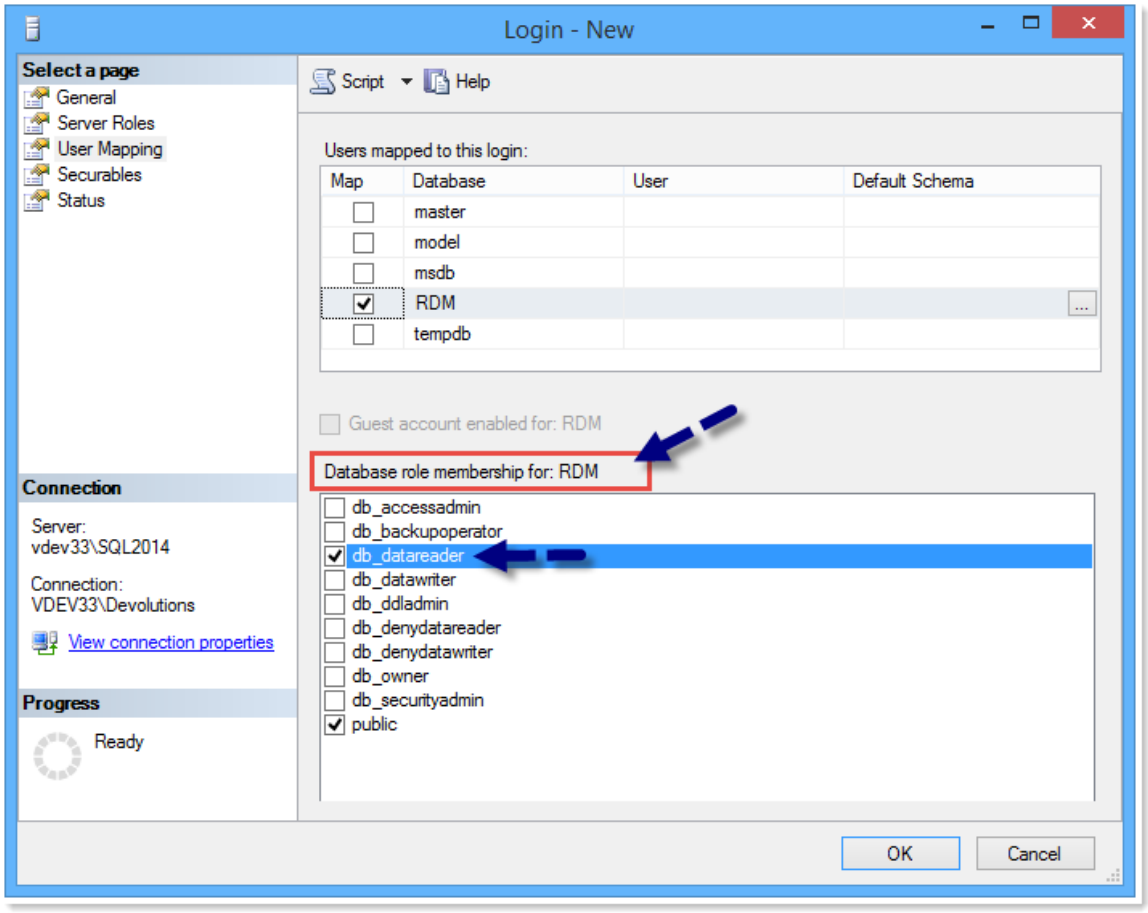
Select User or Group

4. In the **User Mapping** Section, find your database and check the **Map** checkbox.



User Mapping

5. In the **Database role membership**, grant the **db_datareader** role and then click **OK** to save the login.



Database Role membership

PERMISSIONS

The permissions needed for the VaultRunner account allow for **ALL** management operations to be performed through the Devolutions Password Server instance.

Some may desire to harden the system. Hardening the system means to **disallow** certain operations from the Devolutions Password Server instance, which would make using a SQL Server data source, **bound to the same database**, necessary for these operations. For instance you could decide to not allow to create users through the instance, but only through a direct SQL connection. Please contact us to discuss these scenarios.

Please note that we are reworking these scripts as there are significant changes to the DB structure in the latest releases. These scripts are mandatory in order to give enough permissions to the VaultRunner service account. Contact our support department for instructions specific to your installed version.

9.5.7 Configure Notifications

DESCRIPTION

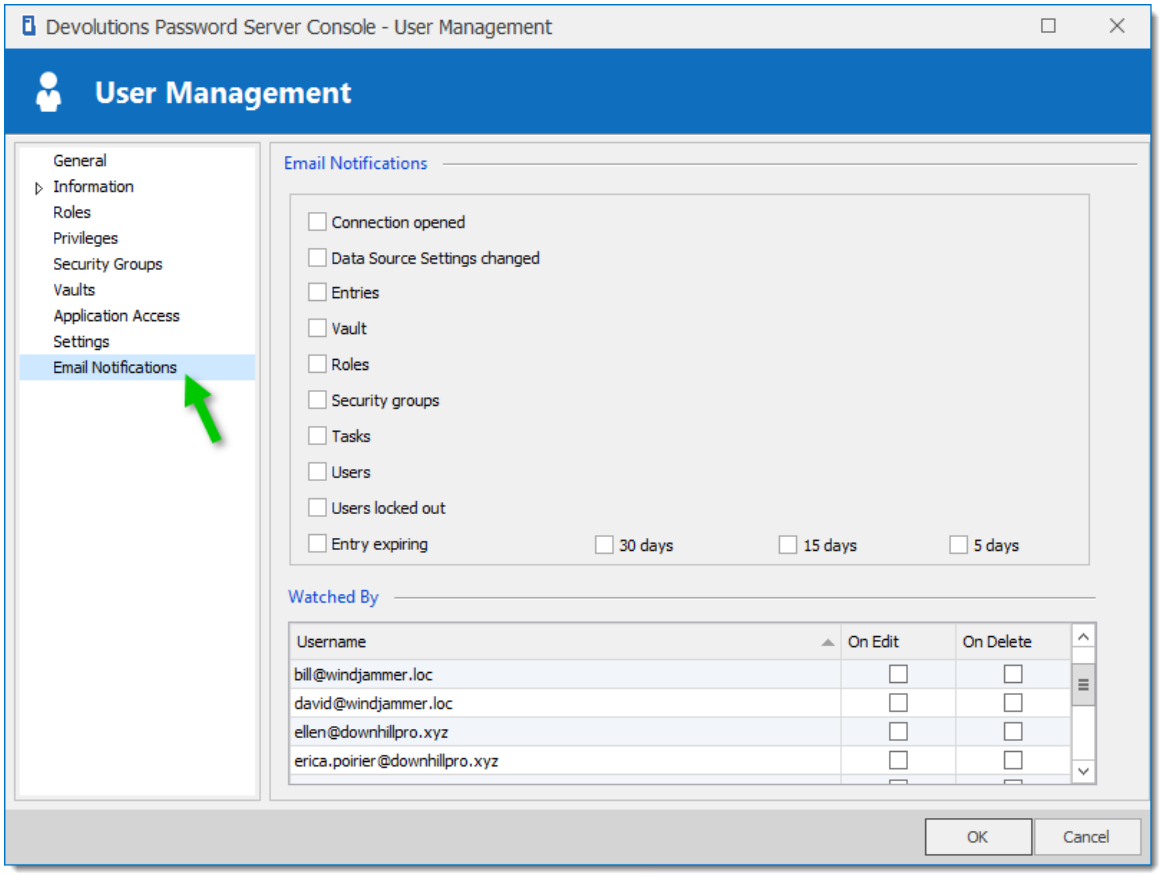
The **Email Notifications** can now be configure at user level in ***Administration - Users***.

STEPS

The Email settings must be configured in the Devolutions Password Server instance in order for notifications to be sent.

The **Allow notification subscription** option must be enable in Administration - Password Server Settings - Scheduler section in order for notifications to be sent.

1. In the **User Management** dialog, select the **Email Notifications** tab and enable the items the user should be notified for in the **Email Notifications** top section.

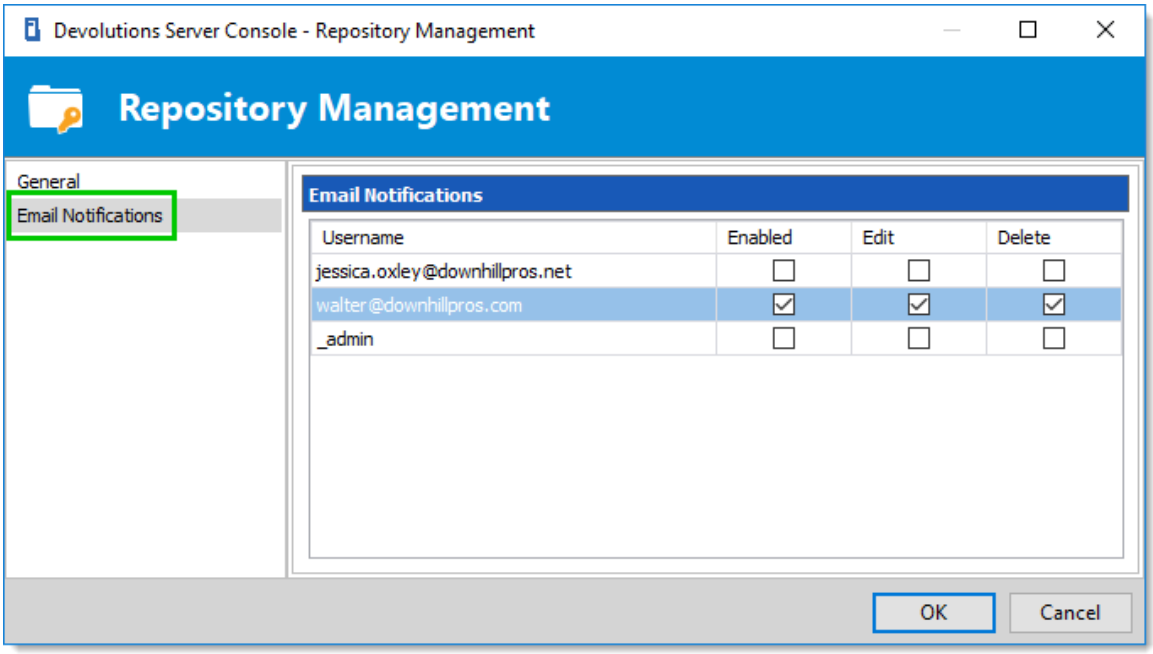


OPTION	DESCRIPTION
Connection opened	The user will be notified by email if a connection has been opened.
System Settings (Data Source Settings)	The user will be notified by email if the System Settings has been modified.
Entries	The user will be notified by email if an entry has been added, edited, deleted depending on the selection.
Vault	The user will be notified by email if a Vault has been added, edited, deleted depending on the selection.

OPTION	DESCRIPTION
Roles	The user will be notified by email if a role has been added, edited, deleted depending on the selection.
Security groups	The user will be notified by email if a security group has been added, edited, deleted depending on the selection.
Tasks	The user will be notified by email if a task has been added, edited, deleted depending on the selection.
Users	The user will be notified by email if a user account has been added, edited, deleted depending on the selection.
Users Locked Out	The user will be notified by email if a user locked his account.
Entry expiring	The user will be notified by email when an entry is almost expired.

2. It is possible to set **Email Notifications** from different **Management** dialogs. In the **User**, **Vault** and **Role Management** dialog, the lower **Email Notifications** section will enable notifications for a specific user related to the specific management dialog opened.

   In the following screen shot, email notifications on Vaults as been enabled for walter@downhillpros.com user account. So, this user will receive email notifications when Vaults are edited or deleted. If this user wants to get email notifications when a new item is created, this can only be activated from the user properties dialog.



Email Notifications activation from Management Dialogs

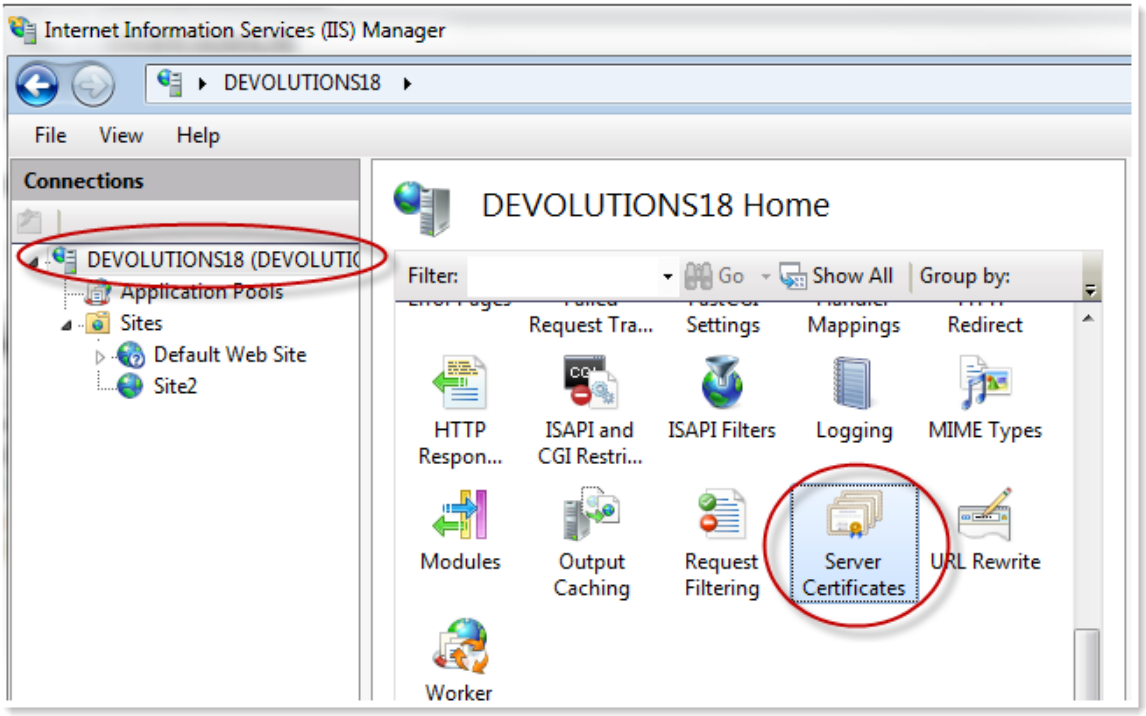
9.5.8 Configure SSL

DESCRIPTION

Please perform these steps only after you have configured the Devolutions Password Server instance and that you have indeed connected through a client application. Performing these steps right from the start may add a layer of complexity that may prevent you from succeeding in the initial configuration.

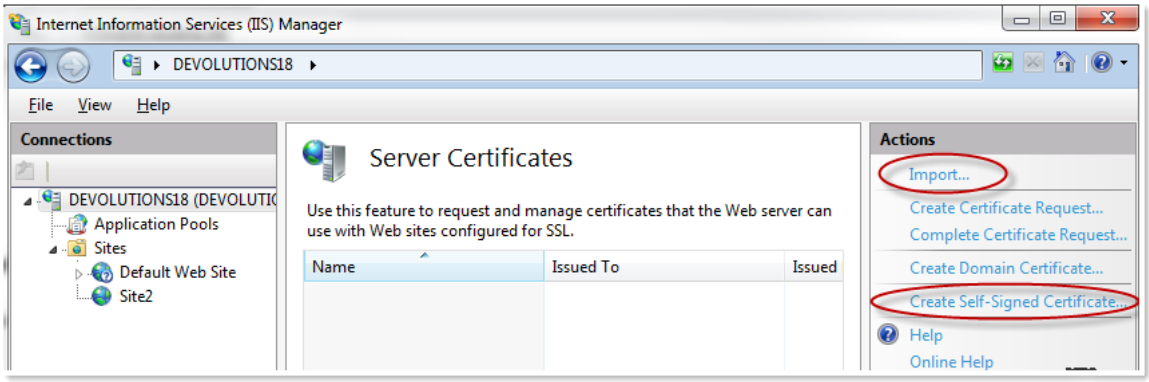
IMPORT CERTIFICATE OR CREATE SELF-SIGNED CERTIFICATE

1. Select the server node in the **Tree View** and double-click the **Server Certificates** feature in the **List View**:



Server certificates

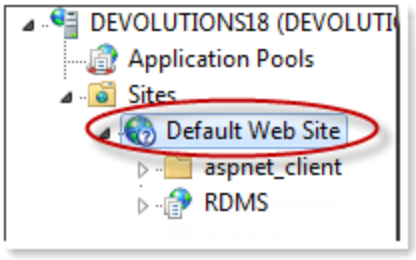
2. Click **Import Certificate...** in the **Actions** pane Or Click **Create Self-Signed Certificate...** in the **Actions** pane.



Follow the wizard

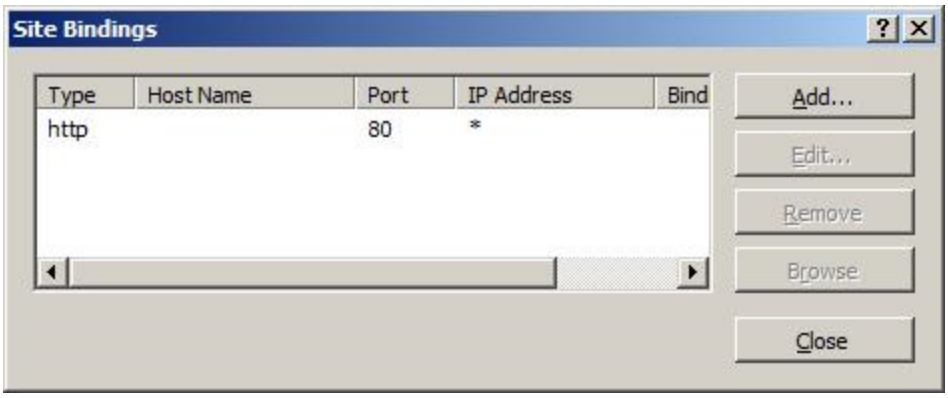
CREATE A SSL BINDING

1. Select the web site in the **Tree View**.



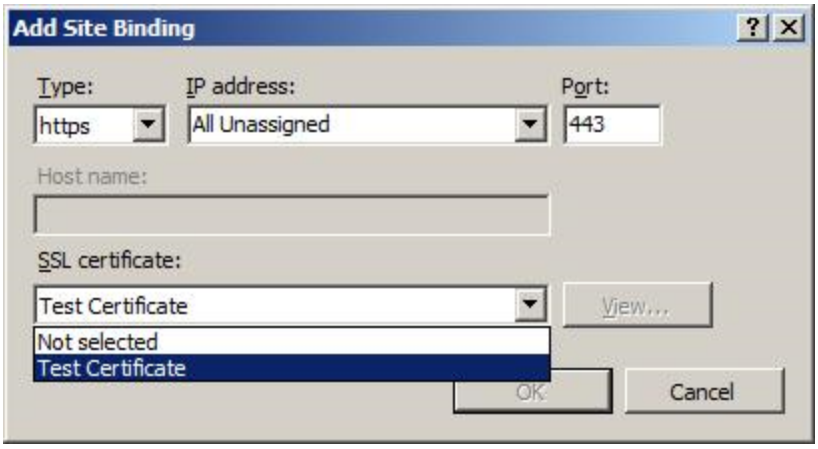
IIS Tree View

2. Click **Bindings...** in the **Actions** pane. This brings up the bindings editor that lets you create, edit, and delete bindings for your Web site. Click **Add...** to add your new SSL binding to the site.



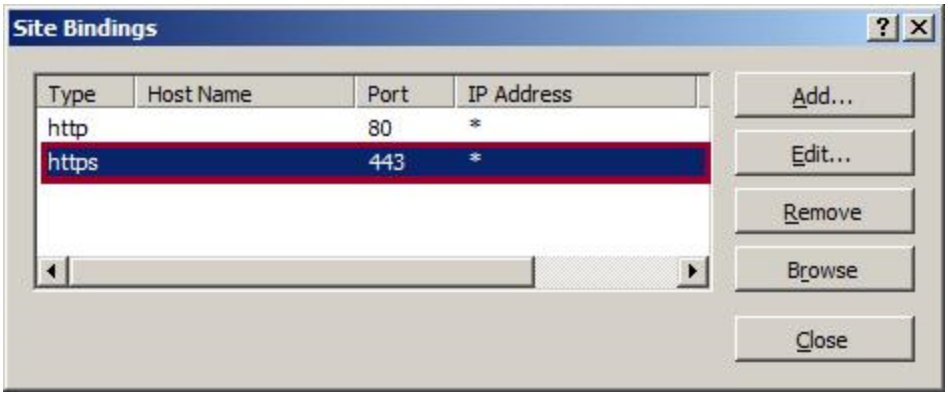
Add binding

3. Select **https** in the **Type** drop-down list. Select the self-signed certificate you created in the previous section from the **SSL Certificate** drop-down list and then click **OK**.



Define https binding

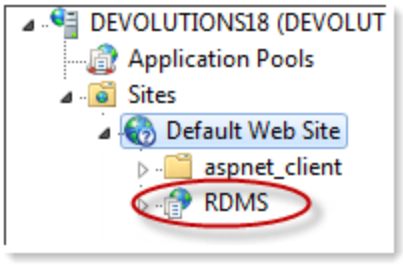
4. Now you have a new **SSL** binding on your site.



The new binding

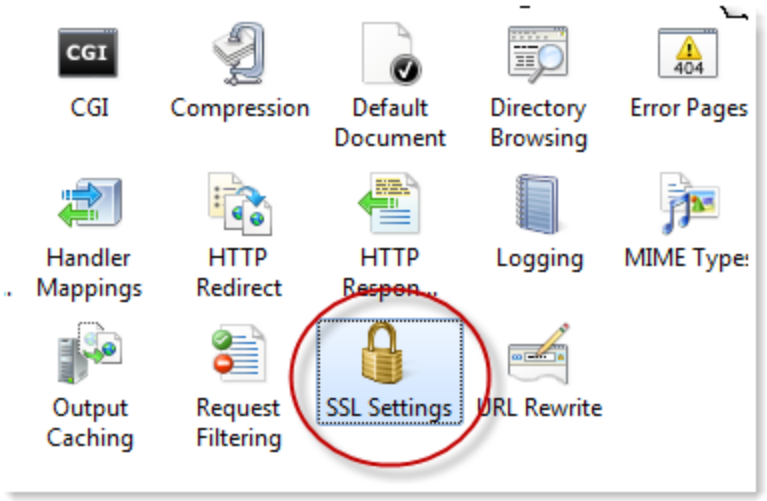
CONFIGURE SSL SETTINGS IN IIS

1. Select a Devolutions Password Server application in the **Tree View**.



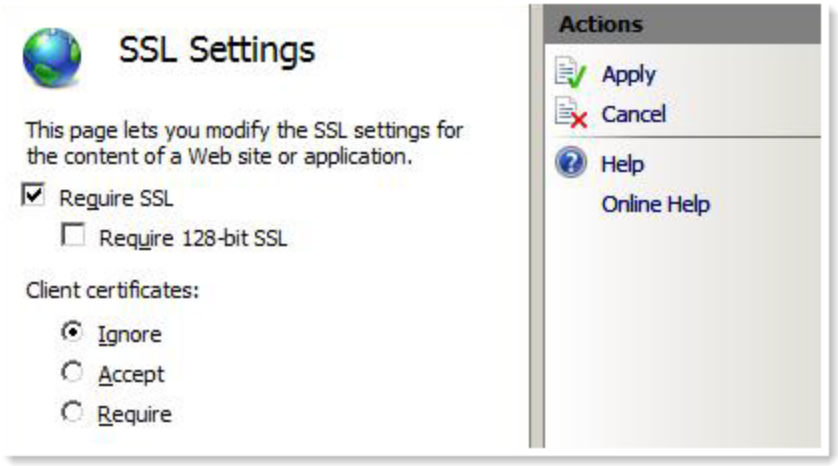
IIS Tree View

2. Click on **SSL Settings**.



Web site icons

3. Configure SSL settings if you want your site to require SSL, or to interact in a specific way with client certificates. Click the site node in the **Tree View** to go back to the site's home page. Double-click the **SSL Settings** feature in the middle pane. Select **Require SSL** and click **Apply**.

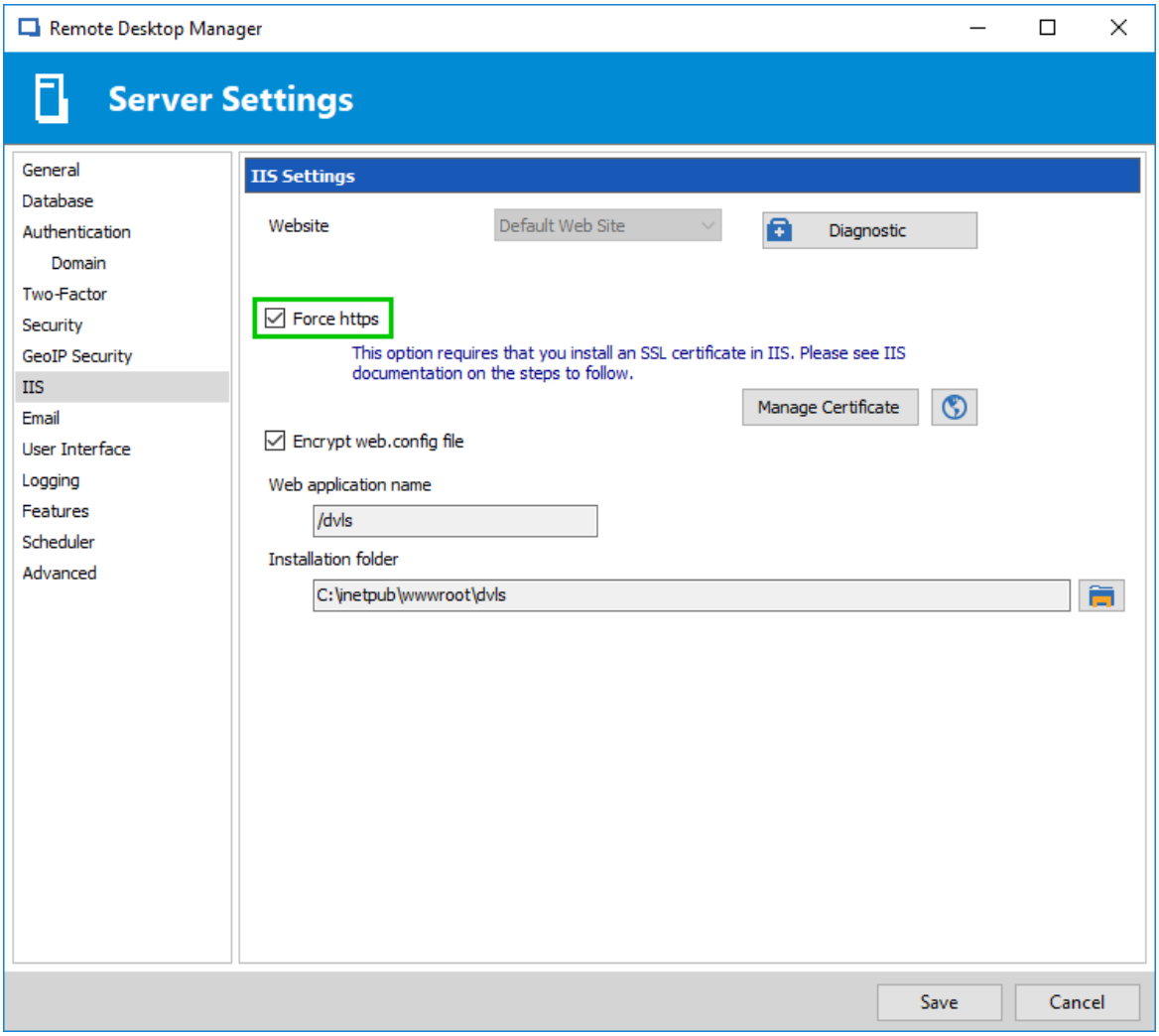


SSL Settings

MODIFY THE DEVOLUTIONS PASSWORD SERVER CONFIGURATION

1. From the Devolutions Password Server Console, edit the Devolutions Password Server instance.

2. Go in the IIS tab and enable the **Force https** option.



Forcre https

3. Save the modification with the **Save** button.

CONFIGURE SSL SETTINGS IN THE CLIENT APPLICATIONS

1. Edit the Devolutions Password Server data source
2. Change the server URL to use the **https://** protocol

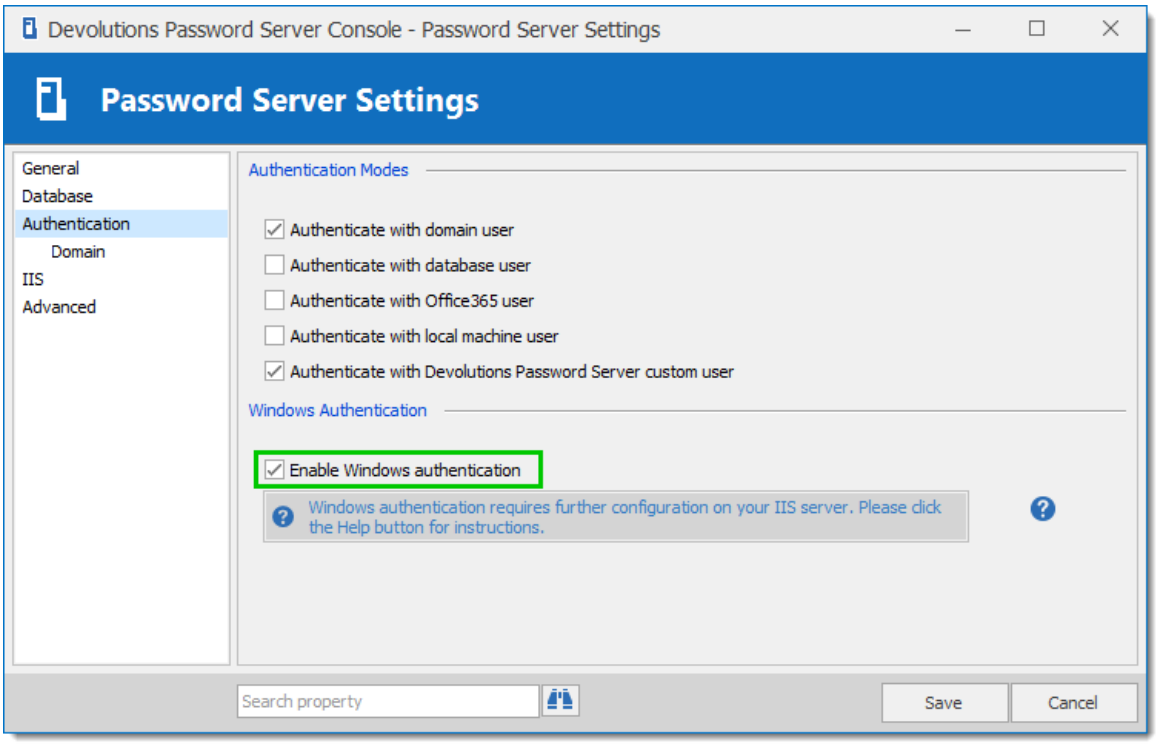
9.5.9 Configure Windows Authentication

DESCRIPTION

These steps provide the information to enable the **Windows Authentication** feature in Devolutions Password Server.

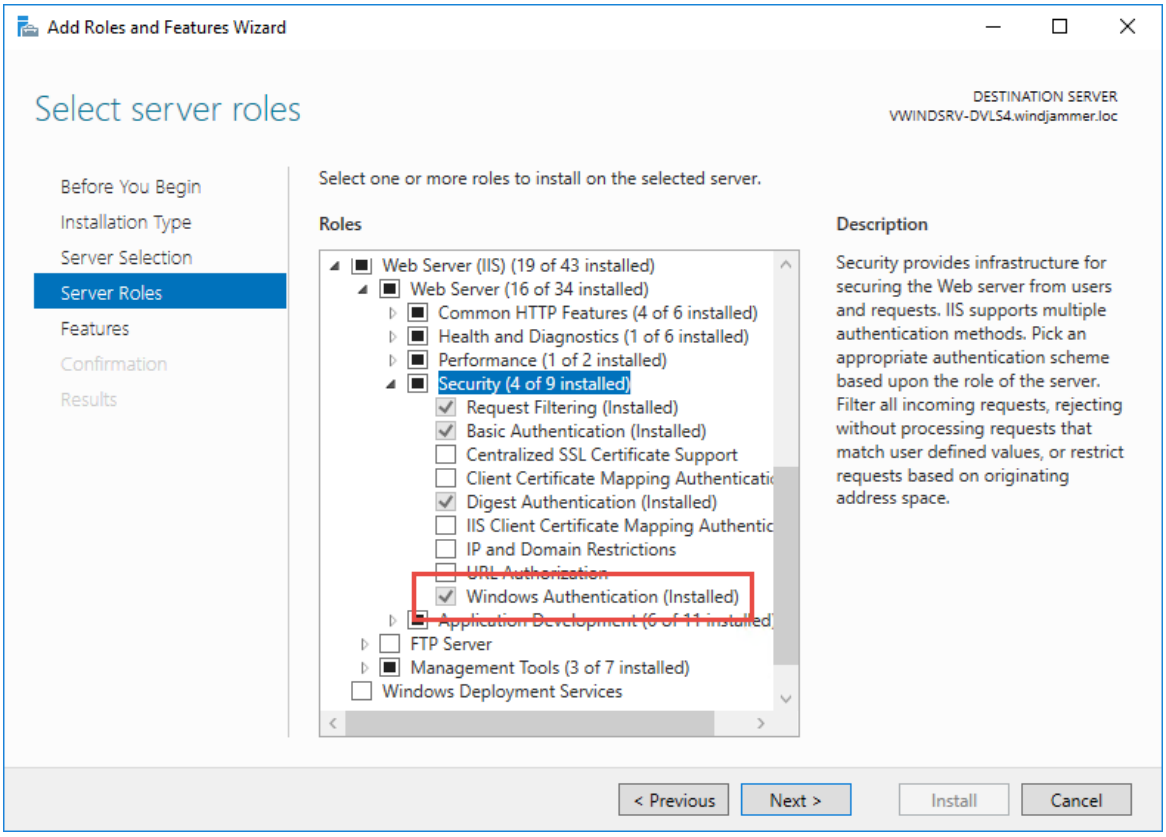
STEPS

1. In the **Authentication** tab of the **Server Settings** of the Devolutions Password Server instance, enable the **Enable Windows Authentication** option box and click on the **Save** button.



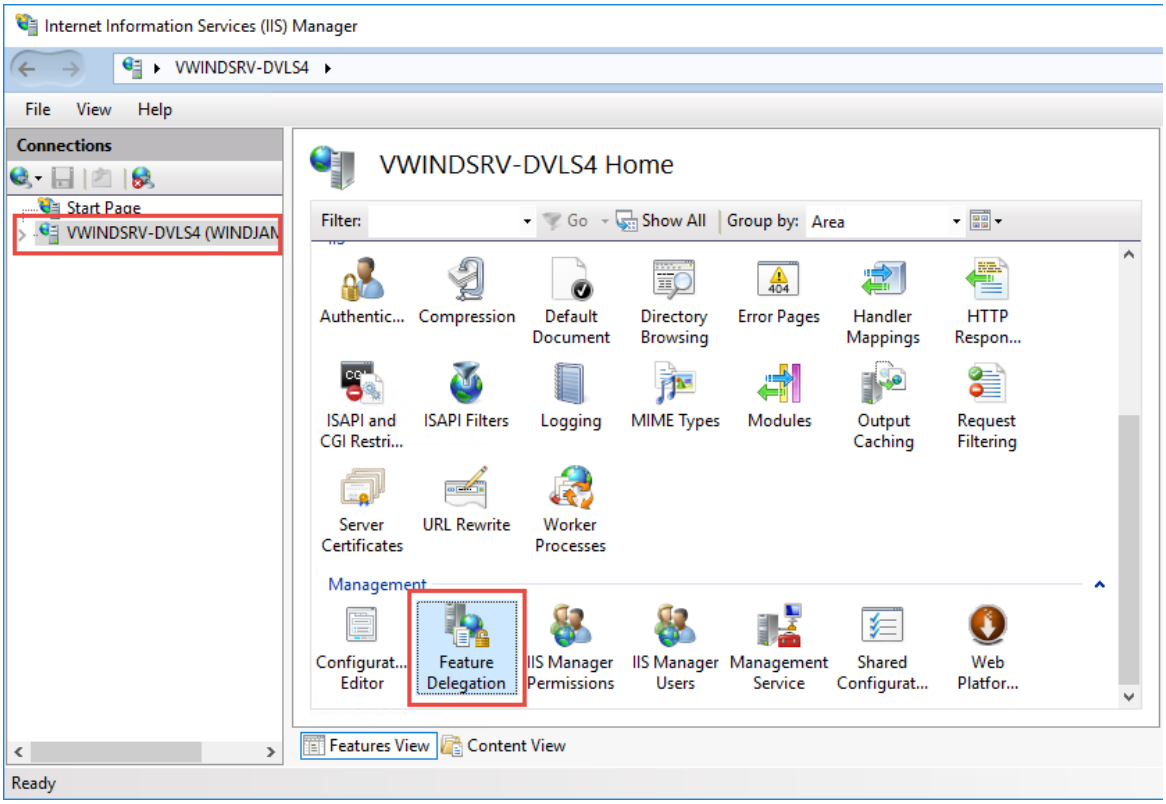
Server Settings Dialog

2. In the **Server Roles**, install the **Windows Authentication** server role.



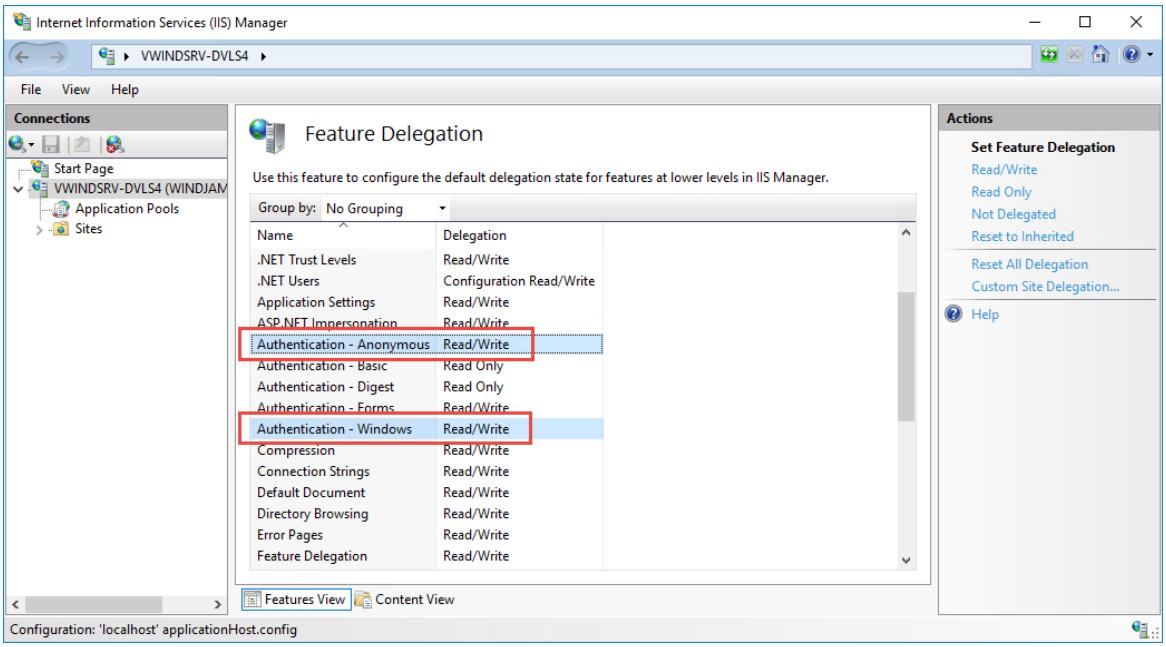
Add Roles and Features Wizard Dialog

3. Next, open the **IIS Manager**, select the server in the **Tree View** and open the **Feature Delegation** in the **Management** section.



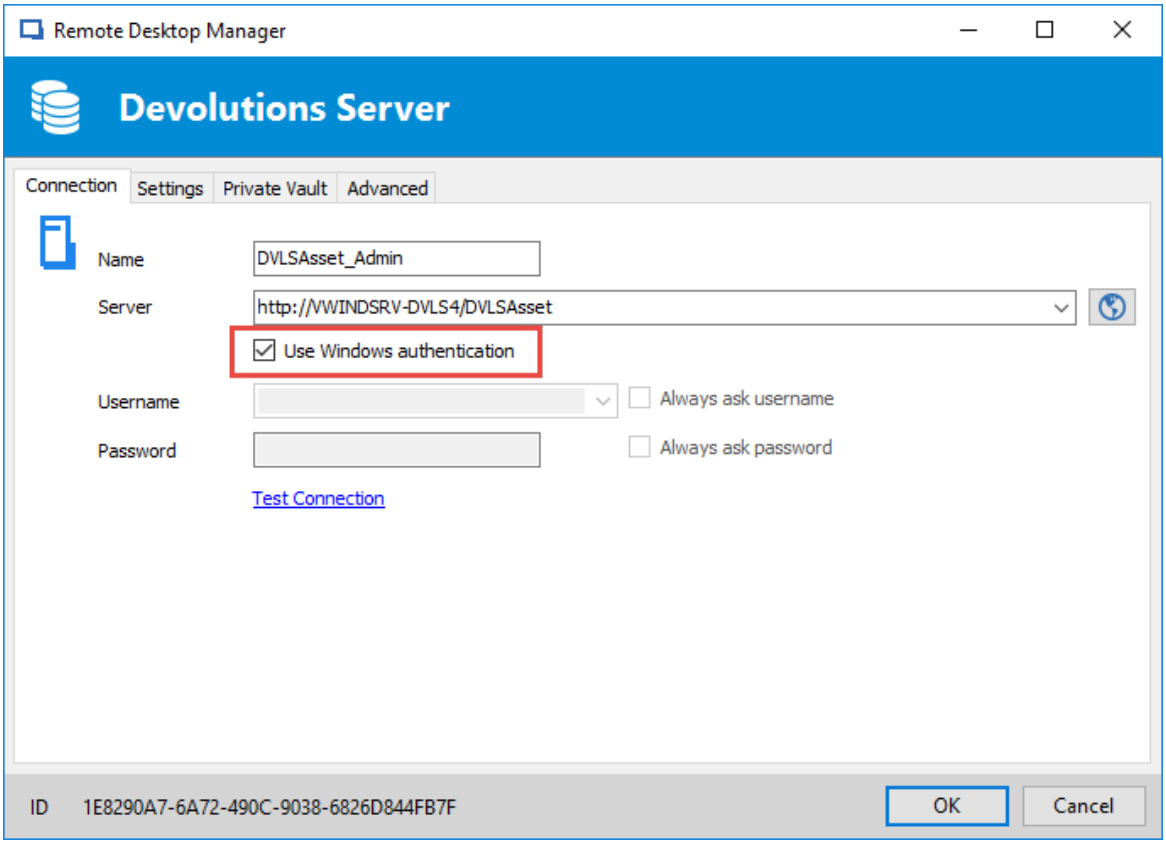
IIS Manager

4. Set the **Authentication - Anonymous** and the **Authentication - Windows feature delegation** to the value **Read/Write**.



IIS Manager - Feature Delegation

5. Finally, in the data source configuration of each clients, enable the **Use Windows Authentication** option.



Data Source Configuration Dialog

9.5.10 Enforcing usage of LDAPS

DESCRIPTION

To require that a directory server rejects simple binds which occur on a clear text connection, you must apply a policy.

Please refer to How to enable LDAP signing in Windows Server 2008 for the original article, but we will duplicate the content here for ease of use (especially since we hard a hard time finding it ourselves...).

HOW TO CONFIGURE THE DIRECTORY TO REQUIRE LDAP SERVER SIGNING USING GROUP POLICY

HOW TO SET THE SERVER LDAP SIGNING REQUIREMENT

1. Click **Start**, click **Run**, type **mmc.exe**, and then click **OK**.
2. On the **File** menu, click **Add/Remove Snap-in**.
3. In the **Add** or **Remove Snap-ins** dialog box, click **Group Policy Management Editor**, and then click **Add**.
4. In the **Select Group Policy Object** dialog box, click **Browse**.
5. In the **Browse** for a **Group Policy Object** dialog box, click **Default Domain Policy** under the **Domains**, **OUs** and linked **Group Policy Objects** area, and then click **OK**.
6. Click **Finish**.
7. Click **OK**.
8. Expand **Default Domain Controller Policy**, expand **Computer Configuration**, expand **Policies**, expand **Windows Settings**, expand **Security Settings**, expand **Local Policies** and then click **Security Options**.
9. Right-click **Domain controller**: **LDAP server signing requirements** and then click **Properties**.
10. In the **Domain controller**: LDAP server signing requirements **Properties** dialog box, enable **Define** this policy setting, click to select **Require signing in** the **Define this policy setting** drop-down list, and then click **OK**.
11. In the **Confirm Setting Change** dialog box, click **Yes**.

HOW TO SET THE CLIENT LDAP SIGNING REQUIREMENT THROUGH LOCAL COMPUTER POLICY

1. Click **Start**, click **Run**, type **mmc.exe**, and then click **OK**.
2. On the **File** menu, click **Add/Remove Snap-in**.
3. In the **Add or Remove Snap-ins** dialog box, click **Group Policy Object Editor**, and then click **Add**.
4. Click **Finish**.

5. Click **OK**.
6. Expand **Local Computer Policy**, expand **Computer Configuration**, expand **Policies**, expand **Windows Settings**, expand **Security Settings**, expand **Local Policies**, and then click **Security Options**.
7. Right-click **Network security**: **LDAP** client signing requirements, and then click **Properties**.
8. In the **Network security**: **LDAP** client signing requirements **Properties** dialog box, click to select **Require signing in** the drop-down list, and then click **OK**.
9. In the **Confirm Setting Change** dialog box, click **Yes**.

HOW TO SET THE CLIENT LDAP SIGNING REQUIREMENT THROUGH A DOMAIN GROUP POLICY OBJECT

1. Click **Start**, click **Run**, type **mmc.exe**, and then click **OK**.
2. On the **File** menu, click **Add/Remove Snap-in**.
3. In the **Add or Remove Snap-ins** dialog box, click **Group Policy Object Editor**, and then click **Add**.
4. Click **Browse**, and then select **Default Domain Policy** (or the **Group Policy Object** for which you want to enable client LDAP signing).
5. Click **OK**.
6. Click **Finish**.
7. Click **Close**.
8. Click **OK**.
9. Expand **Default Domain Policy**, expand **Computer Configuration**, expand **Windows Settings**, expand **Security Settings**, expand **Local Policies**, and then click **Security Options**.
10. In the **Network security**: **LDAP** client signing requirements **Properties** dialog box, click to select **Require signing in** the drop-down list, and then click **OK**.
11. In the **Confirm Setting Change** dialog box, click **Yes**.

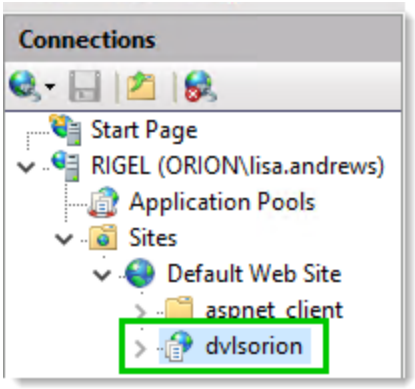
9.5.11 Identify which Server is answering on a High Availability Topology

DESCRIPTION

The following steps will explain how to define which server is answering when connecting on the Devolutions Password Server web page on a High Availability/Load Balancing topology.

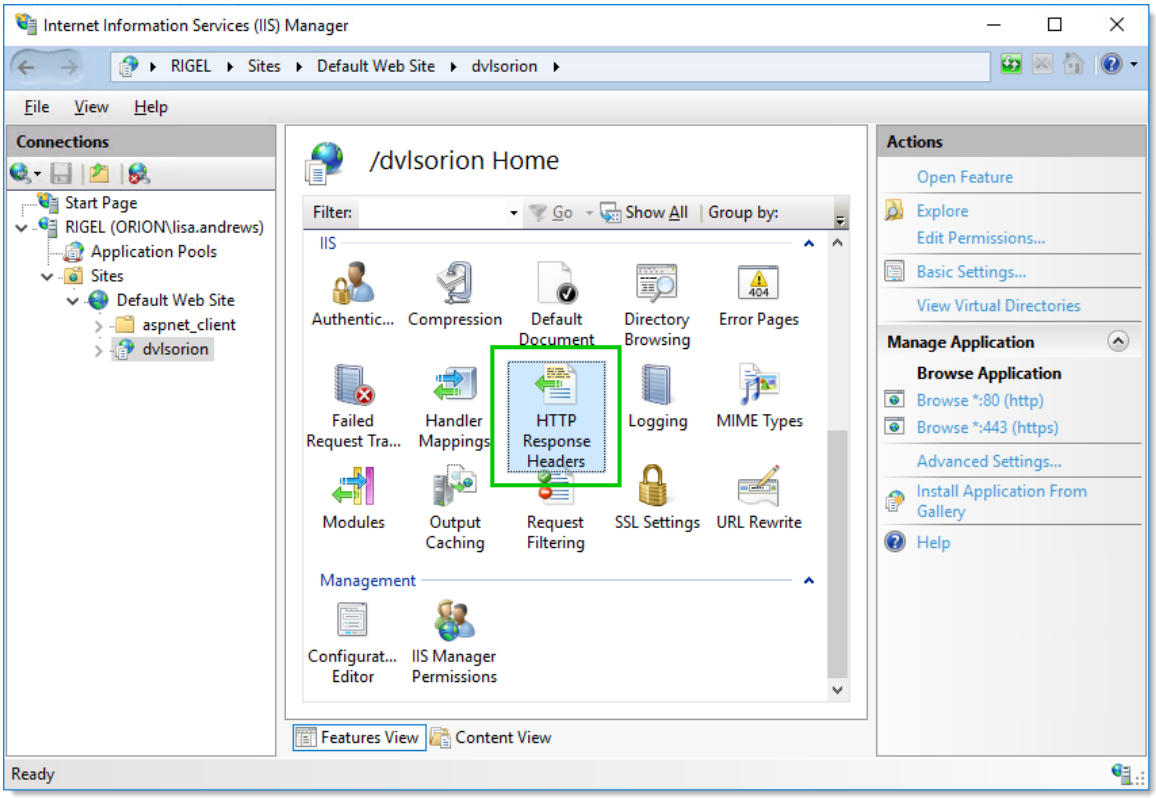
1. Open **IIS Manager** on the server where the Devolutions Password Server is hosted.

2. Expand the nodes in the **Connections** pane and select the Devolutions Password Server web application.



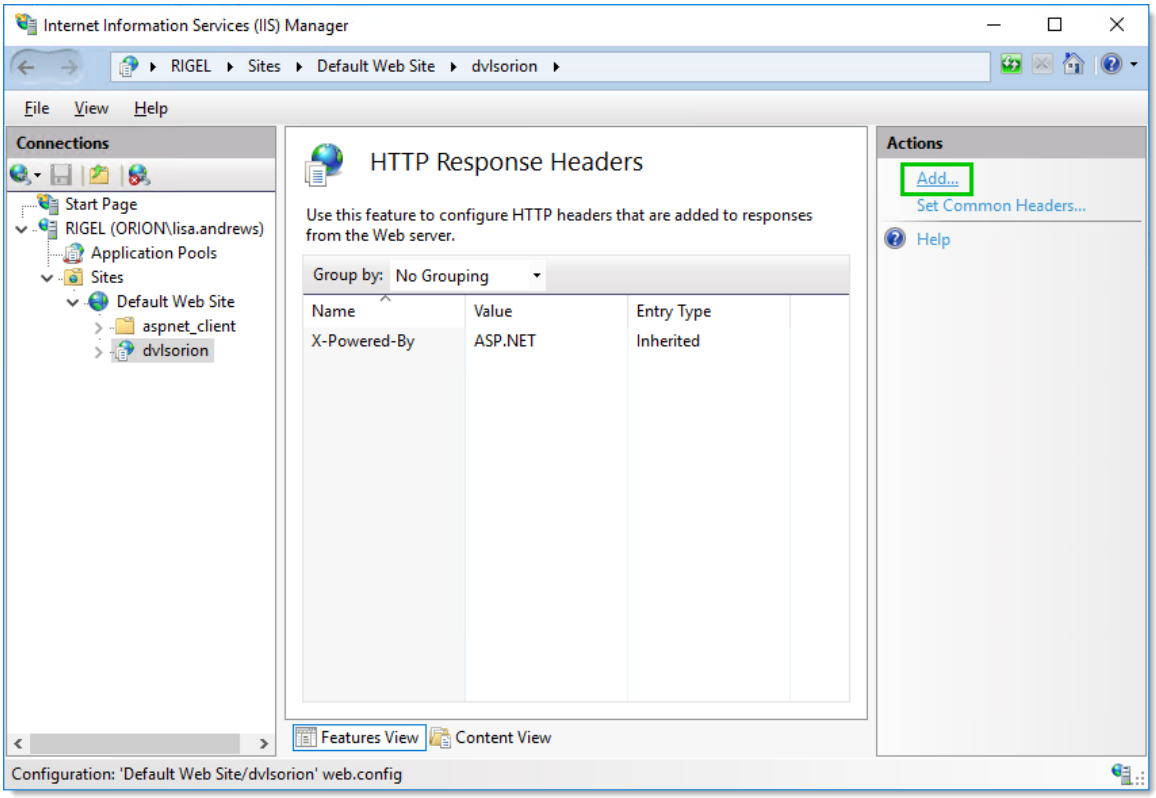
Connections Pane

3. Open the **HTTP Response Headers**.



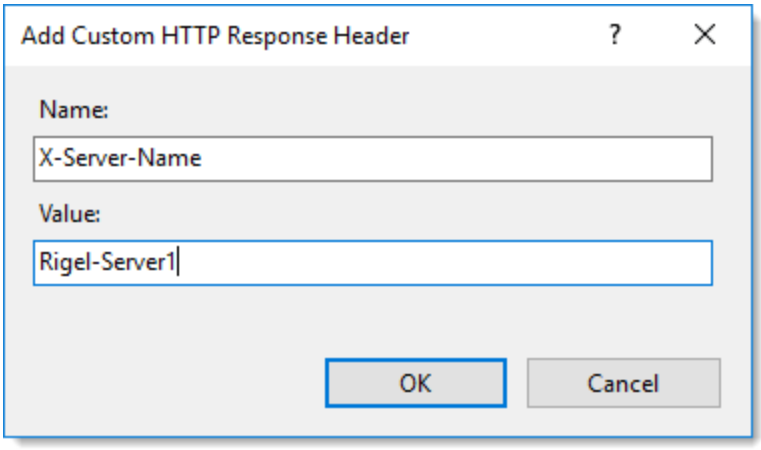
IIS Manager

4. Click on **Add**... in the Actions pane to add a new **HTTP Response Header**.



HTTP Response Headers

5. Enter a **Name** and a **Value** that will identify the server. Then click on **OK** to save this information.



Edit Custom HTTP Response Headers Dialog

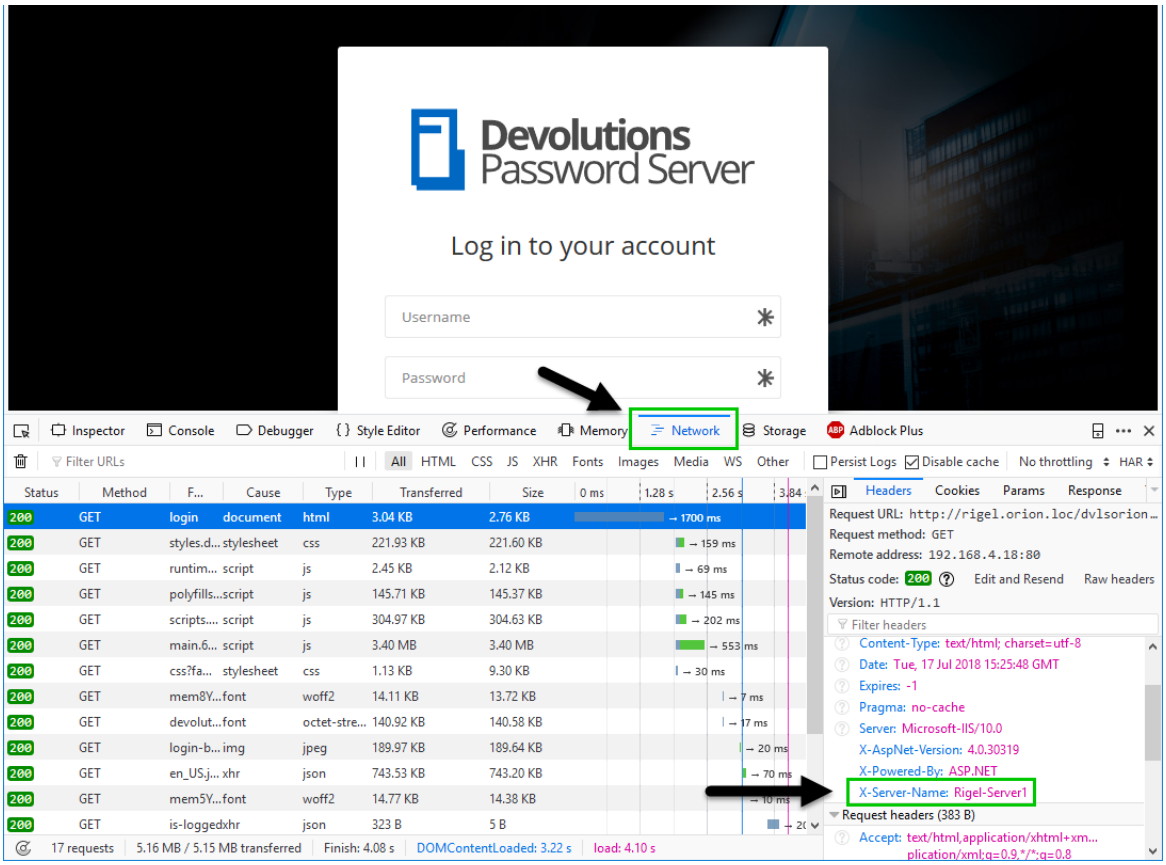
6. Repeat steps 1 to 5 on each server of your **High Availability/Load Balancing** cluster. It is important to set a different value for each server but keeping the same **Name**.

7. Open your favorite browser.

8. Open the **Developer Tools** in the browser. Usually the **F12** key will open the **Developer Tools** in **Google Chrome**, **Firefox** or **Microsoft Edge**.

9. Browse to your Devolutions Password Server web page.

10. Using **Firefox**, in the **Network** tab, you should found the **Custom HTTP Response Header** value of the answering server of the cluster.



Firefox Developer Tools - Network Tab

9.5.12 Manage Encryption Keys on a High Availability Topology

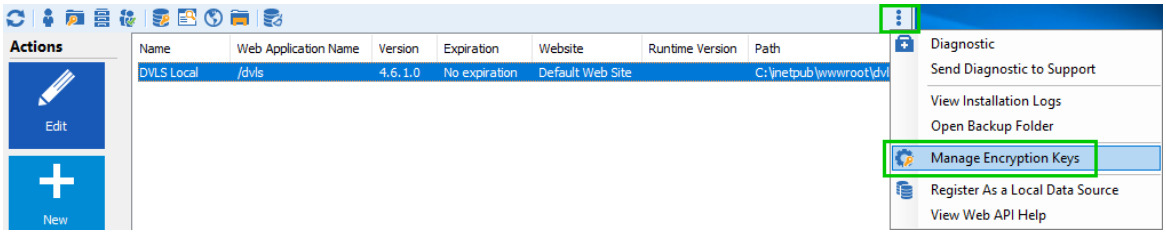
DESCRIPTION

The encryption keys must be the same of each Devolutions Password Server instances of your High Availability Topology.

We recommend to do a backup of the SQL database before any operation that could modify the information of the SQL database. During this operation, all users must be in offline mode or disconnected from the Devolutions Password Server data source to avoid data loss.

Here are the steps to manage the encryption keys on that specific environment. If you have to upgrade Devolutions Password Server, please upgrade one instance at a time.

1. Open the Devolutions Password Server Console on the first server.
2. Open the menu on the right of the Devolutions Password Server Console and click on **Manage Encryption Keys**.

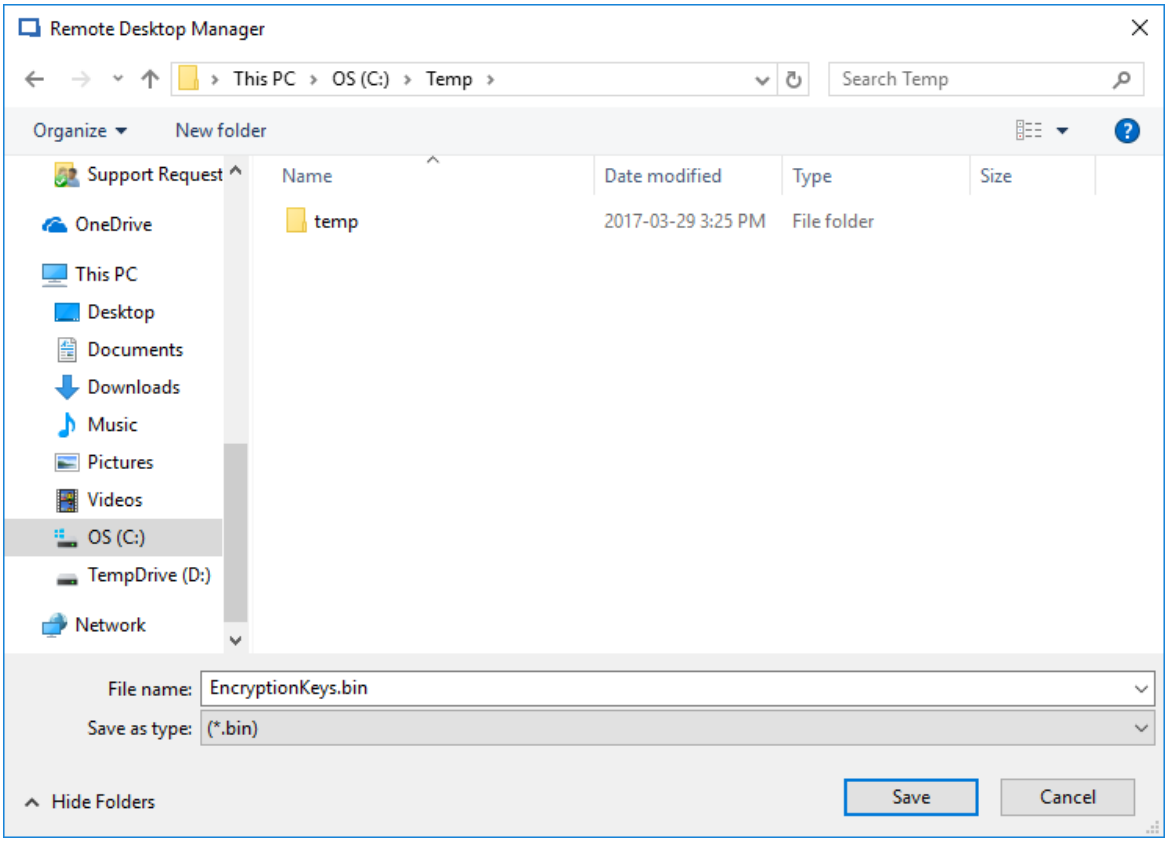


Devolutions Password Server Console

3. Set the **Operation** to **Export**, enter a password and click on the **OK** button.

Manage Encryption Keys Dialog

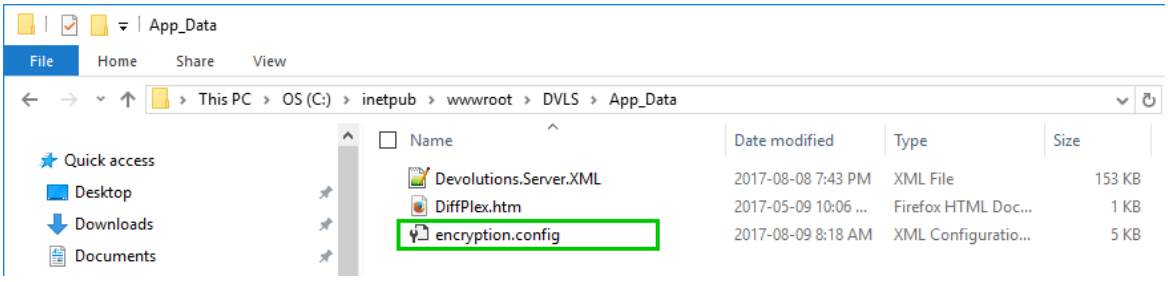
4. Select a folder where to save the file and click on the **Save** button.



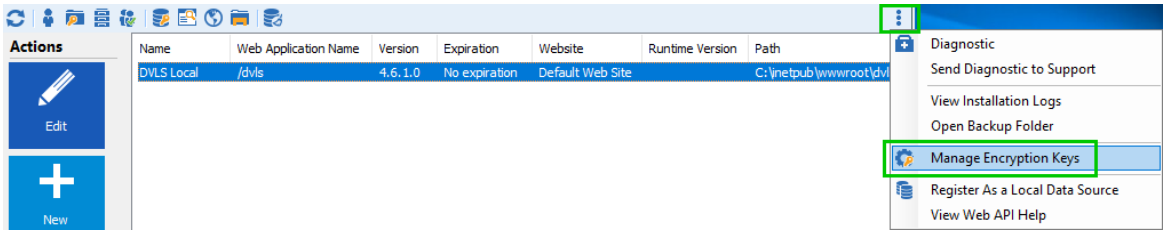
5. **Copy** the encryption file on the other server.

6. If you need to upgrade the second server, you must do it before going any further with the following steps.

7. Go on another server where Devolutions Password Server is hosted and open the **File Explorer** in the **App_Data subfolder** of your web application folder. **Delete** every encryption file you will find in that subfolder.



8. Open the Devolutions Password Server Console on the server. Then, open the Advanced menu on the right of the Devolutions Password Server Console and click on Manage Encryption Keys.

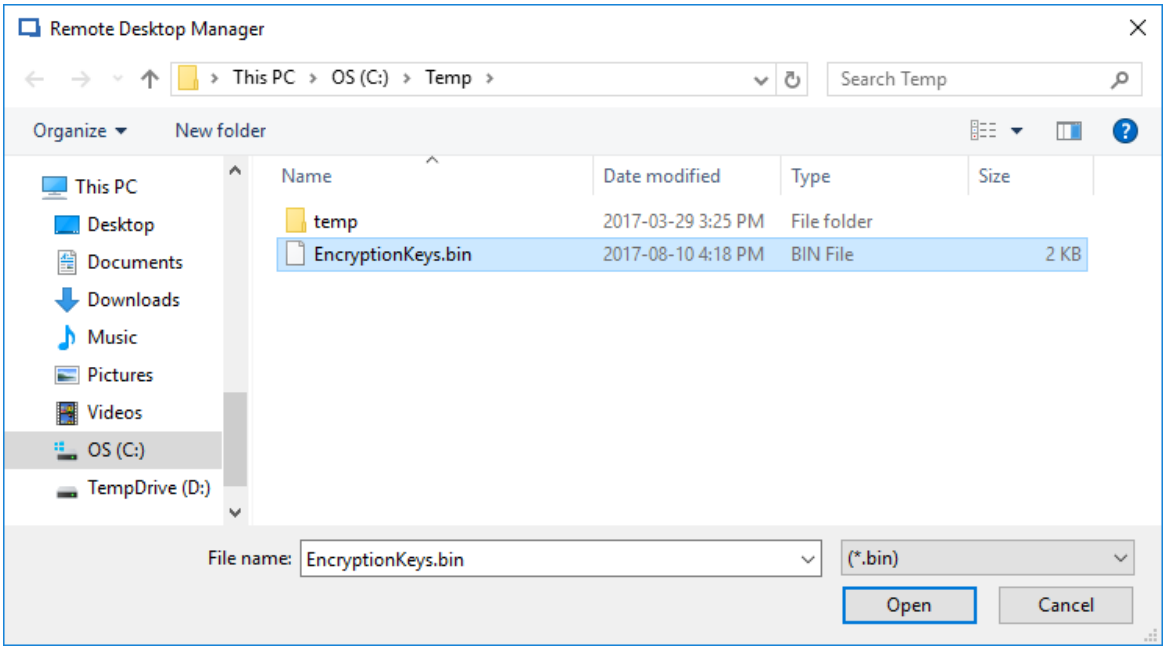


Devolutions Password Server Console

9. Set the **Operation** to **Import** and click on the **OK** button.

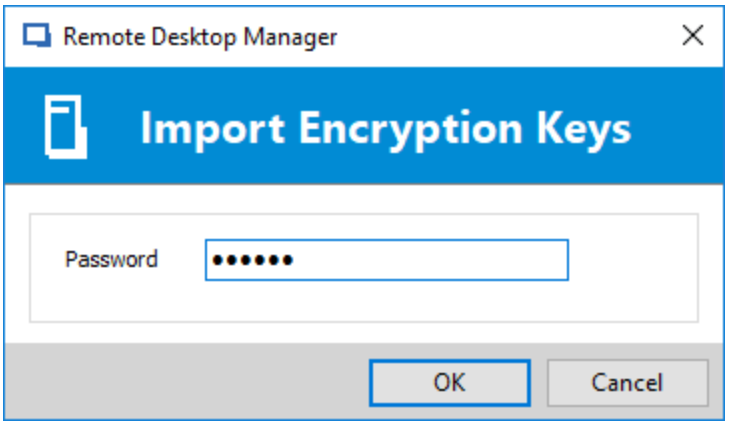
Manage Encryption Keys Dialog

10. Select the encryption file and click on the **Open** button.



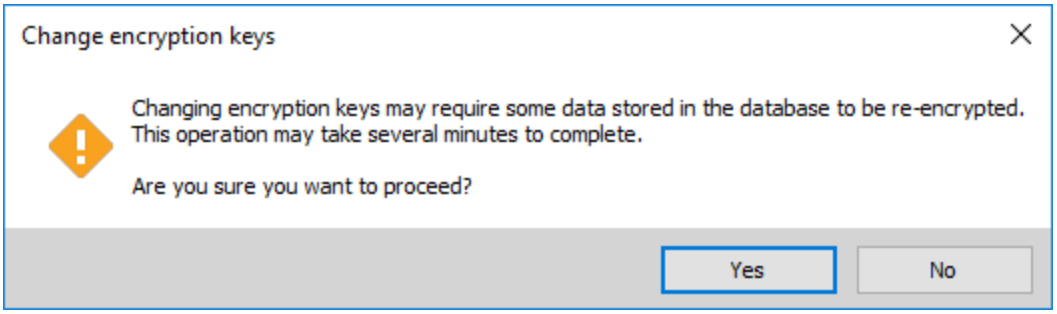
Select the encryption file

11. Enter the password and click on the **OK** button.



Import Encryption Keys password Dialog

12. Click on the **Yes** button on the **Change encryption keys** warning dialog. Because the encryption keys was deleted, this operation will not be completed on the database. It will use the same encryption keys as the other server.



Change Encryption Keys Warning Dialog

9.5.13 Ports And Firewalls

DESCRIPTION

Devolutions Password Server in itself does not dictate which ports to use for any of the resources that it accesses. You must consult with your system administrator to ascertain which adjustments need to be made in order for the system to inter-operate with your infrastructure.

INBOUND

The only inbound port that is needed for Devolutions Password Server is for http or https communication, as per your preference. We strongly recommend using https even if only within your own network infrastructure. Although the default port is easily changed, it is typically port 443.

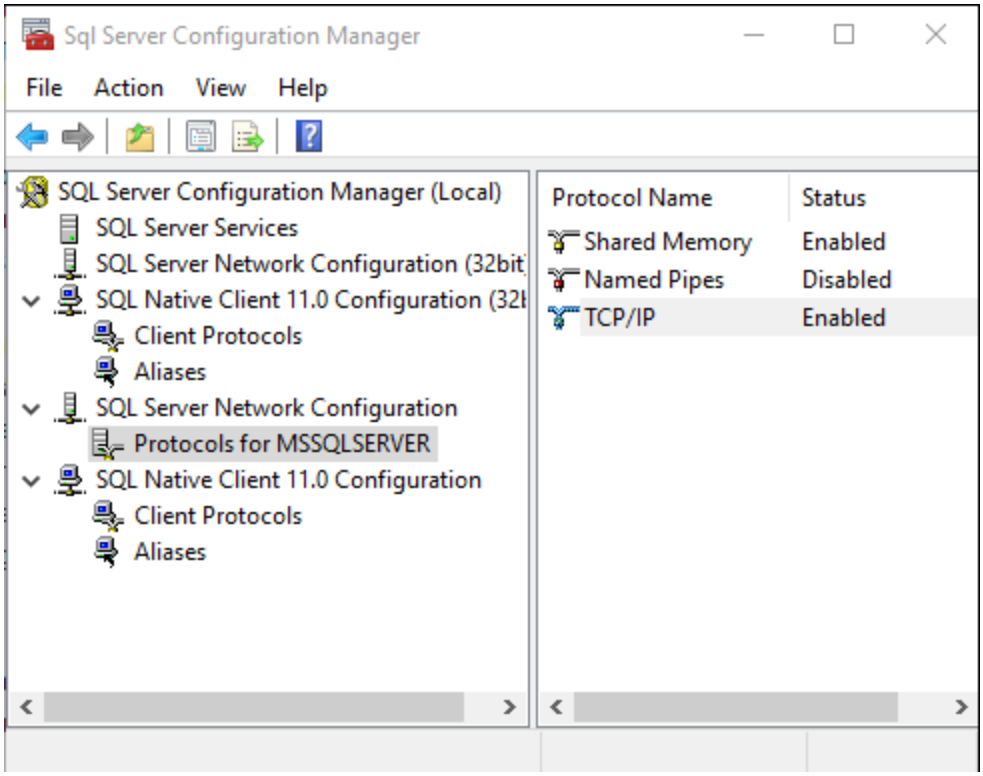
OUTBOUND

Two technologies are in play for proper operation of Devolutions Password Server : SQL Server, LDAP.

SQL SERVER

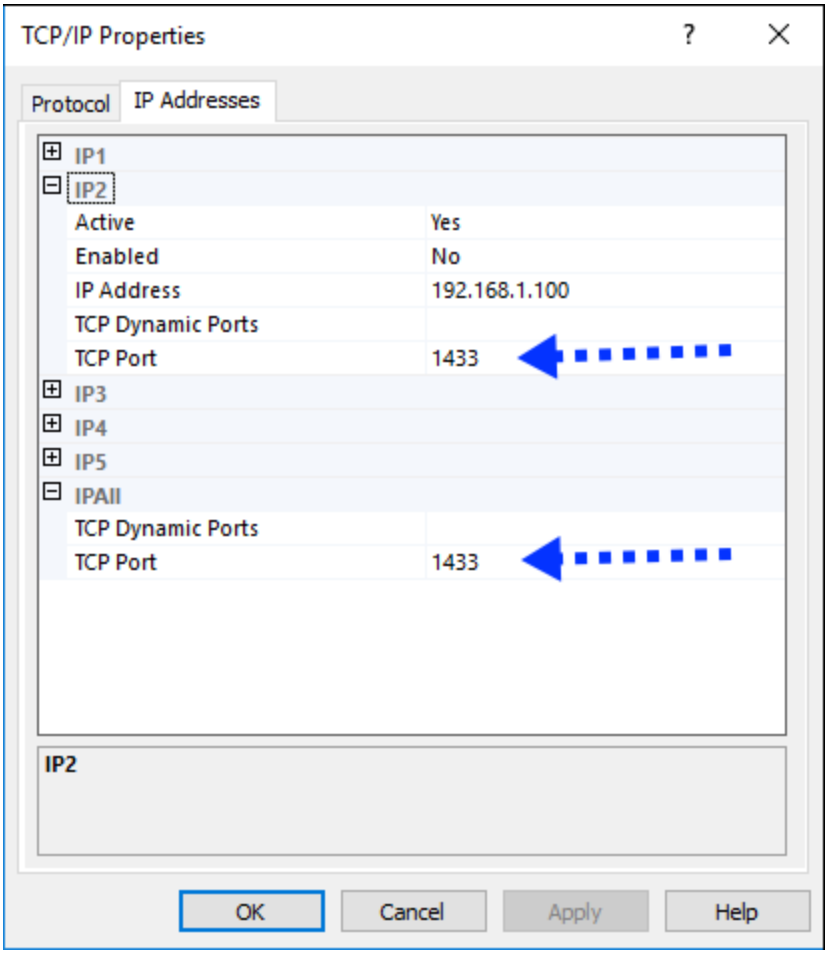
Depending on the choice of **Default Instance** or **Named Instance** that was made during the installation, the SQL Server instance will listen on different ports.

Using SQL Server Configuration Manager, you can see the details in the Protocols section



Sql Server Configuration Manager - Protocol details

In most cases, TCP/IP will be used for remote connections. You will be able to see what ports are in use. If you see that TCP Dynamic Ports are in play, they will change upon every restart of the SQL Server instance and therefore are **not a good fit** for a hardened installation.



TCP/IP Properties

For more information please consult SQL Server Configuration Manager on Technet

LDAP/LDAPS

As indicated in LDAPS on Technet, LDAP communications are by nature insecure under certain conditions:

```
By default, LDAP communications between client and server applications are not encrypted.
This means that it would be possible to use a network monitoring device or software and
view the communications traveling between LDAP client and server computers. This is especially
problematic when an LDAP simple bind is used because credentials (username and password) is
passed over the network unencrypted. This could quickly lead to the compromise of credentials.
```

Follow the instructions for your operating system in order to establish LDAPS. It will involve deploying certificates generated using your of **Certification Authority (CA)**.

LDAP by default uses port 389. Even when you enable LDAPS, it may use plain LDAP therefore it needs to be disabled, please consult Enforcing usage of LDAPS.

LDAPS by default uses port 636 for typical domains, but will use port 3269 when communicating with a **Global Catalog Server** (basically when you have a Forest). Your domain administrator should be able to provide you with details of your domain infrastructure, especially if custom ports were used. You can also use ldp.exe to perform connectivity tests.

9.5.14 Switch from Shared passphrase to Shared passphrase (v2)

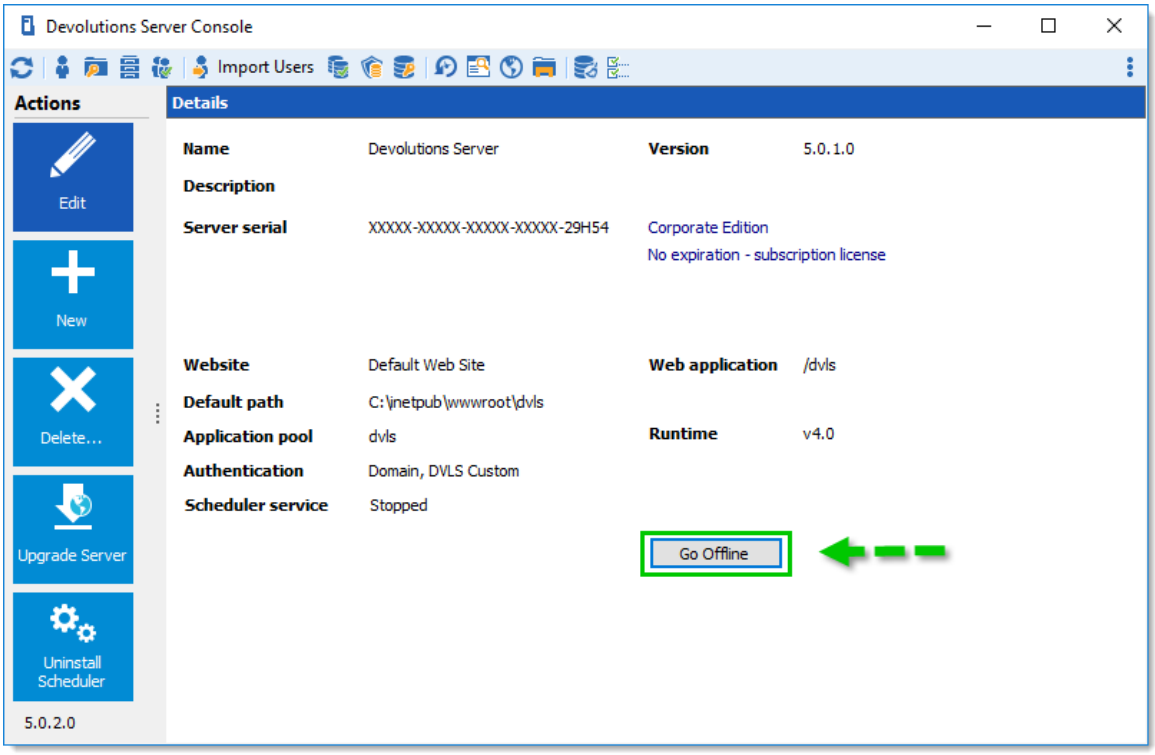
DESCRIPTION

We should deprecate the Shared passphrase v1 Security Provider so we highly recommend to remove the Shared passphrase v1 and set the Shared passphrase (v2).

The method to know which version of the Shared passphrase is set as the **Security Provider**, if there is no version displayed, it is version 1.

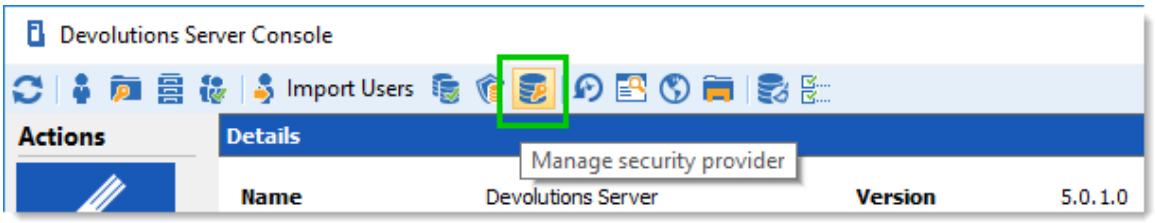
Here are the steps to modify the **Security Provider** set on the Devolutions Password Server instance from **Shared passphrase** to **Shared passphrase (v2)**.

1. Ensure that the instance users have the offline mode enabled and that they all perform a **Full Refresh** of the cache **(CTRL+F5)**.
2. Have your team switch to the offline mode, allowing them to work while the system is down.
3. Perform a full backup of the database.
4. Open the Devolutions Password Server Console and switch the instance to offline mode with the **Go Offline** button.



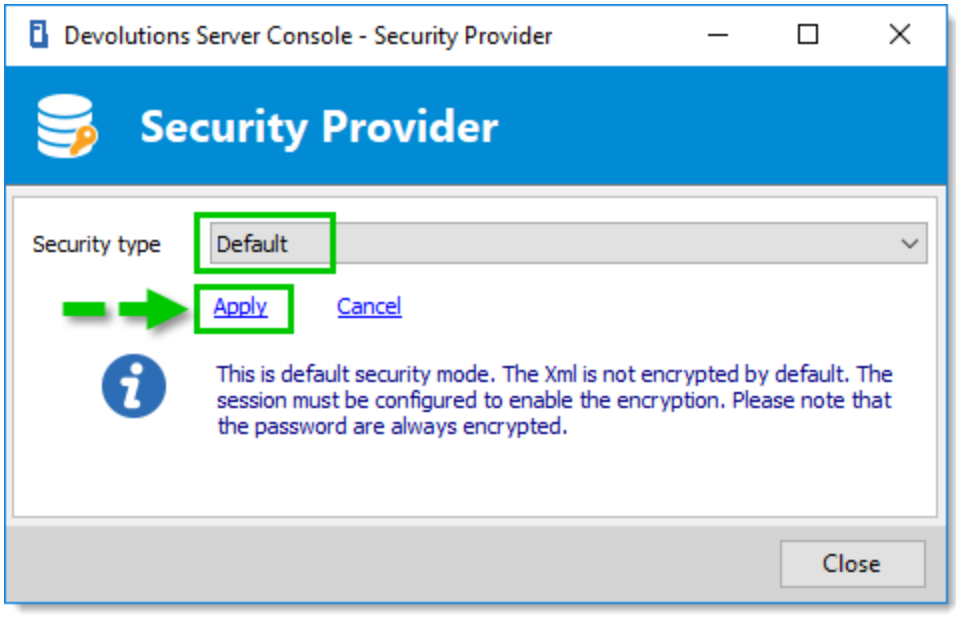
Devolutions Password Server Console

5. Open the **Security Providers** dialog from the toolbar.

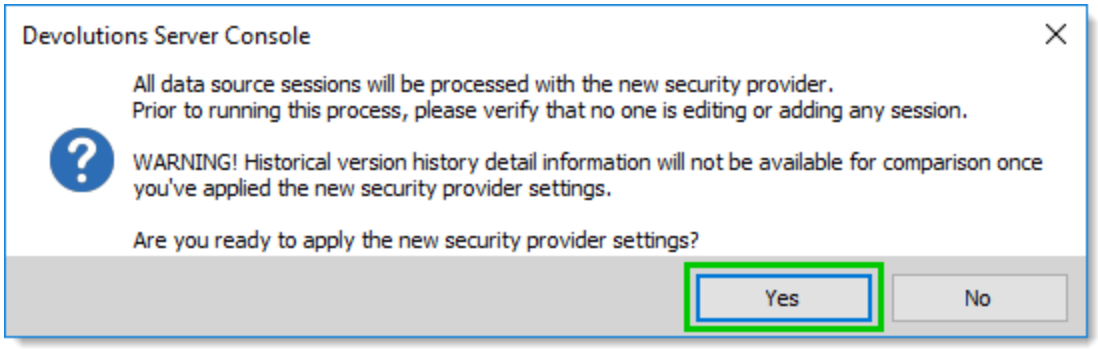


Devolutions Password Server Console toolbar

6. Select the **Default** item to remove the **Security Provider Passphrase v1** and click on **Apply**.

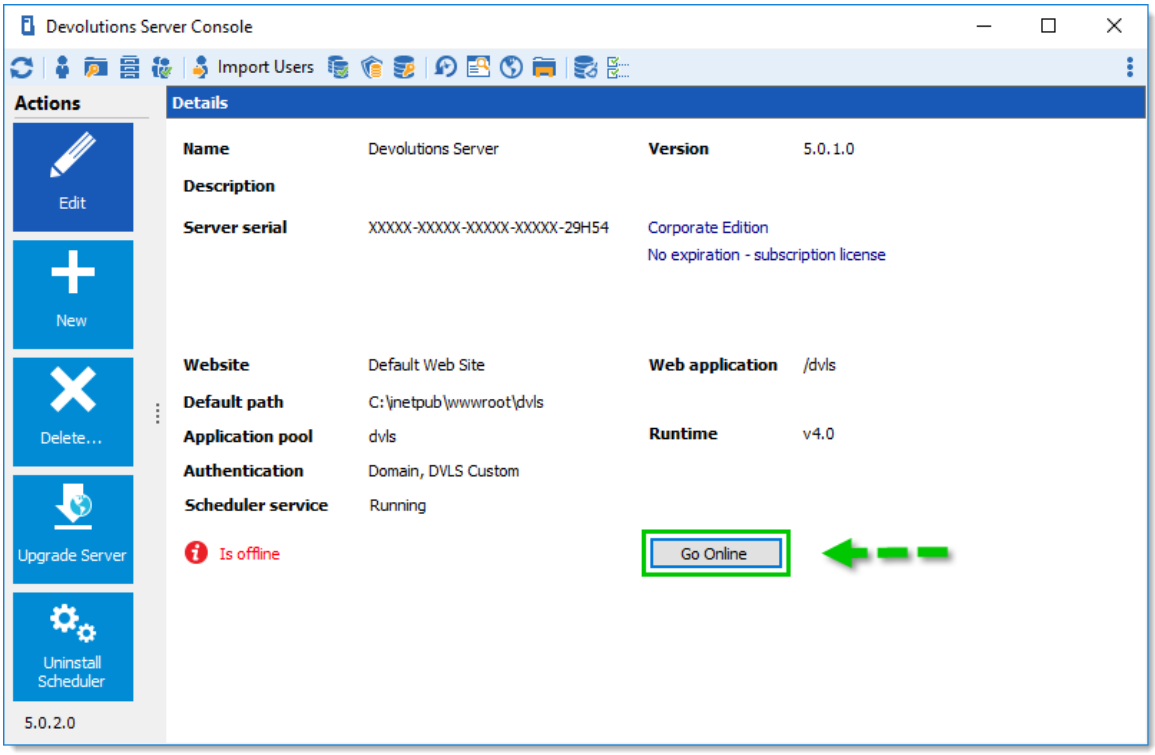


Security Provider Dialog



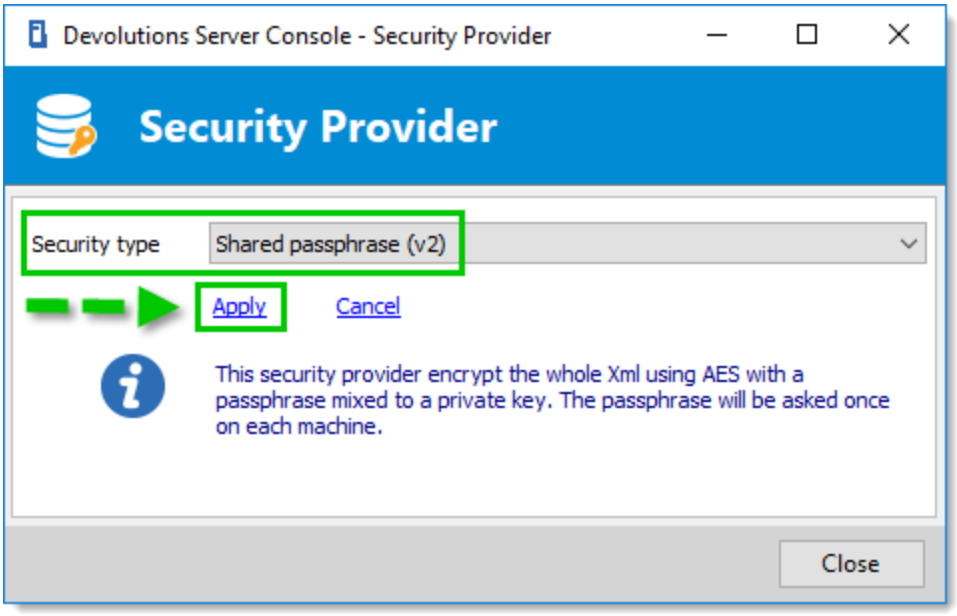
Security Provider confirmation Dialog

7. Switch the instance in online mode and check some entries with Remote Desktop Manager to ensure that the information is still accessible.



Devolutions Password Server Console

8. Switch back to offline mode.
9. Perform another backup so if the next steps fail the previous operation will not be lost.
10. Open the **Security Provider** dialog and set the **Shared passphrase (v2)** to encrypt your data.



Security Provider Dialog

11. Switch back to online mode.

12. Check some entries with Remote Desktop Manager to ensure that the information is still accessible.

13. On success, the backups taken during the process can be deleted.

9.5.15 SQL Server Express configuration

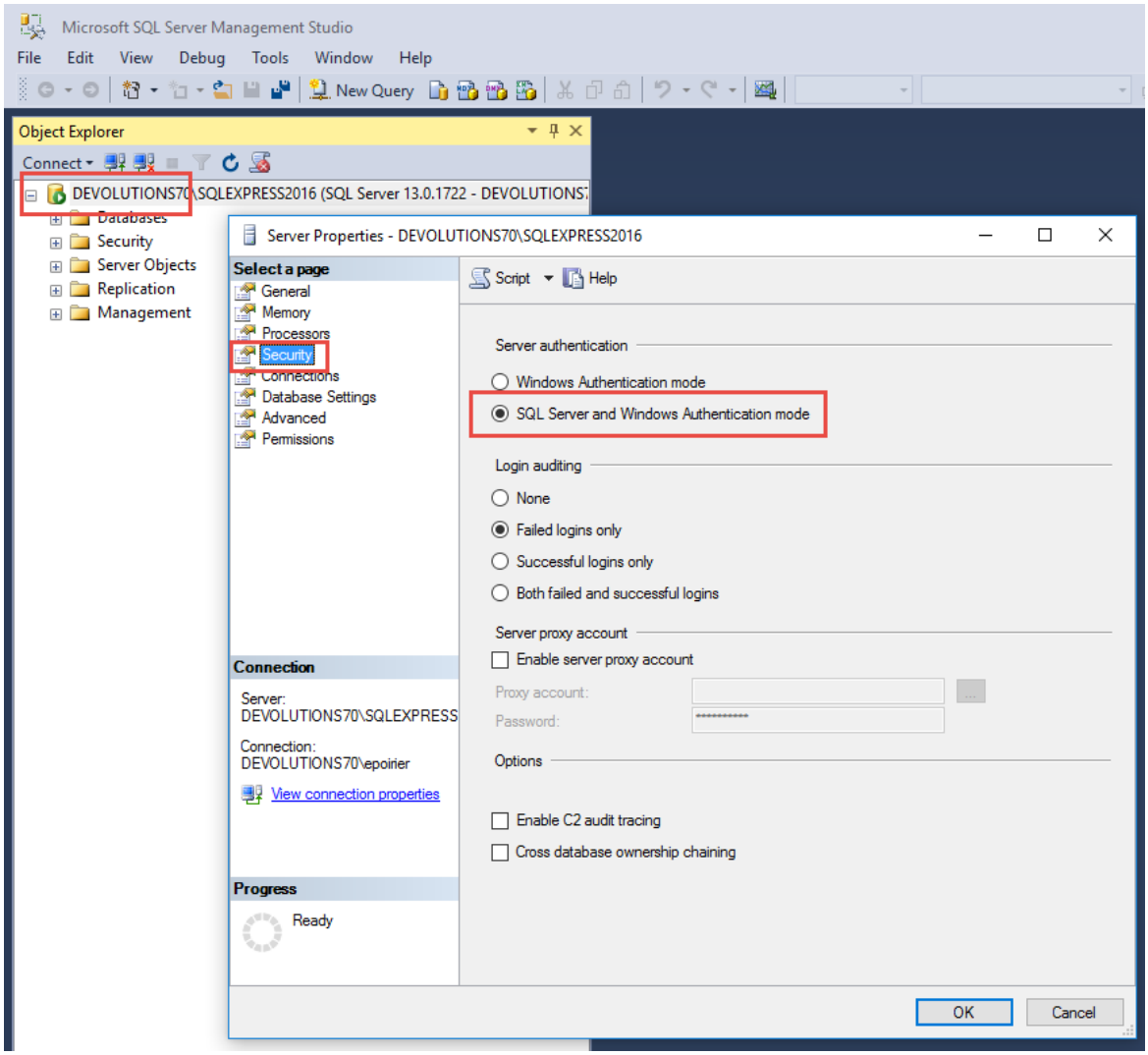
DESCRIPTION

To be able to connect to a SQL database with Devolutions Password Server, here is the suggested configuration in Microsoft SQL Server Express Edition.

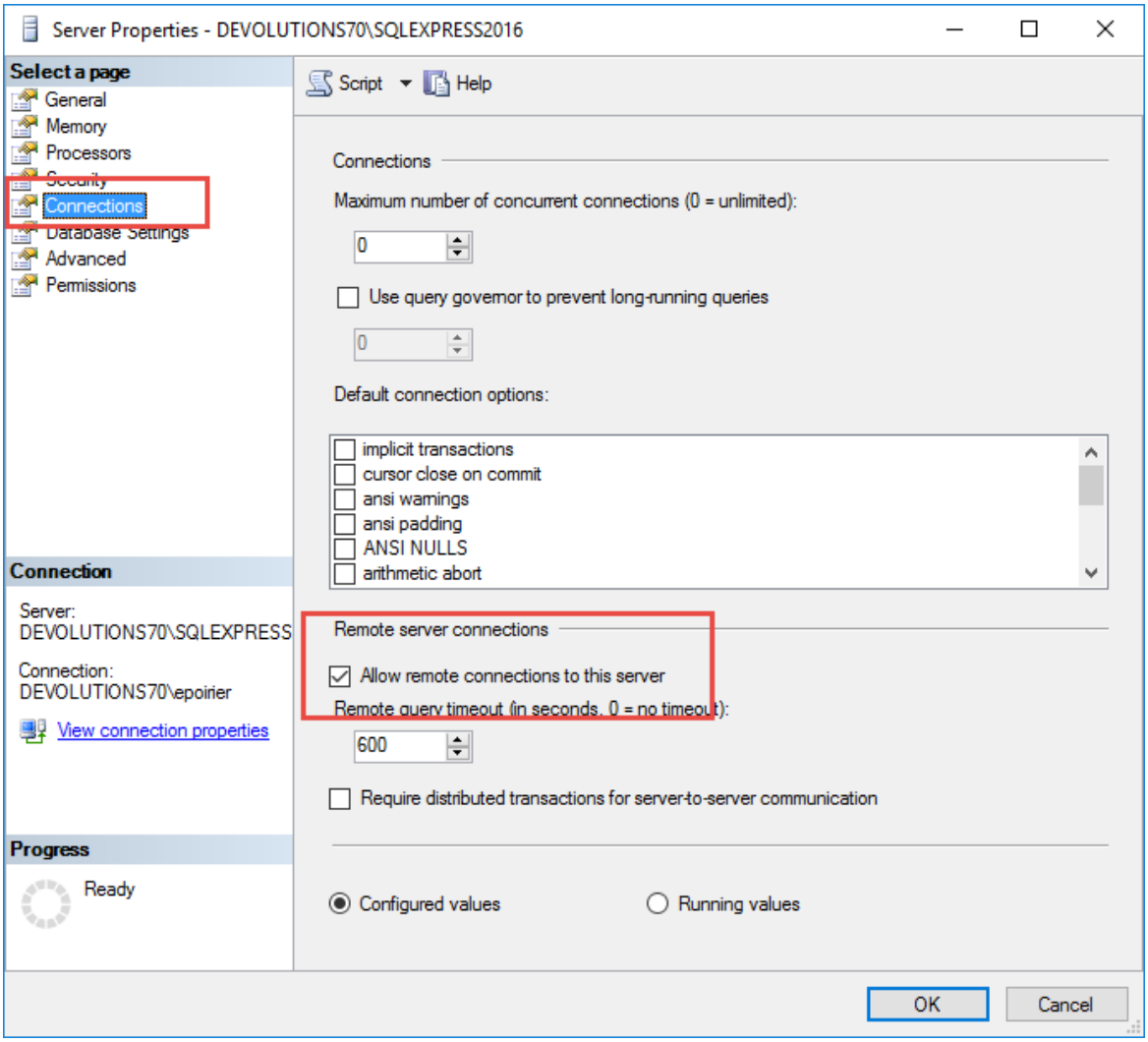
STEPS

Most of our customers use the mixed mode Server Authentication. As per Microsoft, it is not the safest authentication method to use with Microsoft SQL Server Express Edition but we recommend to use it to configure and test your Devolutions Password Server instance. After a successful installation of Devolutions Password Server, you can set it back to **Windows Authentication** mode and set the **Integrated Security** option in the **Database** tab of the Devolutions Password Server **Server Settings**. Consult this topic on How to Configure Devolutions Password Server to use integrated security. To enable the mixed mode, in the **Microsoft SQL Server**

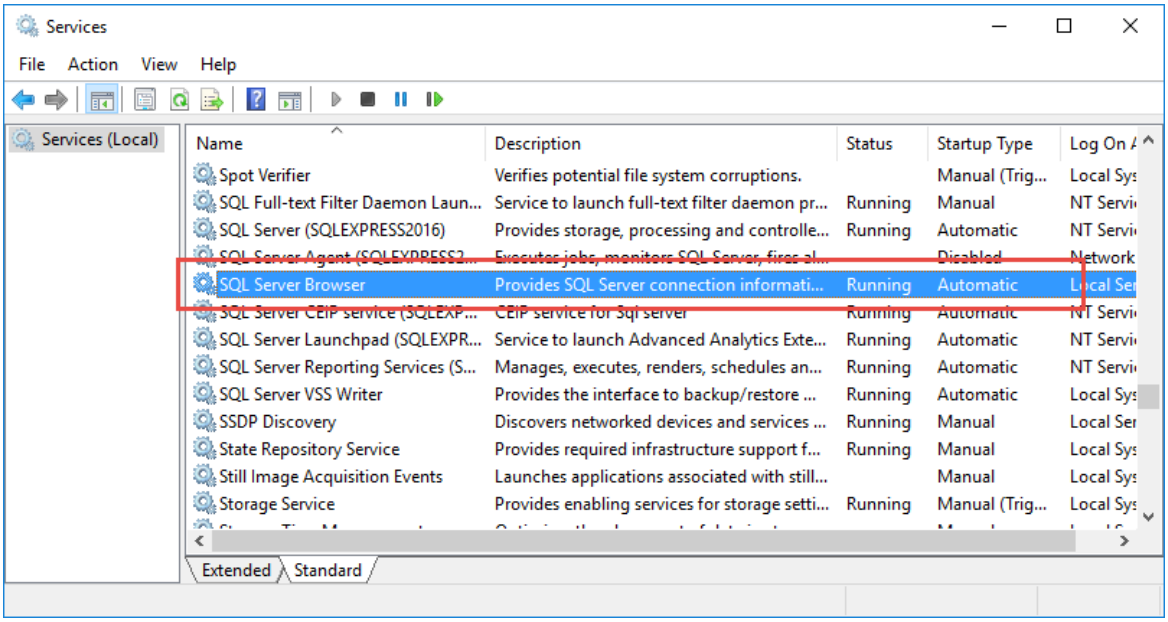
Management Studio, open the properties dialog of your server and go in the **Security** tab. Then, select the SQL Server and **Windows Authentication** mode option.



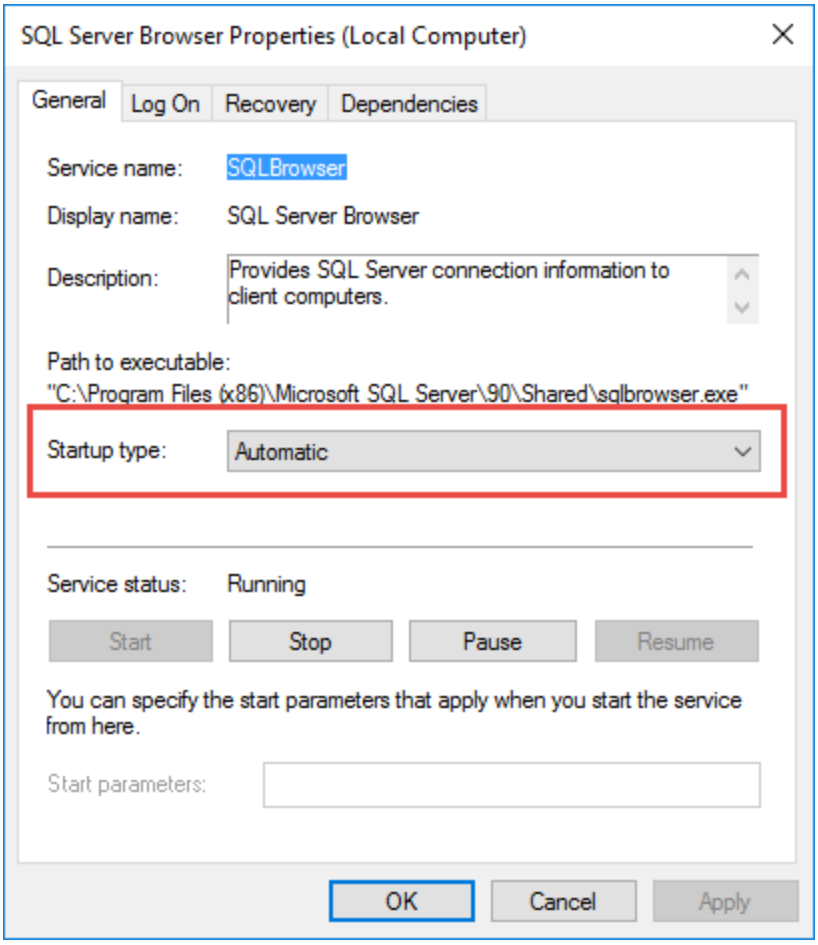
The next option that needs to be activated is the **Allow remote connections to this server** option. You will find that option in the **Connections** tab of the SQL Server **Properties** dialog. Then, click on the **OK** button to save the modifications.



Finally, the **SQL Server Browser** service must be started on the machine where the SQL Server is hosted. Please run services**.msc** and look for the **SQL Server Browser** in the list.



We recommend to set the **Startup** type to **Automatic** for the **SQL Server Browser** service. Double-click on the service to open the **Properties** dialog. Then start the service by clicking on the **Start** button and select **Automatic** in the **Startup** type drop down menu. Finally, click on the **OK** button.



9.5.16 Update your registration serial after a renewal

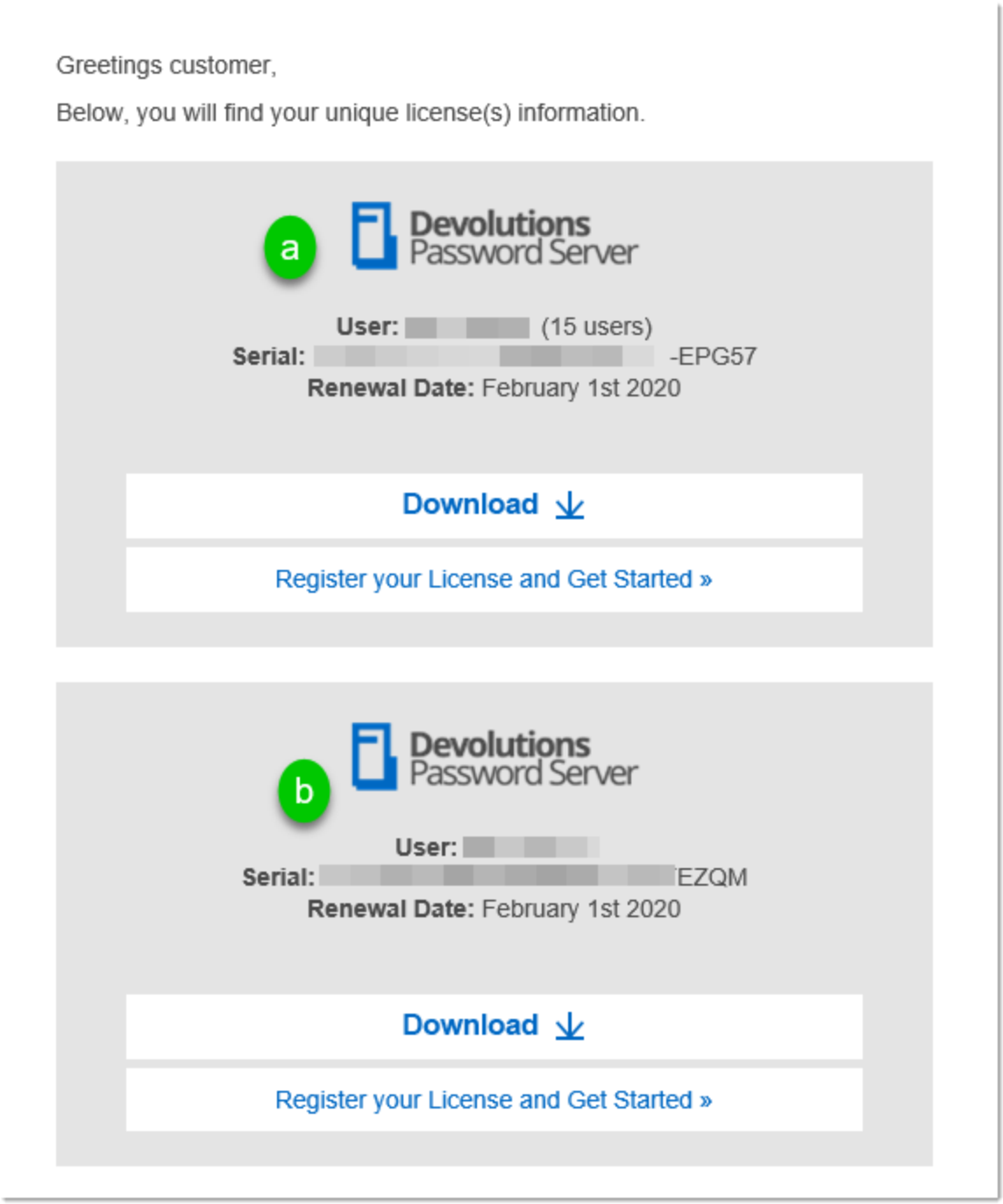
DESCRIPTION

Devolutions Password Server is licensed as a yearly subscription which must be kept up-to-date. A new license key is provided when you renew. The new license key needs to be entered in the Devolutions Password Server Console.

Your data is always available even if the subscription has expired. You simply need to connect directly to that database using a SQL Server data source.

SETTINGS

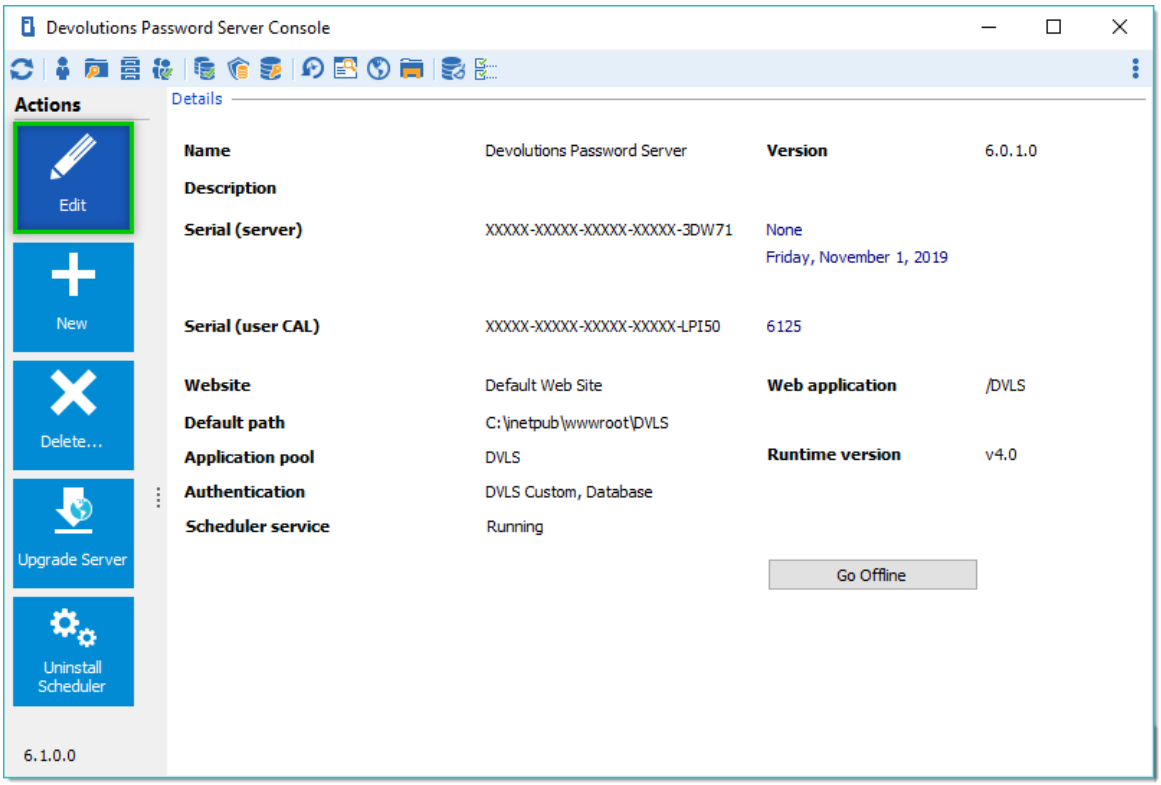
1. Open the renewal email. The email includes your licenses. In the example, **(a)** the user CAL license serial specifies the number of users who can access Devolutions Password Server. The second serial **(b)** is for your Devolutions Password Server.



License Renewal Information

2. Open the Devolutions Password Server Console on the machine where you installed Devolutions Password Server.

3. To access **Password Server Settings**, click **Edit**.

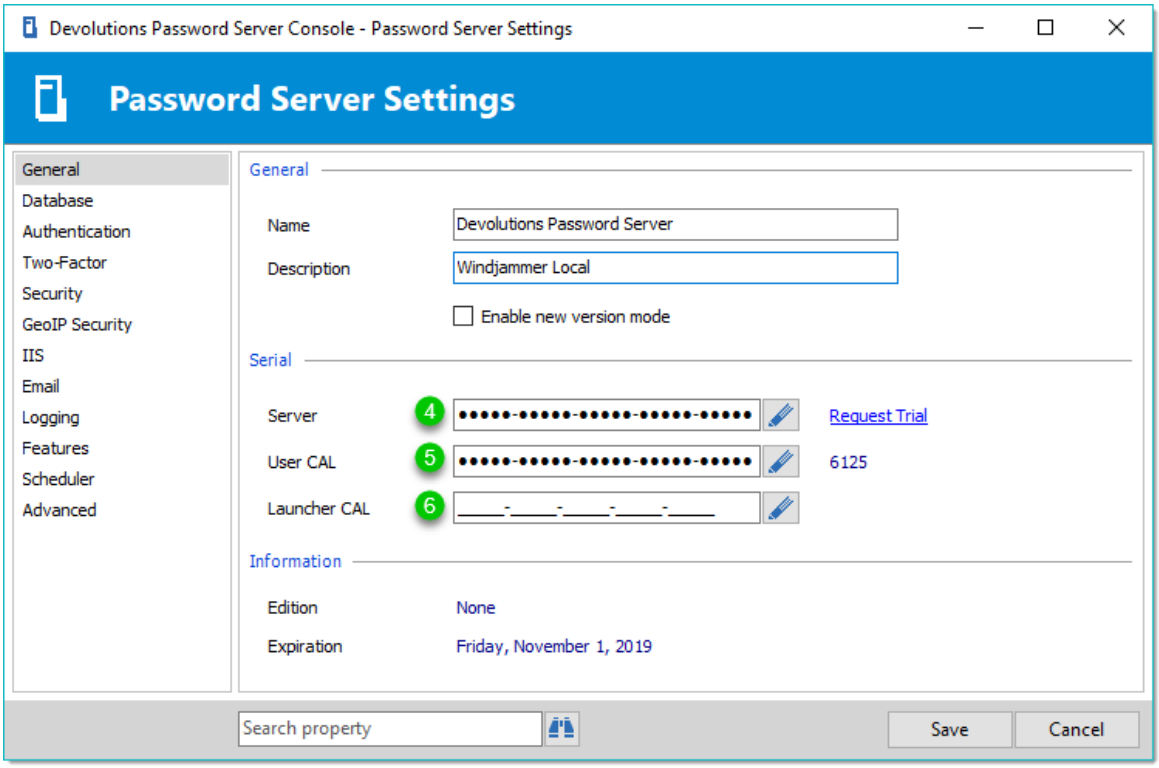


Devolutions Password Server Console

4. Enter the **Server serial** you received in the renewal email in the **Server** field.

5. Enter the **User CAL Serial**. This serial specifies the number of users who can access Devolutions Password Server.

6. Enter the **Launcher CAL** if you are opening remote connections through the web interface with Devolutions Launcher.



Server Settings -- General

9.5.17 User Agent

USER AGENT OF REMOTE DESKTOP MANAGER ENTERPRISE EDITION FOR WINDOWS

The **User Agent** used by Remote Desktop Manager Enterprise Edition for Windows when it connects to Devolutions Password Server is:

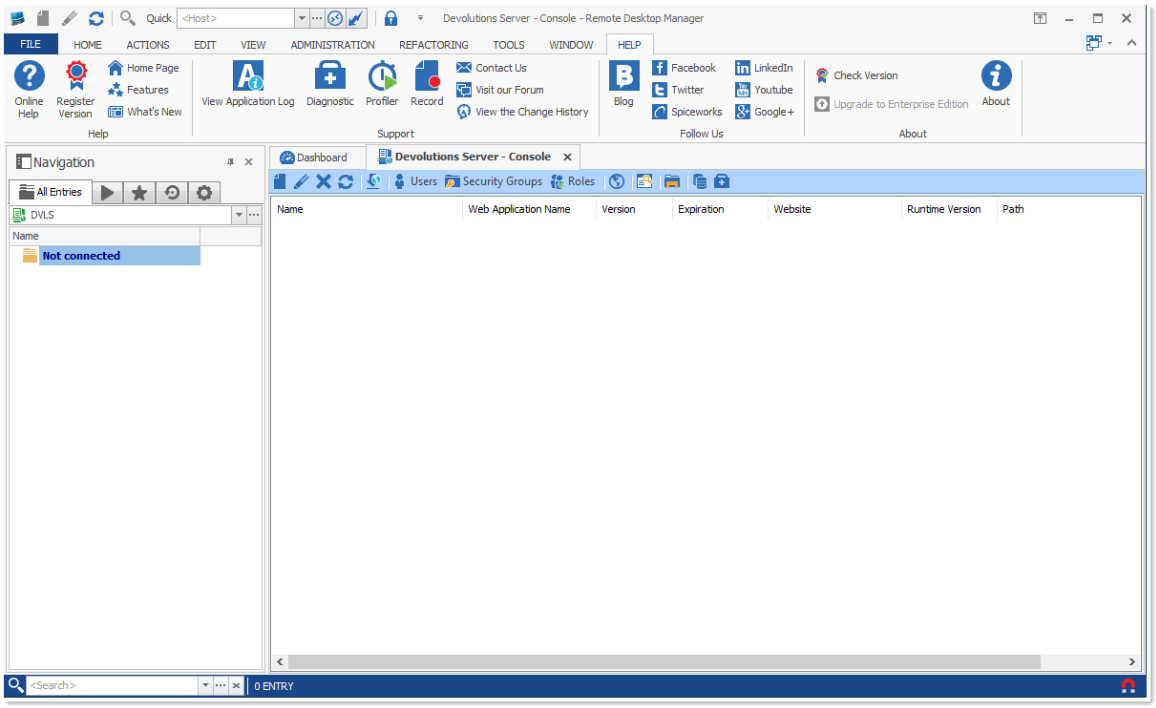
Mozilla/4.0+(compatible;+MSIE+6.0;
+MS+Web+Services+Client+Protocol+4.0.30319.42000)

9.6 Troubleshooting

9.6.1 After Upgrading Server the Devolutions Password Server is Empty

DESCRIPTION

You have attempted to upgrade your **Devolutions Password Server instance** and the upgrade was not completed correctly. Now, your instance is not present in the **Devolutions Password Server Console** and your data source is not connected.



Devolutions Server Console empty

INSTRUCTIONS

1. Navigate to the ***%temp%\RDM*** folder and copy the content of the folder.
2. Navigate to the folder where your Devolutions Password Server was deployed originally and **paste** the content of ***%temp%\RDM*** inside.
3. If you close and reopen your Devolutions Password Server Console, your instance should be present.
4. You can now proceed again with the upgrade of your server.

If the files are not present or the solution doesn't work, you will need to restore the backup that you have created in the preparation phase as described in Upgrading Devolutions Password Server

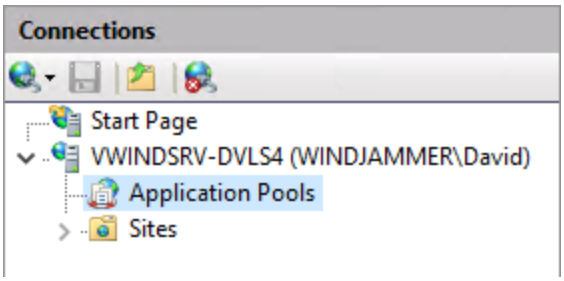
9.6.2 Blank login page on a Windows Server 2016

DESCRIPTION

When you open the web page of the Devolutions Password Server instance that is hosted on a Windows Server 2016, **the web page is blank**.

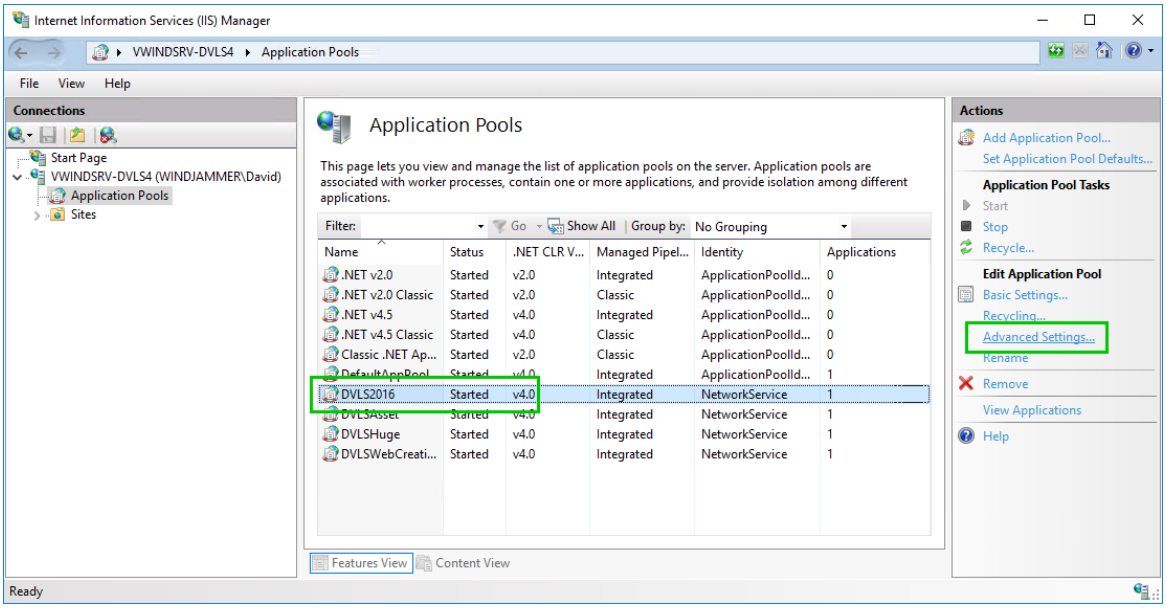
STEPS

1. Open the **IIS Manager** on the server.
2. Expand the root and select **Application Pools**.



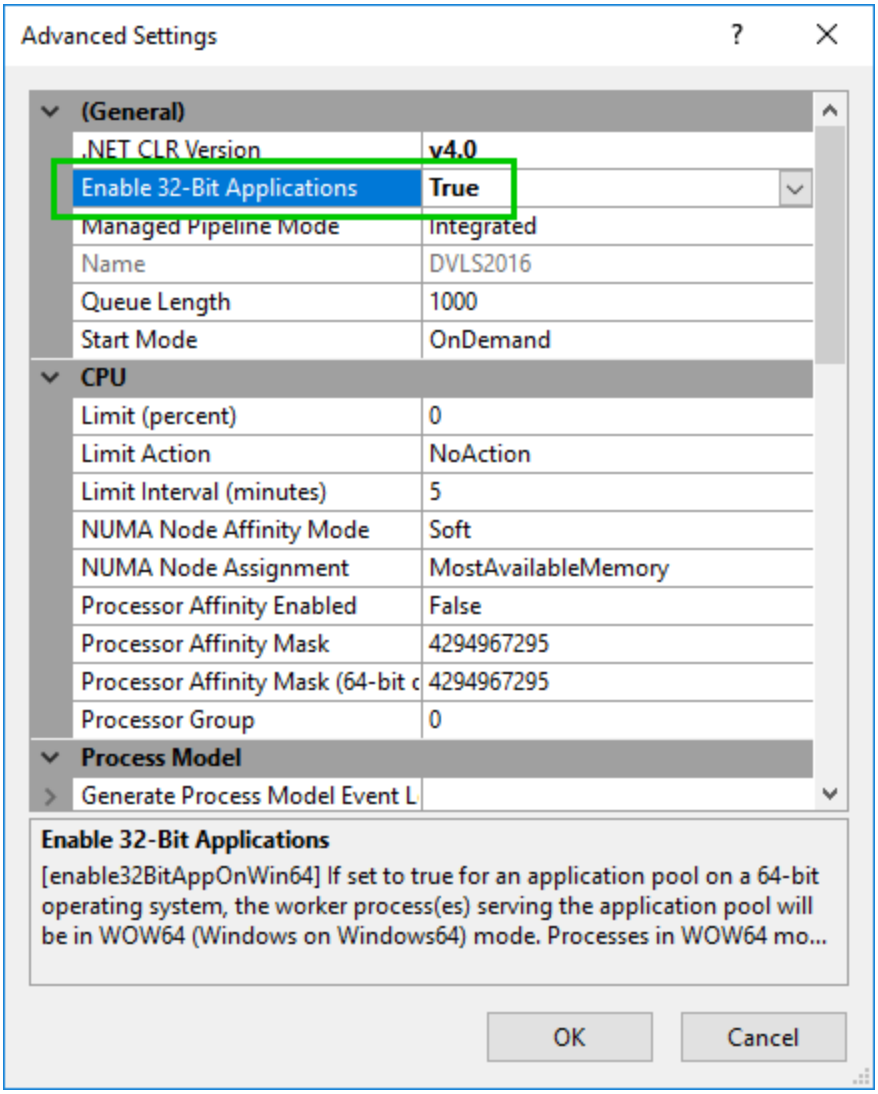
IIS Manager

3. Select the Devolutions Password Server application pool and click on **Advanced Settings**... in the Actions pane on the right.



IIS - Application Pools

4. Set the **Enable 32-Bit Applications** to the value **True**.

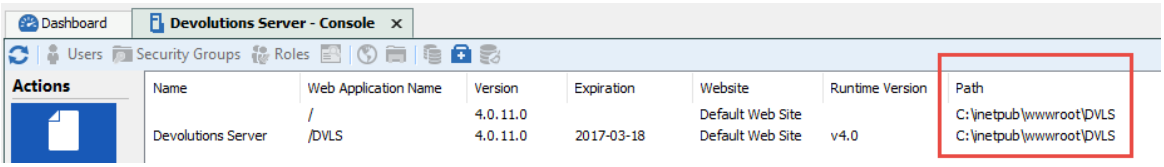


Advanced Settings Dialog

9.6.3 Duplicate Devolutions Password Server instance

DESCRIPTION

When you open the Devolutions Password Server Console, two instances of the same Devolutions Password Server are visible in the console. One with only a "/" as the Web Application Name.



Devolutions Password Server Console

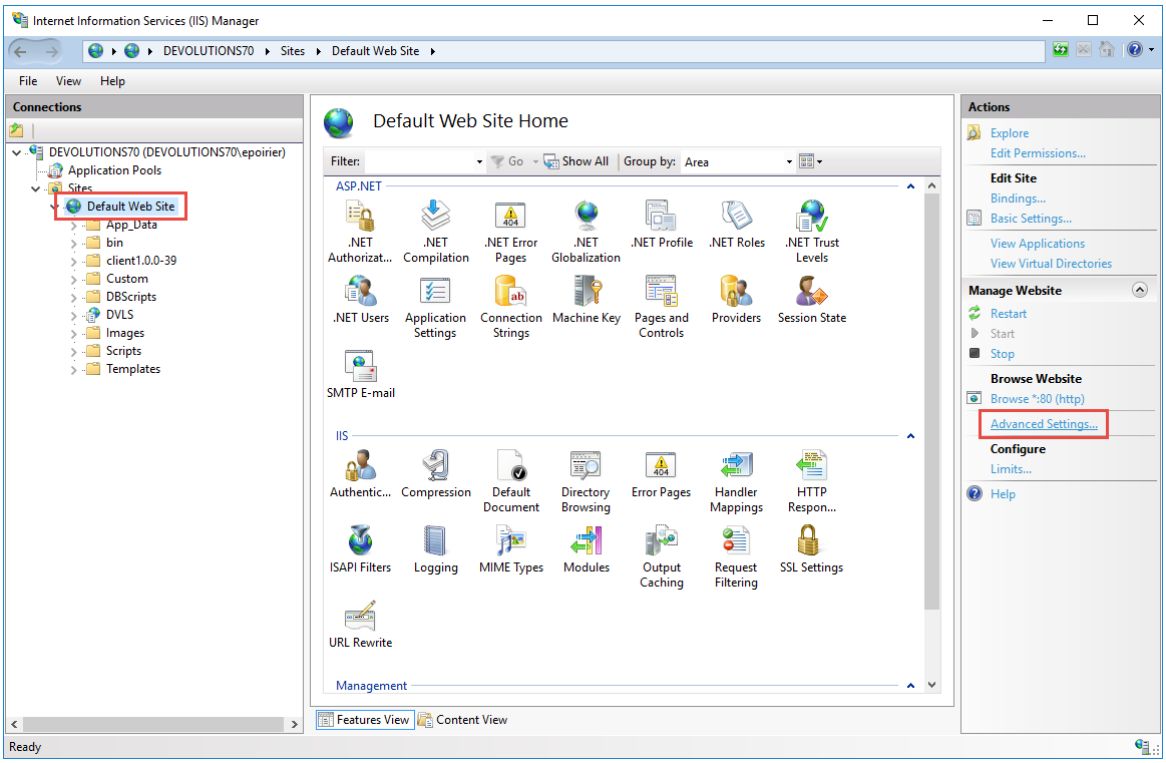
CAUSE 1

Using the default parameters of the IIS Manager, the Default Web Site points to the same Physical Path of the Devolutions Password Server web application.

STEPS

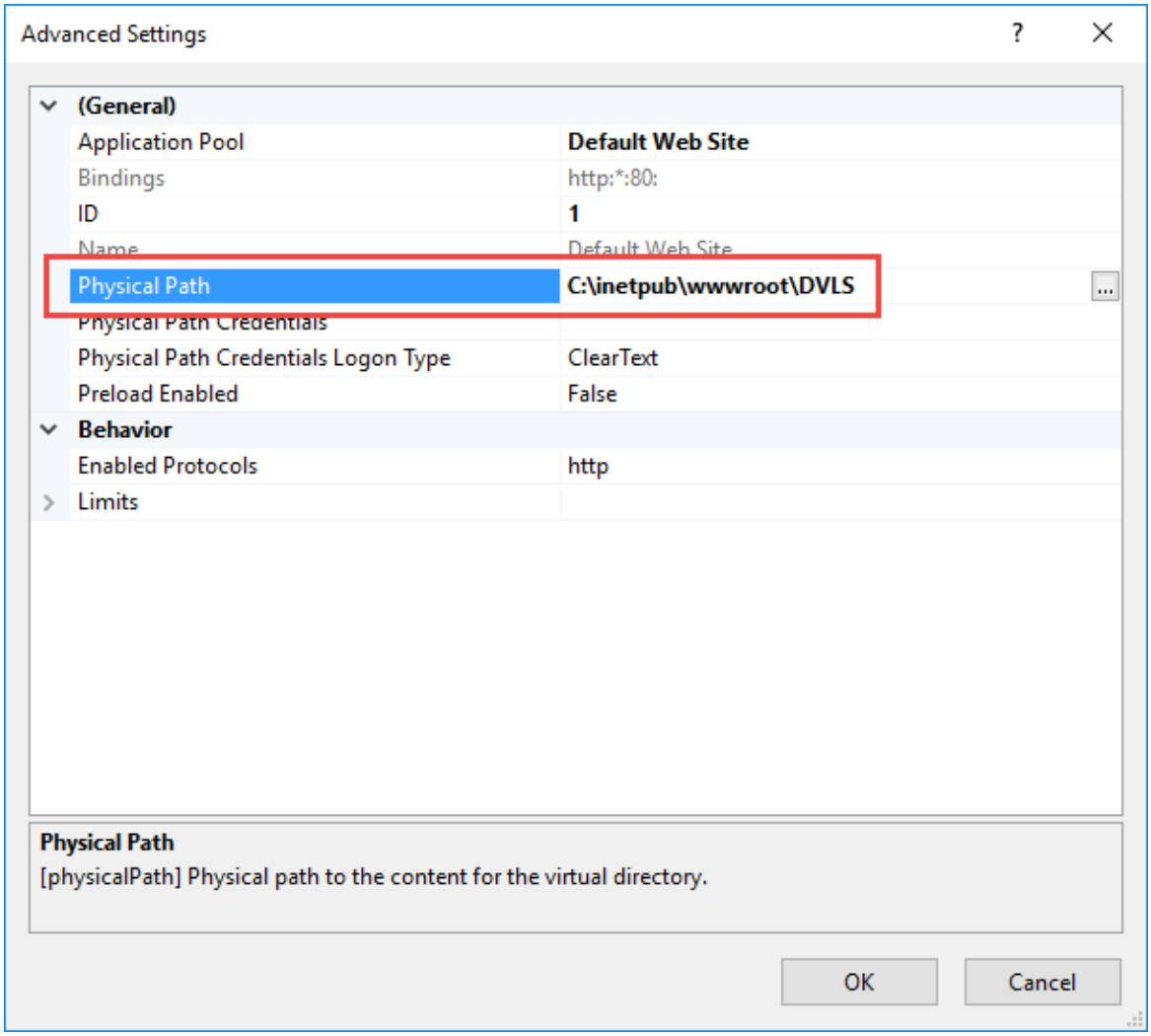
Change the the path of the Web Site in the IIS Manager.

1. Open **IIS Manager**, select the **Web Site** that contains the Devolutions Password Server web application and click on **Advanced Settings** in the Actions panel on the right.

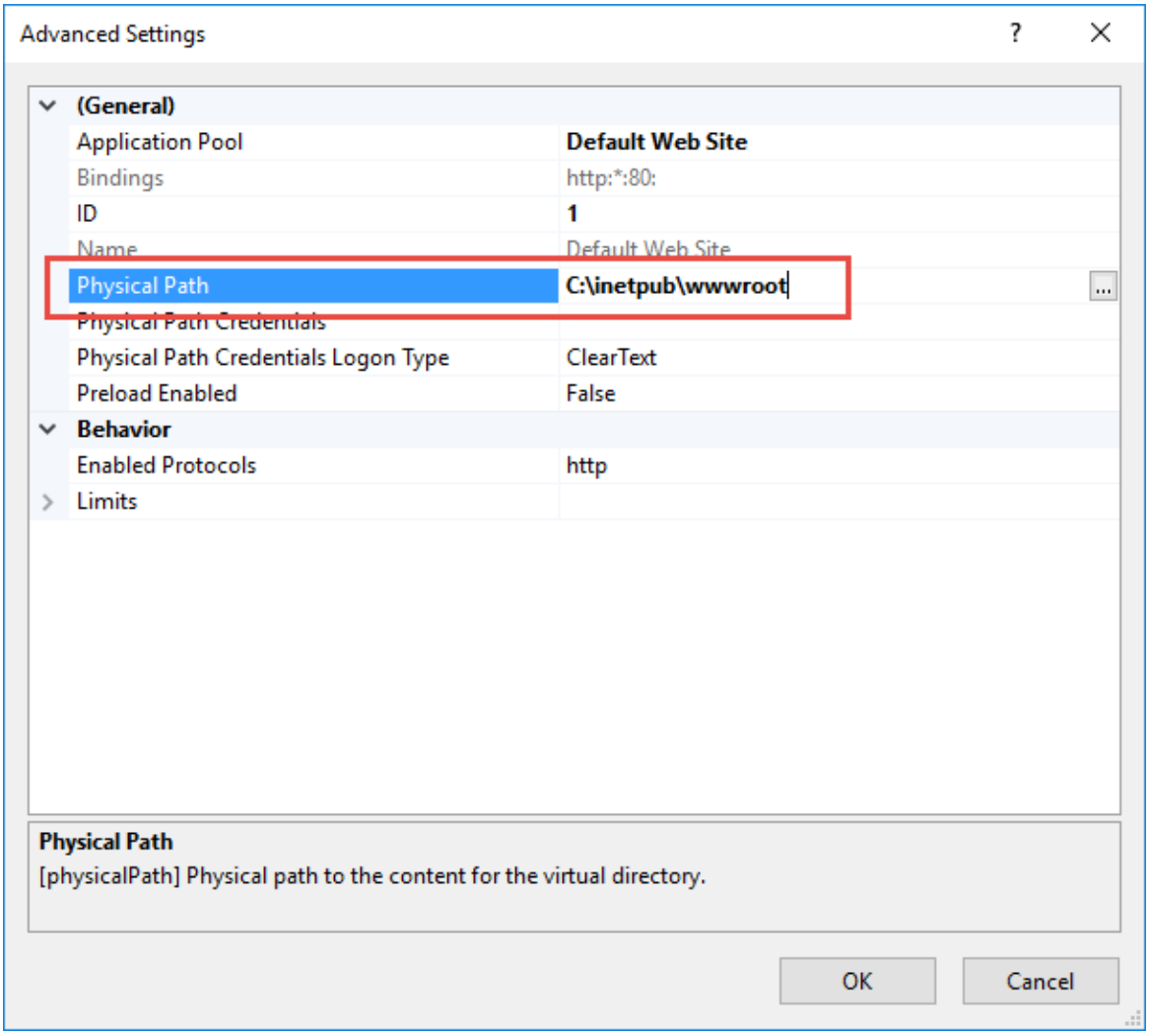


IIS Manager

2. Change the **Physical Path** of the Web Site from the Devolutions Password Server subfolder to the parent folder.

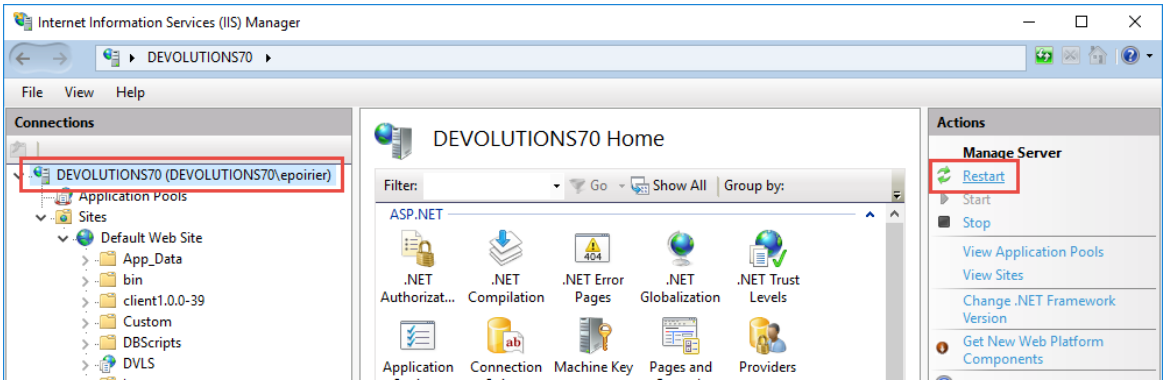


Web Site Advanced Settings - Before the Physical Path modification



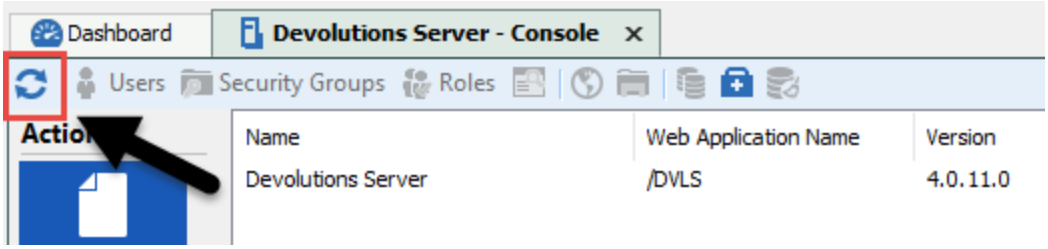
Web Site Advanced Settings - After the Physical Path modification

3. **Restart your IIS Server**.



IIS Manager

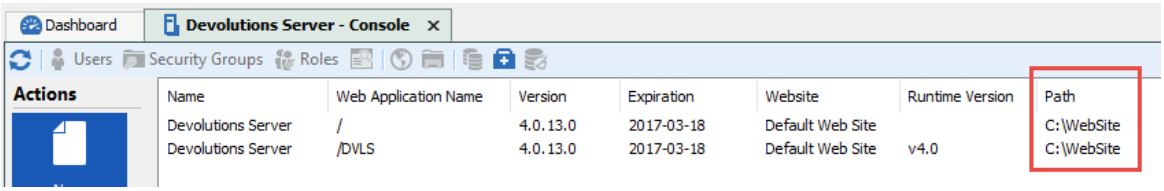
4. On the Devolutions Password Server Console, click on the **Refresh** button and just one instance should be displayed.



Devolutions Password Server Console

CAUSE 2

When the Web Site is located in a different folder then the default one used by the IIS Manager, the Web Site points to the same Physical Path of the Devolutions Password Server web application.

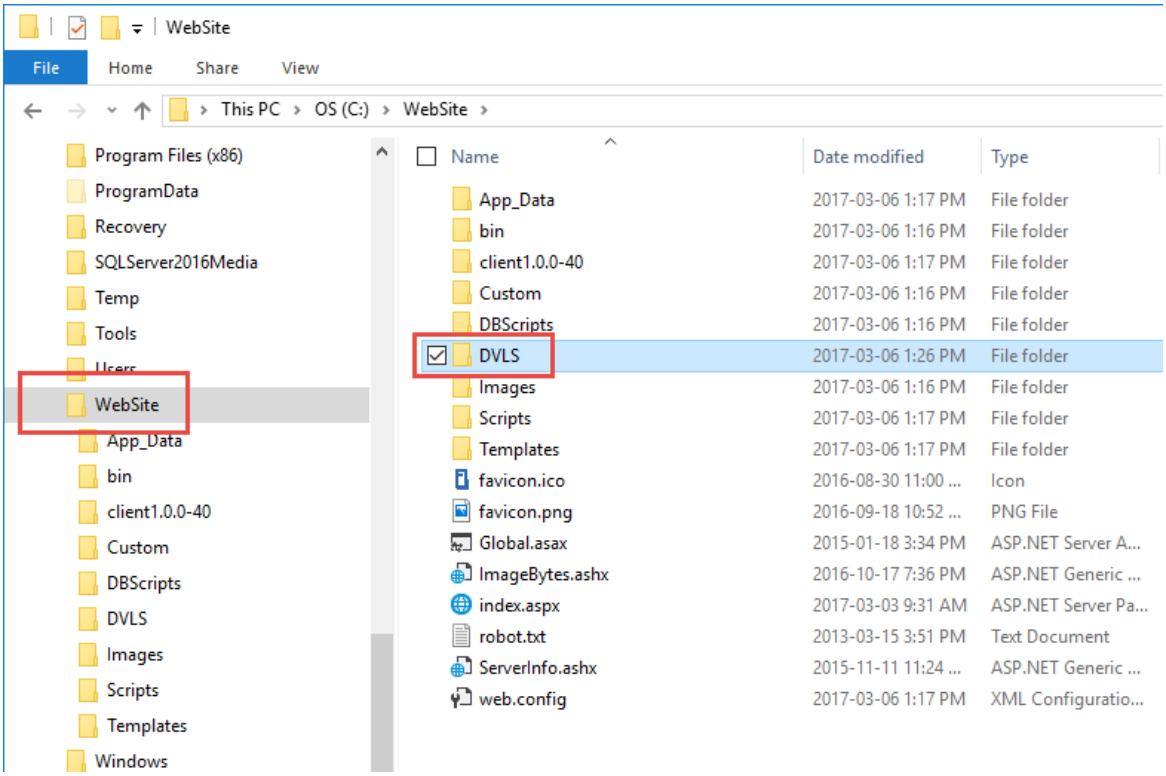


Devolutions Password Server Console

STEPS

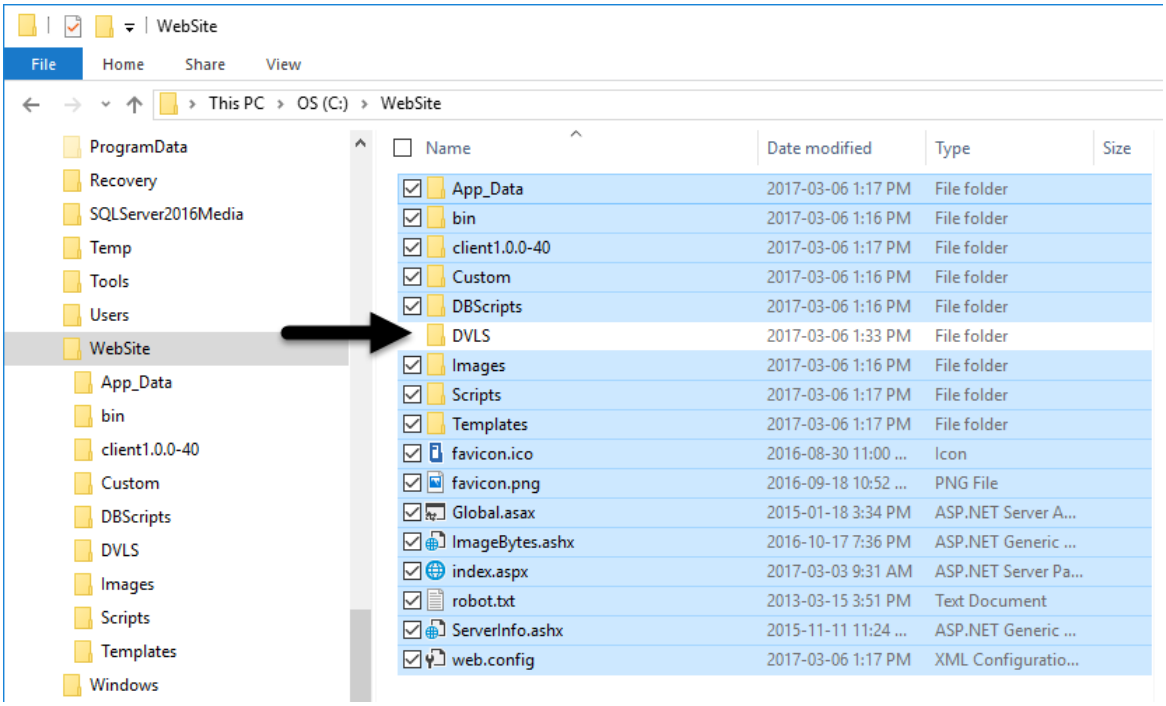
To have only one Devolutions Password Server instance without any duplicate, the Physical path of the instance must be points to a subfolder of the Web Site Physical Path.

1. **Open the Windows Explorer** and create a folder in the **Physical Path** of the Web Site. In the image below, the name of the new folder is DVLS. It can be another folder name that fits your needs.



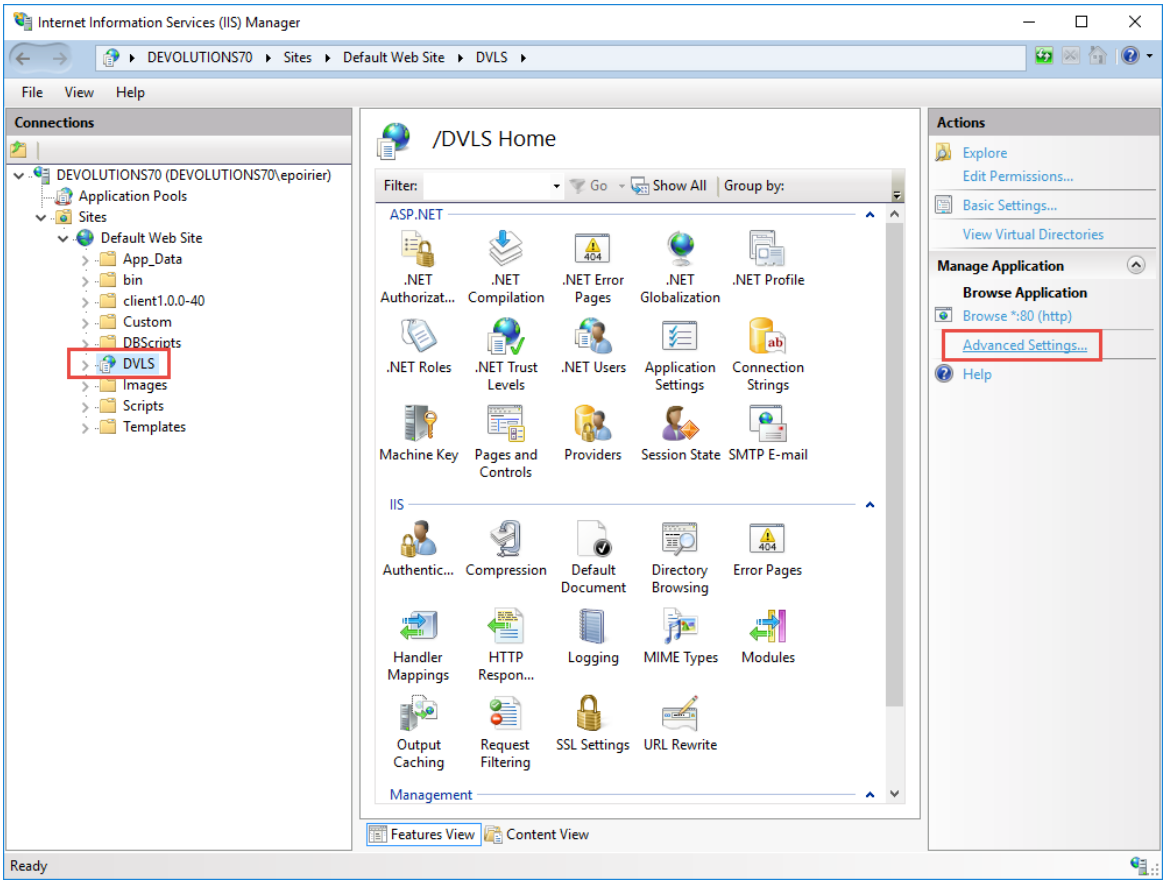
Windows Explorer

2. Move the selected files and folders into that new subfolder, i.e. DVLS.



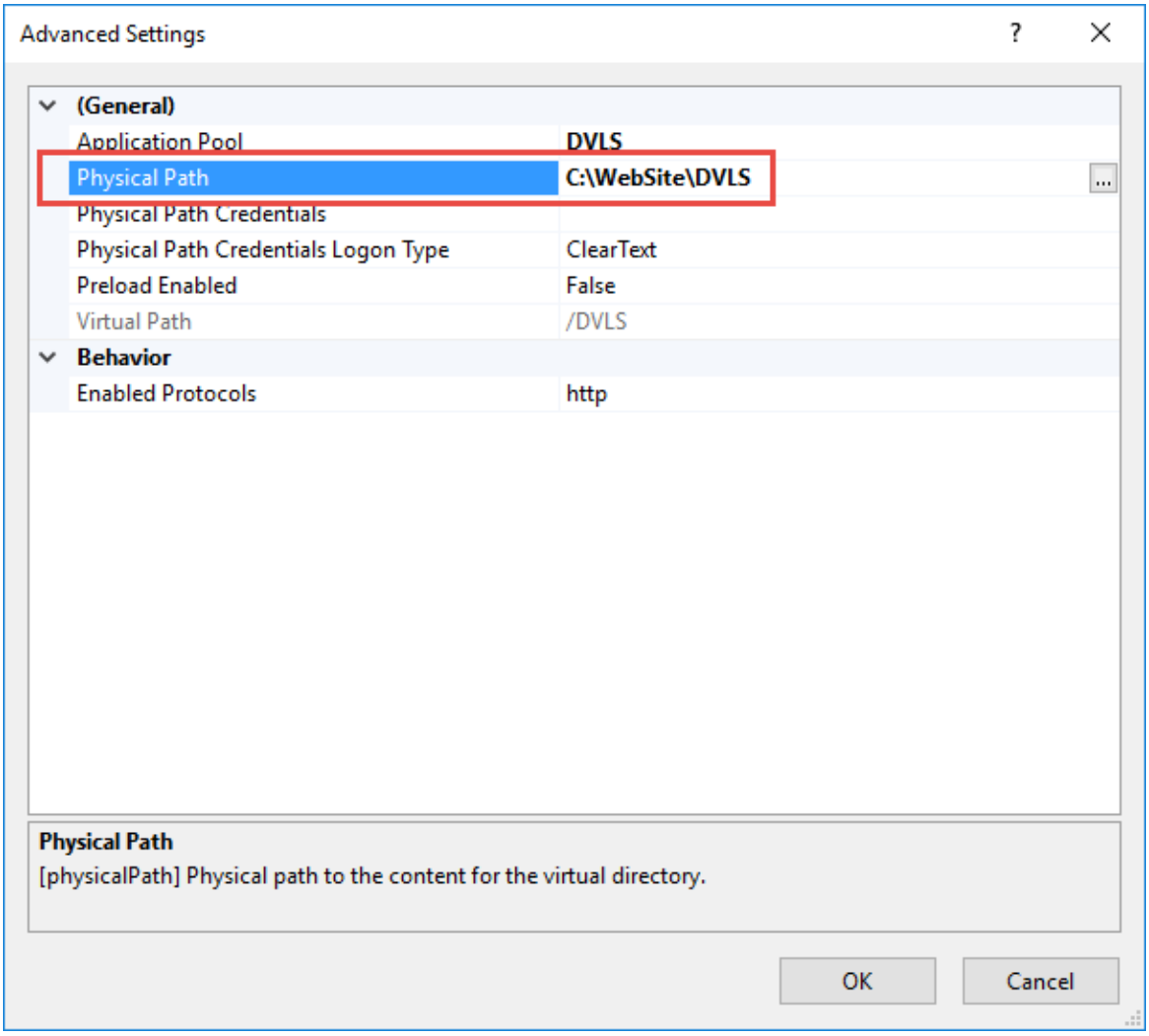
Windows Explorer

3. Open the IIS Manager and select the Devolutions Password Server web application in the **Tree View** and click on **Advanced Settings** in the Action panel on the right.



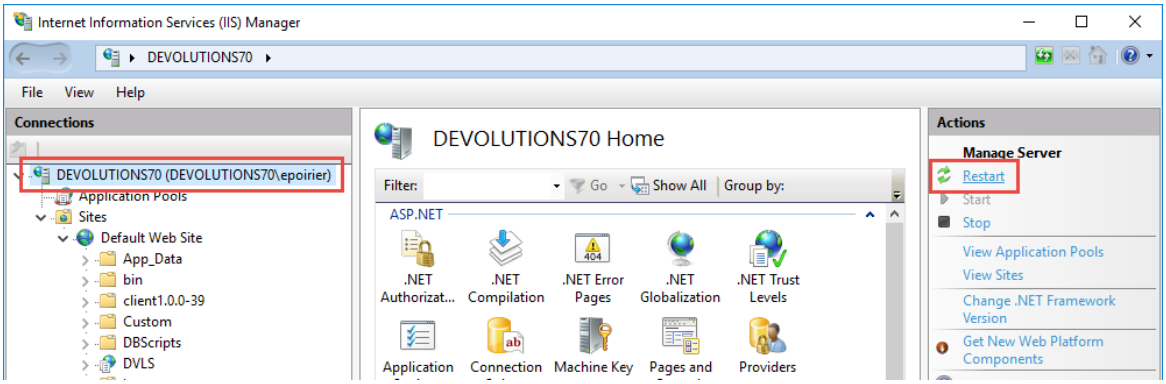
IIS Manager

4. Change the Physical Path to point to the new folder created in step 1.



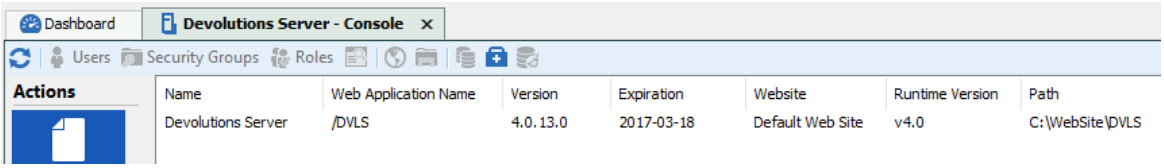
Advanced Settings Dialog

5. To restart your IIS Server, select the root in the **Tree View** and click on **Restart** in the Actions panel on the right.



IIS Manager

6. On the Devolutions Password Server Console, click on the **Refresh** button and just one instance should be displayed.

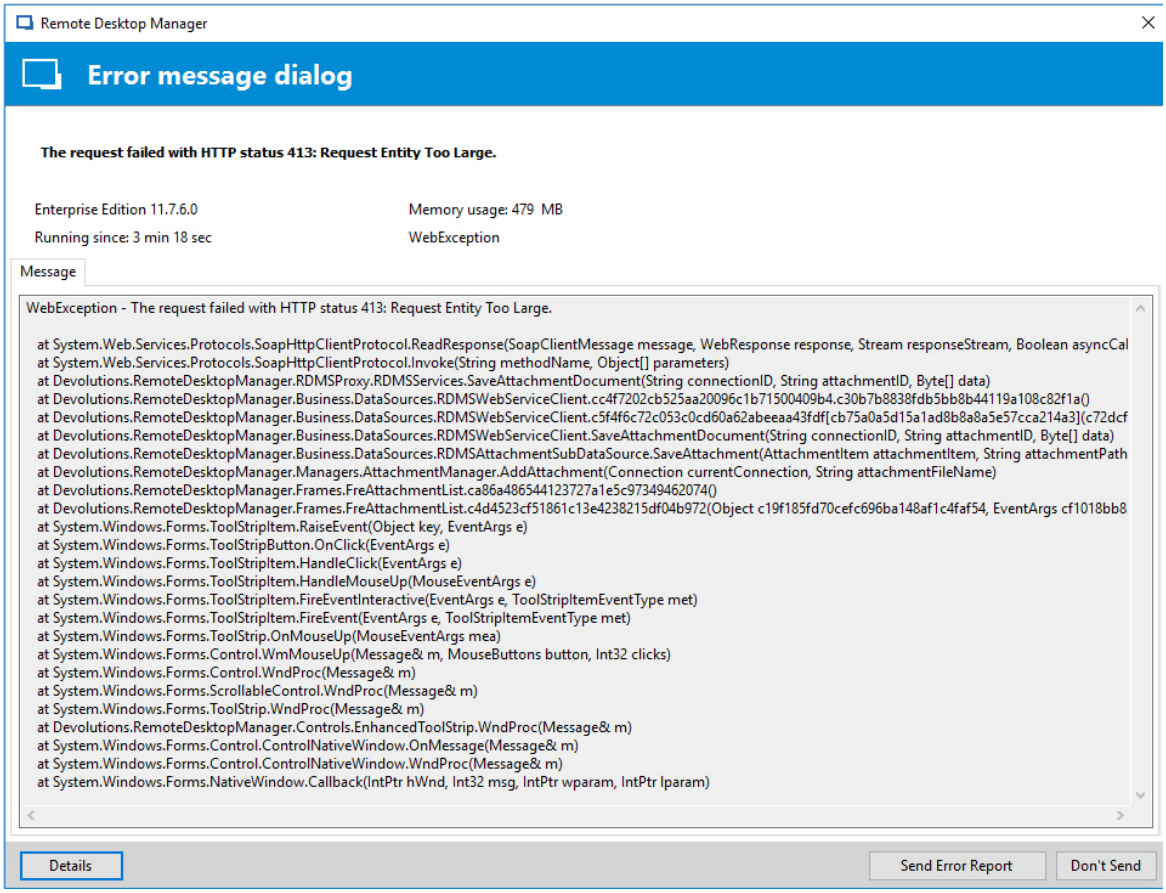


Devolutions Password Server Console

9.6.4 Error Uploading Document

DESCRIPTION

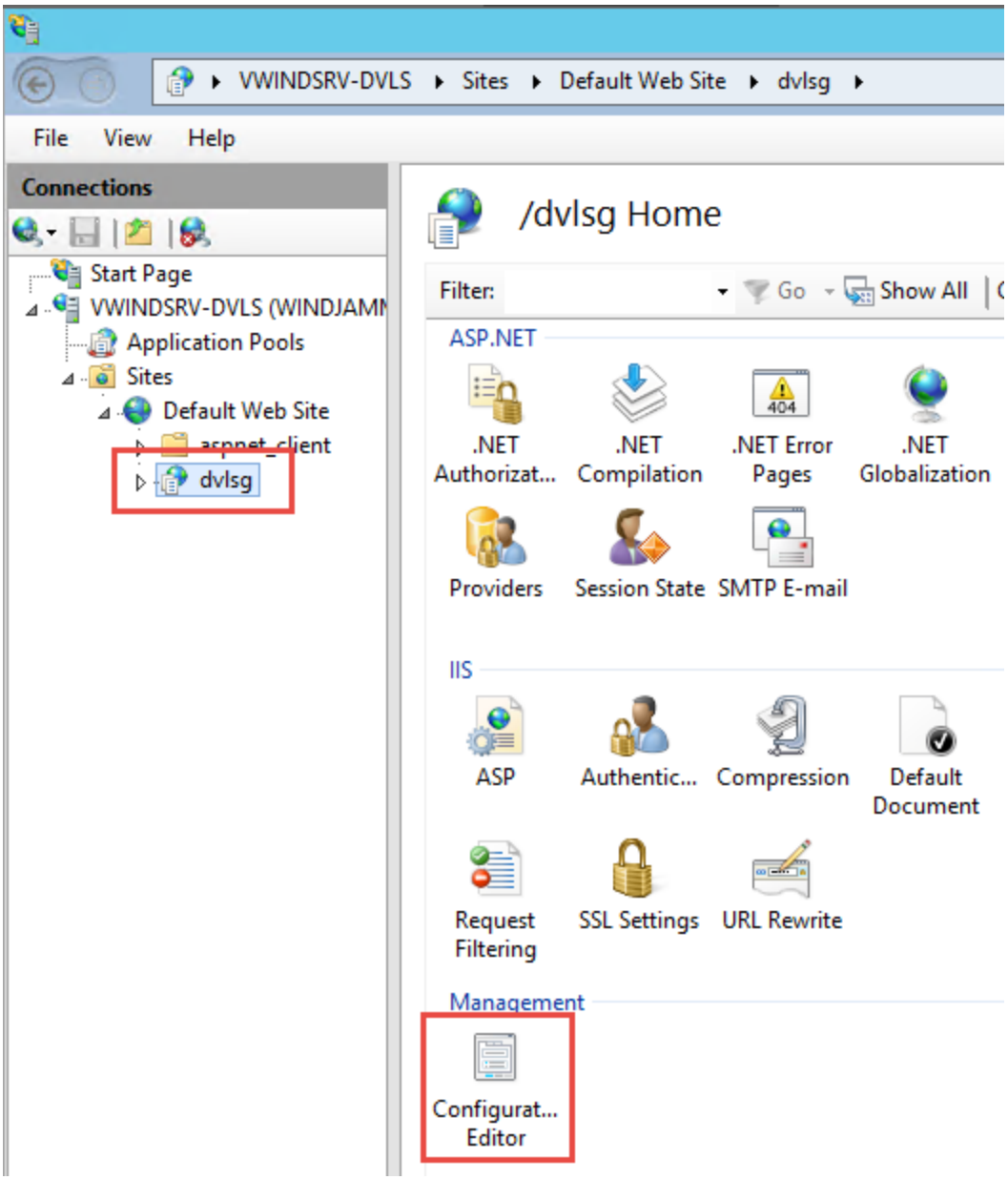
You get a HTTP 413 error when trying to upload or attach a document to an existing entry.



Error Message Dialog

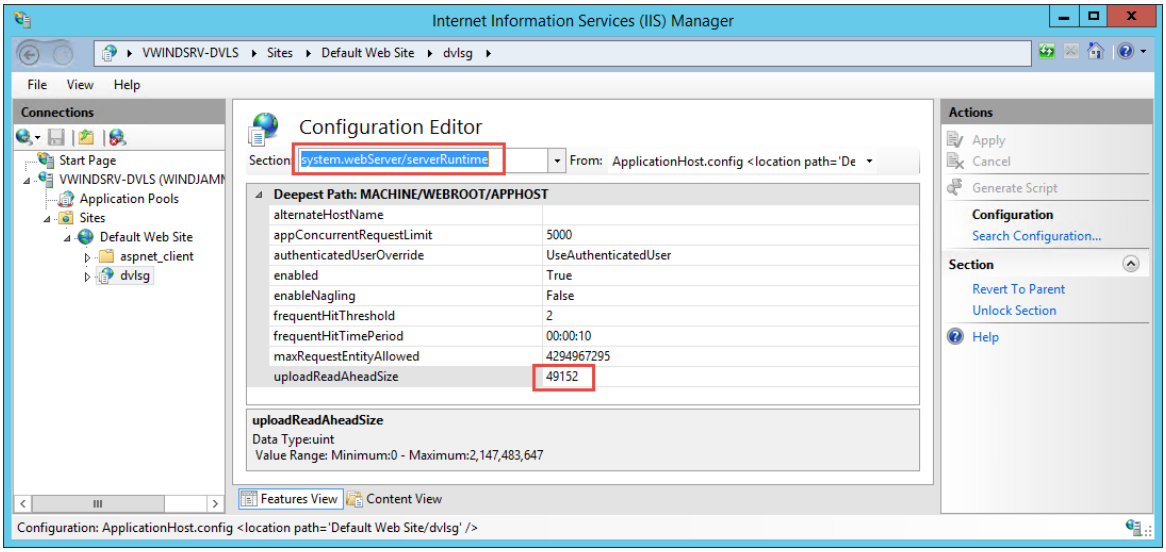
STEPS

1. Open the IIS Manager on the server where Devolutions Password Server is hosted.
2. Expand the **Tree View** and select the Devolutions Password Server web application name and open the **Configuration Editor** in the **Management** section.



IIS Manager

3. Select the value ***system.webServer/serverRuntime*** in the **Section** drop down menu. Then, increase the value of the **uploadReadAheadSize** parameter. This value is in bytes so if you want to load a 50MB file, you have to change the value to 51200.



IIS Configuration Editor

For more information about these settings, you can consult this web page
https://www.iis.net/configreference/system.webserver/serverruntime

9.6.5 Failed Request Tracing with IIS

DESCRIPTION

This topic will present how to install and configure a **Failed Request Tracing Log** rule for troubleshooting HTTP 500 error issues on the IIS site.

- Enable Failed Request Tracing in IIS

  A detailed step by step to add the role on a Windows Server 2012R2.

- Configure Failed Request Tracing

  Configuration needed for troubleshooting HTTP 500 error issues.

- Consult the Failed Request Tracing log

  Where and how to look at the Failed Request Tracing logs.

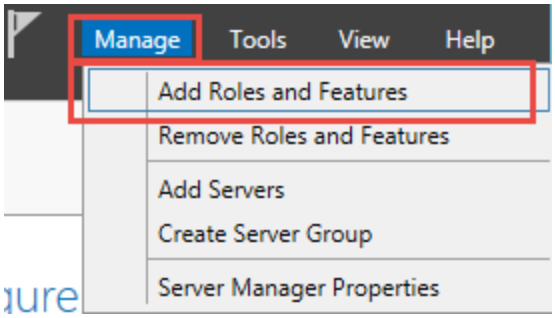
For more information about Failed Request Tracing, please visit https://www.iis.net/configreference/system.webserver/tracing/tracefailedrequests.

9.6.5.1 Enable Failed Request Tracing in IIS

ENABLE FAILED REQUESTS TRACING IN IIS

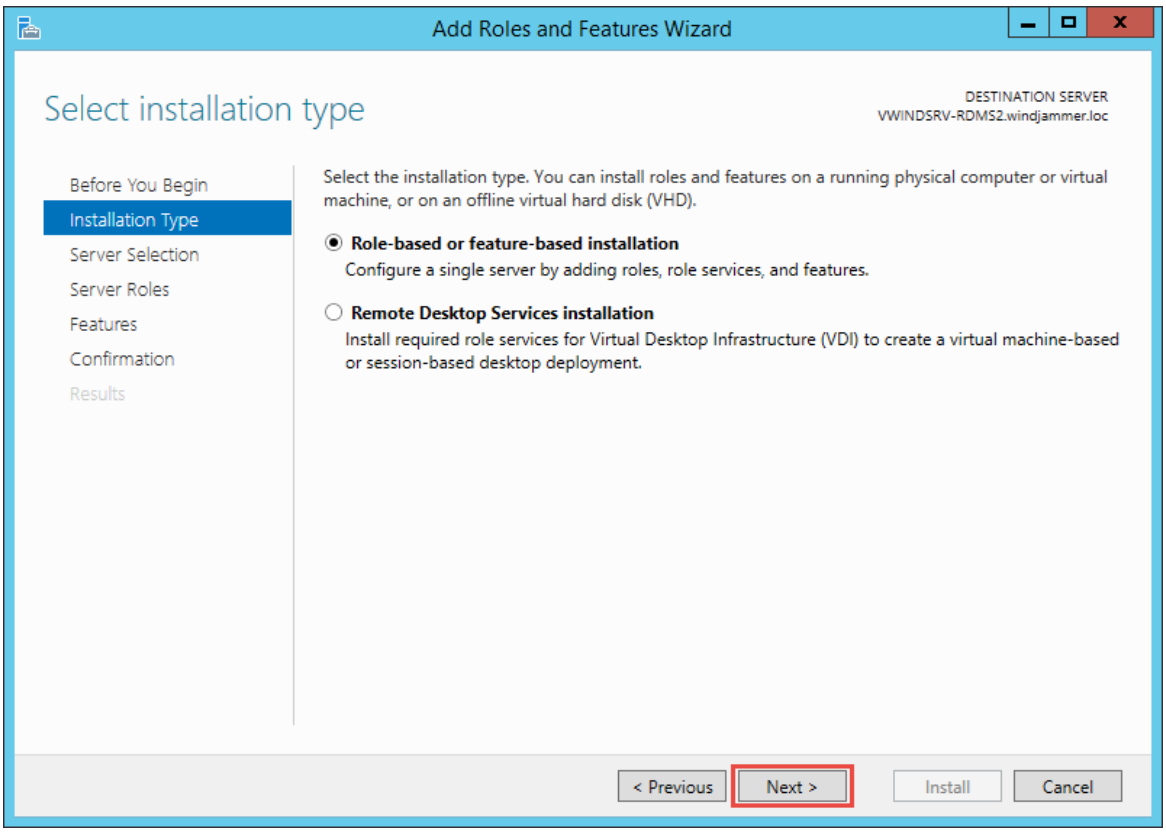
The following steps are applicable on Windows Server 2012R2.

1. Open the **Server Manager**. Choose **Add Roles and Features** from the **Manage** menu.



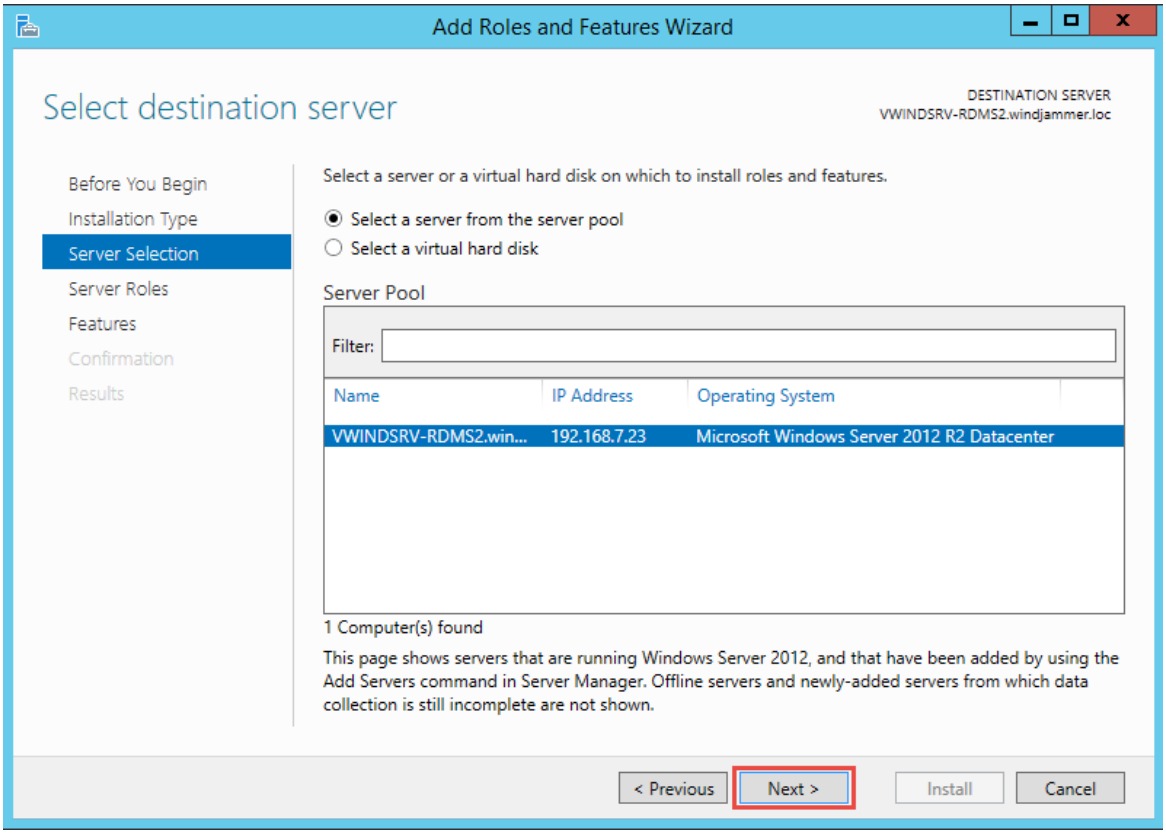
Server Manager - Add Roles and Features

2. Select the **Installation Type** and then click **Next**.



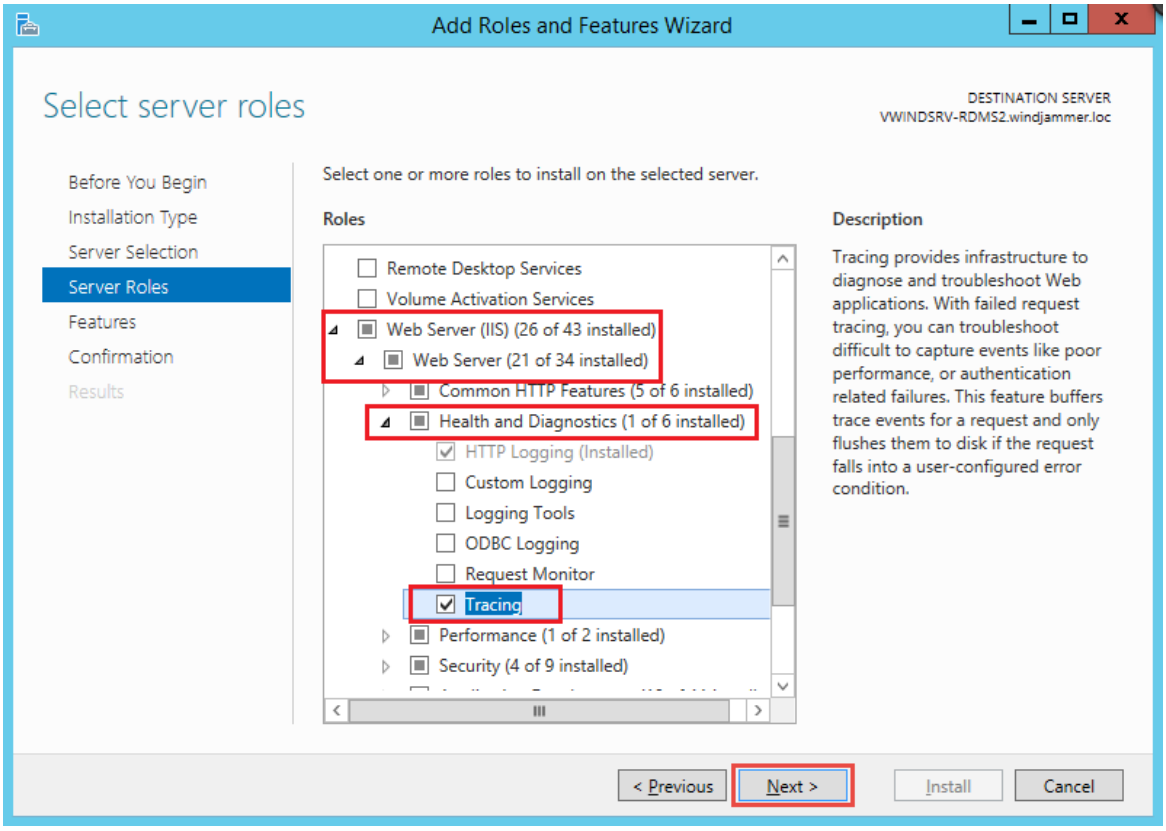
Select Installation Type

3. Select the destination server and then click **Next**.



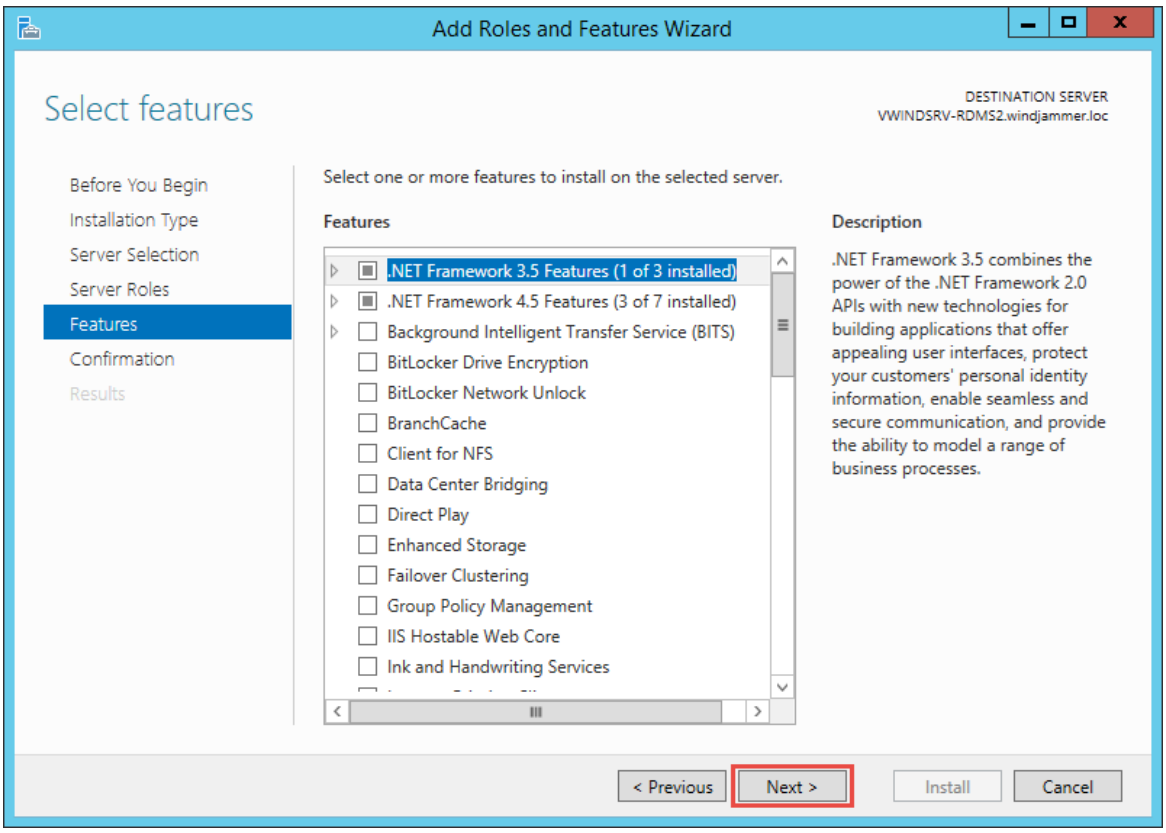
Select Destination Server

4. On the **Select server role** page, expand the **Web Server (IIS) role**, expand **Web Server** and expand **Health and Diagnostics**. Then select **Tracing** and click **Next**.



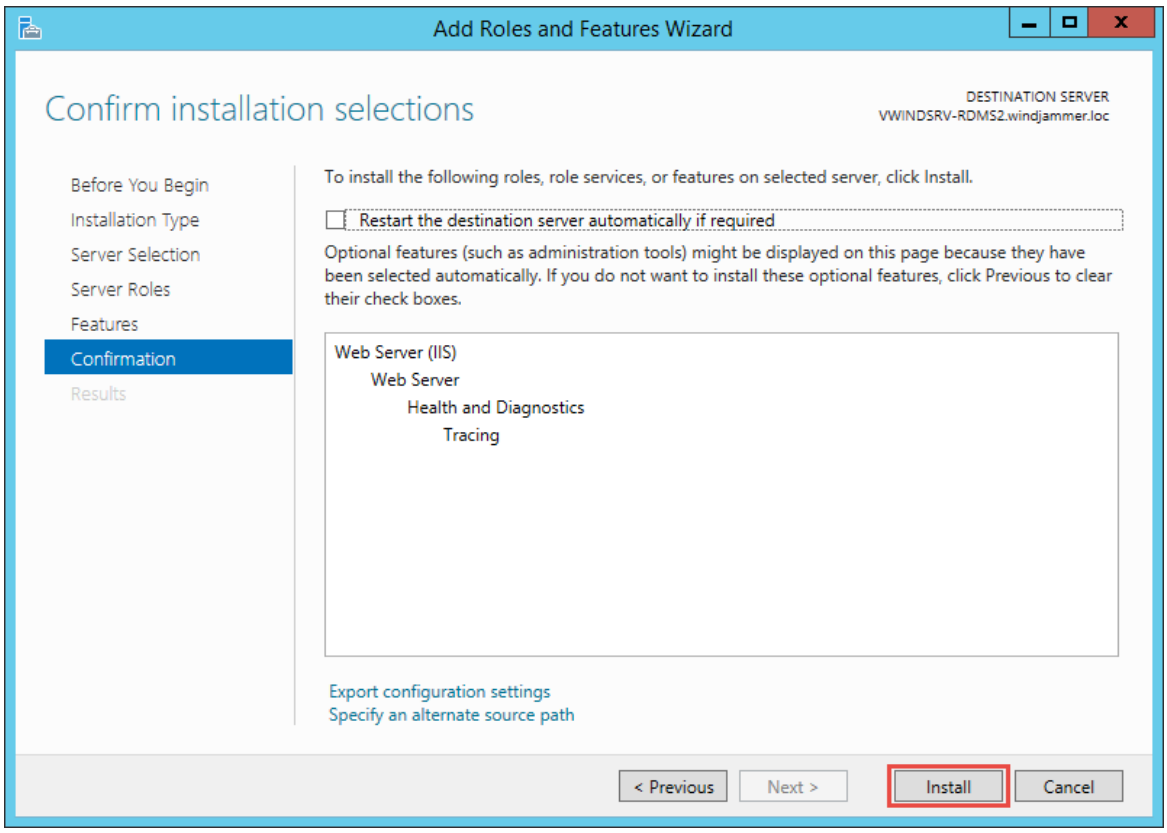
Select Server Roles

5. On the page **Select features**, click **Next**.



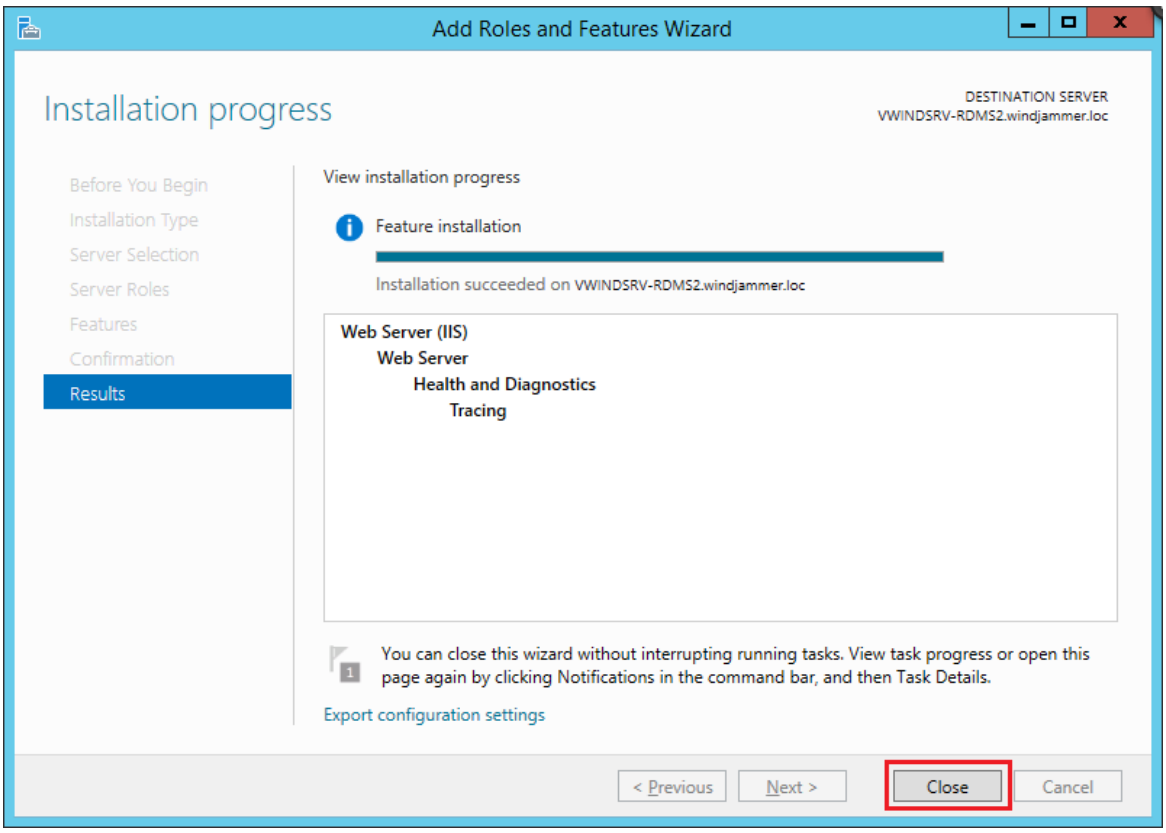
Select features

6. On the page **Confirm installation selections**, click **Install**.



Confirm Installation selections

7. On the **Results** page, click **Close**.



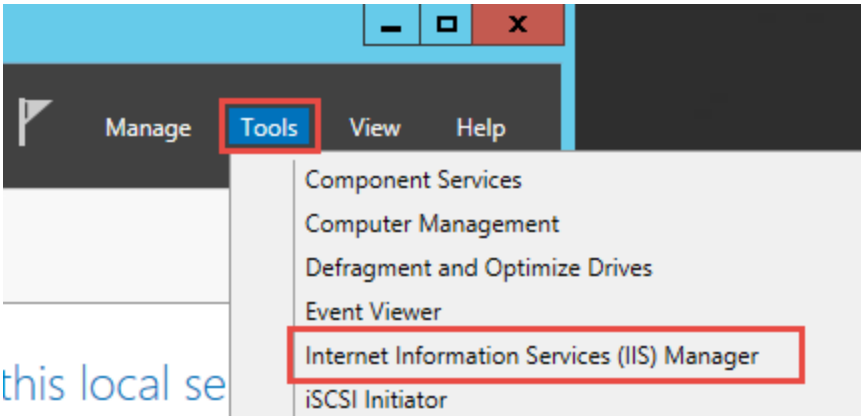
Installation progress

9.6.5.2 Configure Failed Request Tracing

CONFIGURE FAILED REQUESTS TRACING

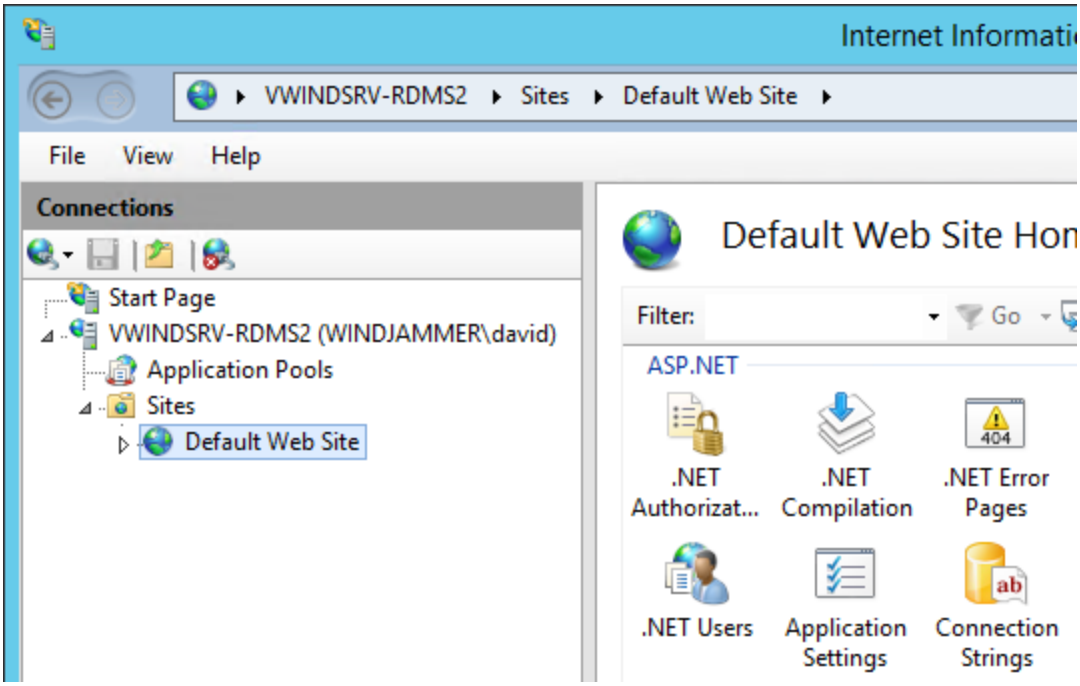
The following steps are applicable on **Windows Server 2012R2**.

1. In the **Server Manager**, click on the **Tools** menu and open the **Internet Information Services (IIS) Manager**.



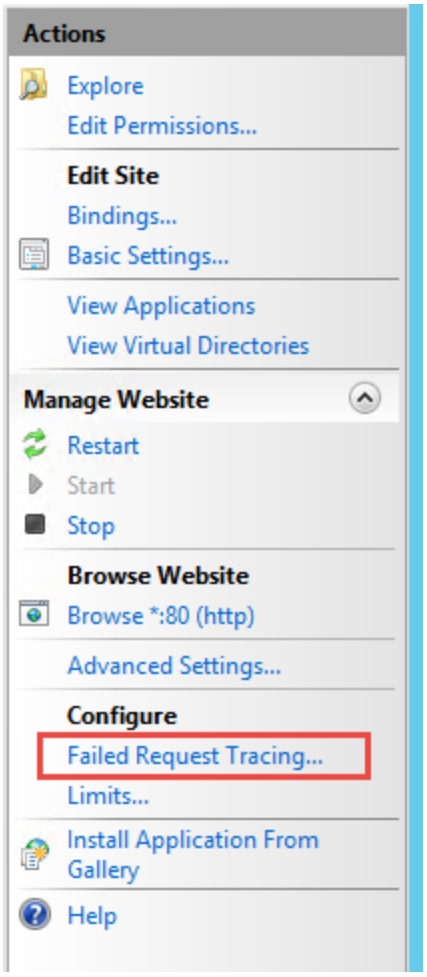
Server Manager

2. In the **IIS Manager**, expand the **Web site (VWINDSRV-RDMS2)**, expand **Sites** and then select **Default Web Sites**.



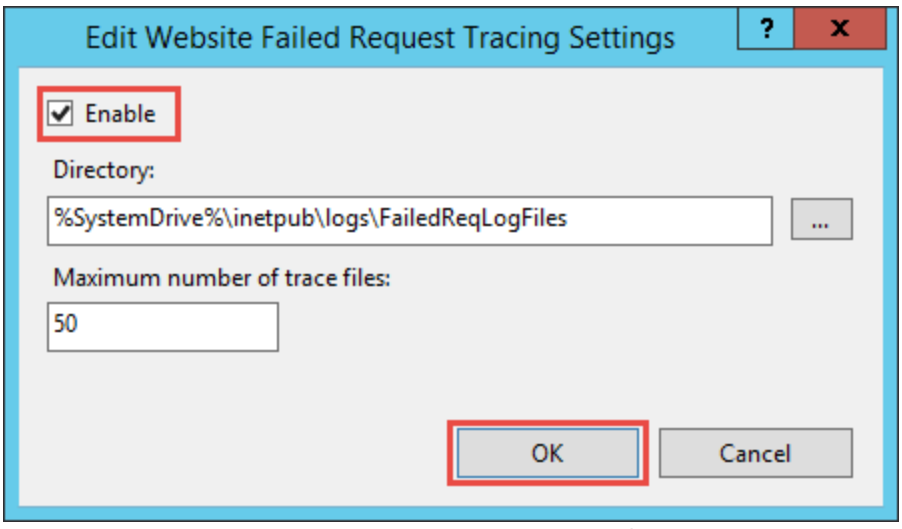
Internet Information Services (IIS) Manager

3. On the right, in the Actions pane, select **Failed Requests Tracing**....



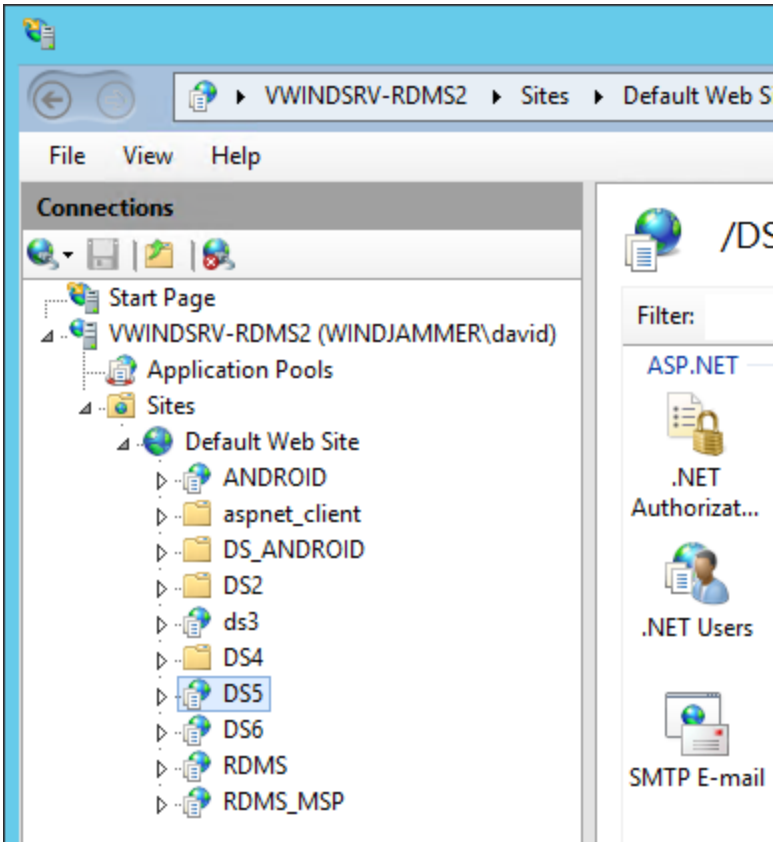
Actions Pane

4. Select the **Enable** check box and then click **OK**. The Directory target and the Maximum number of trace files can be modified.



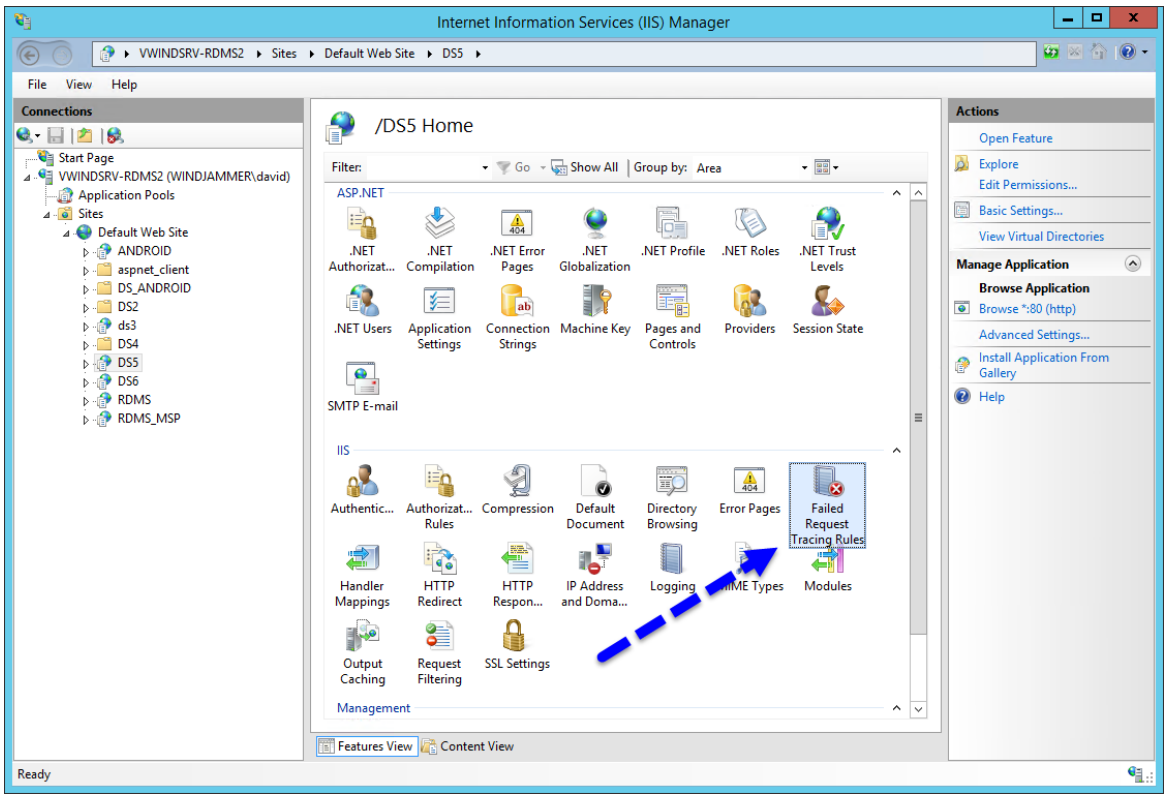
Edit Website Failed Request Tracing Settings

5. Expand **Default Web Site** and select the Web site to be traced.



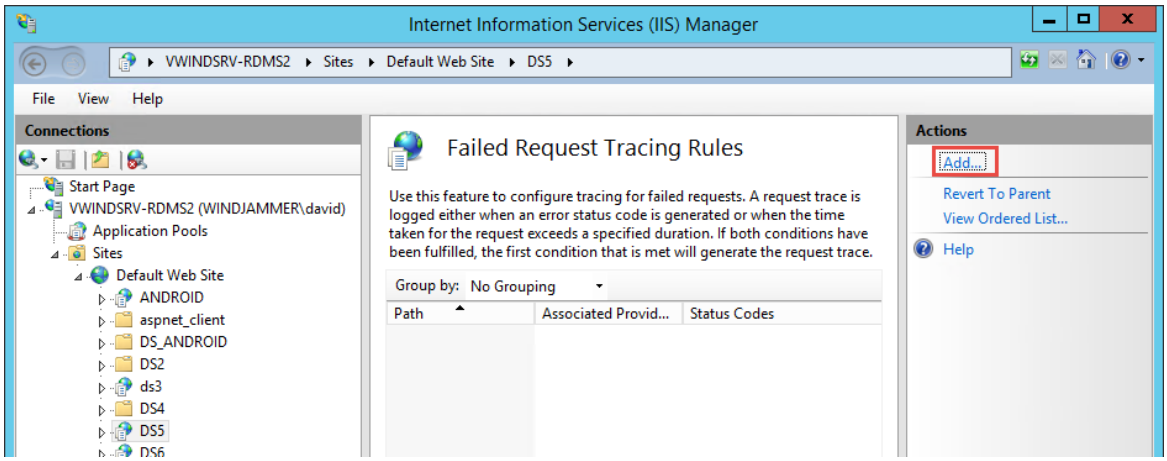
Internet Information Services (IIS) Manager

6. Double click on the **Failed Request Tracing Rules** icon of the selected Web Site.



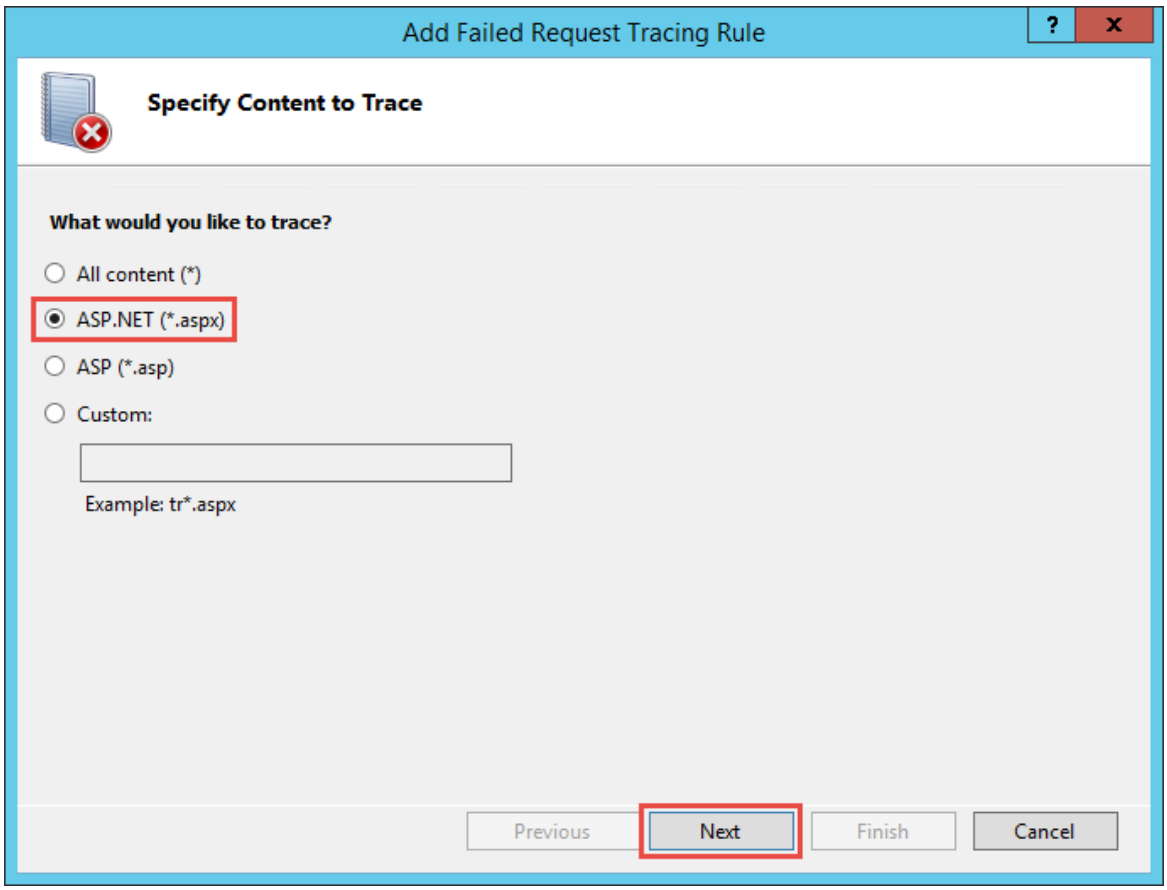
Internet Information Services (IIS) Manager

7. In the Actions pane on the right, click on **Add**... to add a new rule.



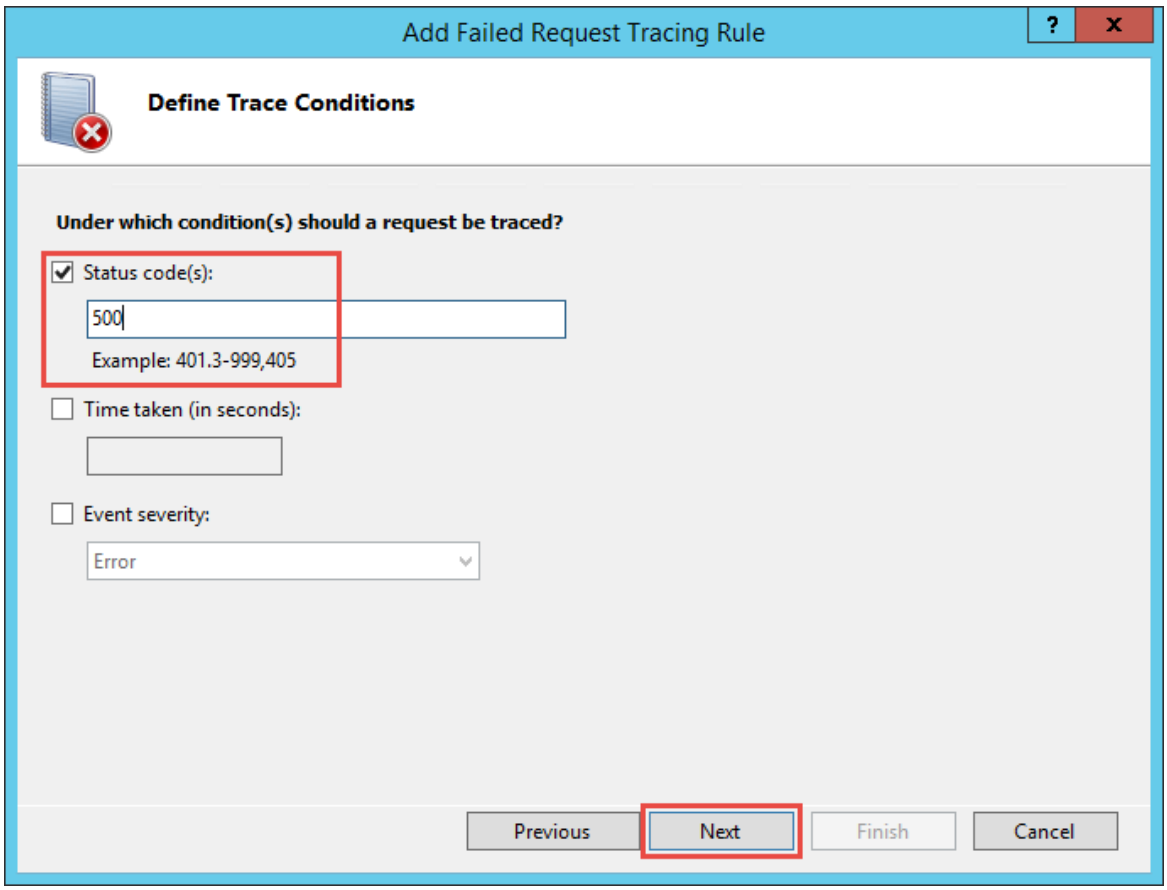
Failed Request Tracing Rules

8. Select **ASP.NET (*.aspx)** and click **Next**.



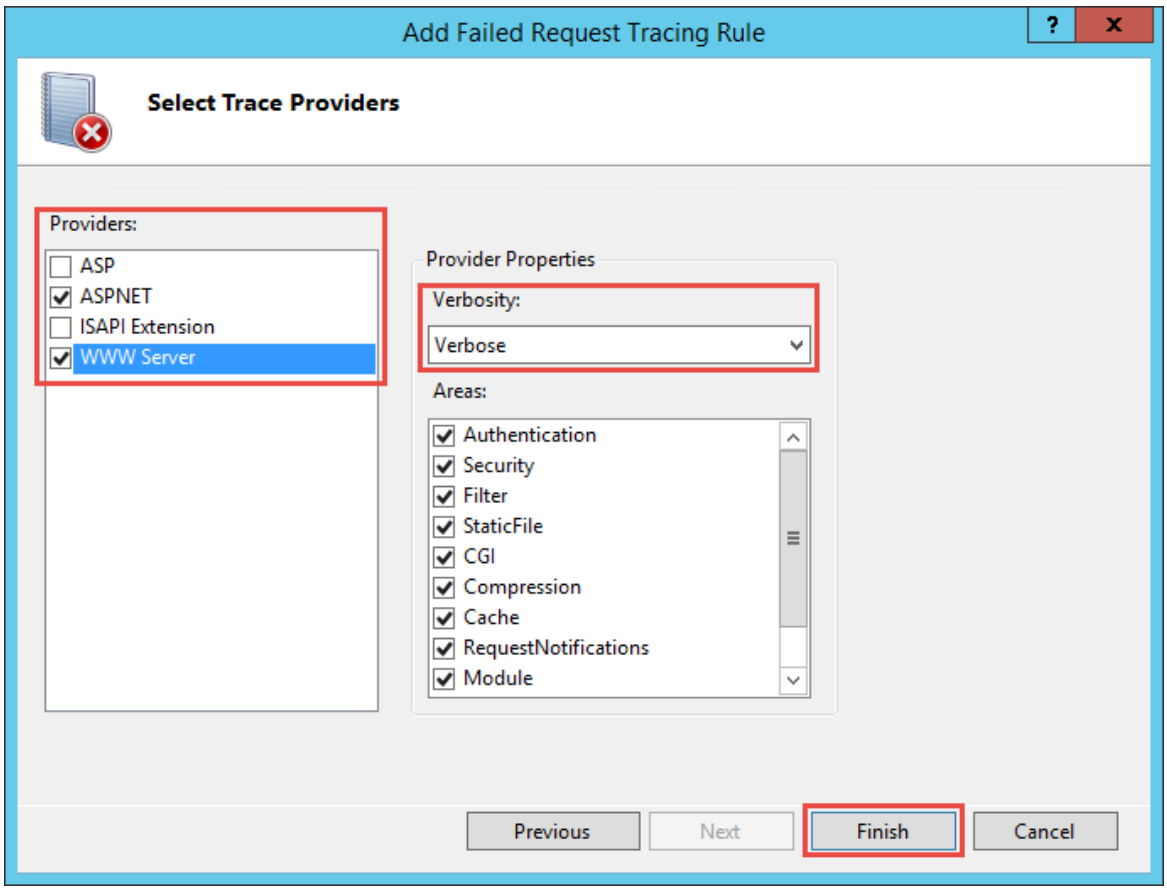
Specify Content to Trace

9. Select the **Status Code(s)** check box. Enter the type of the status code to be traced, in this case type in the **status code 500**, and click **Next**.



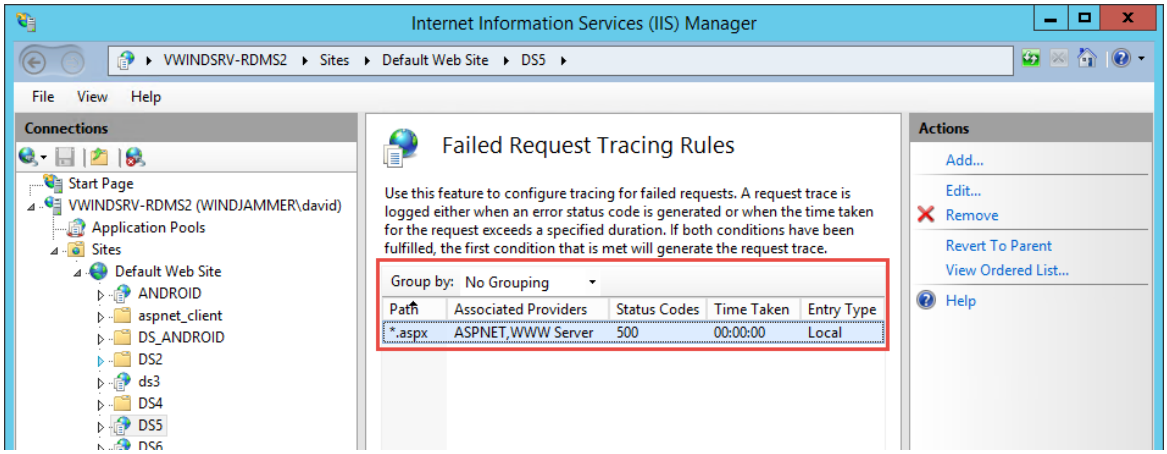
Define Trace Conditions

10. The last setting is to select the providers of the tracing. Select **ASPNET** and **WWW** Server. For each of them, set the **Verbosity** to **Verbose**. Finally, check all Areas settings for these two providers and click **Finish**.



Select Trace Providers

11. The tracing rule is now defined.



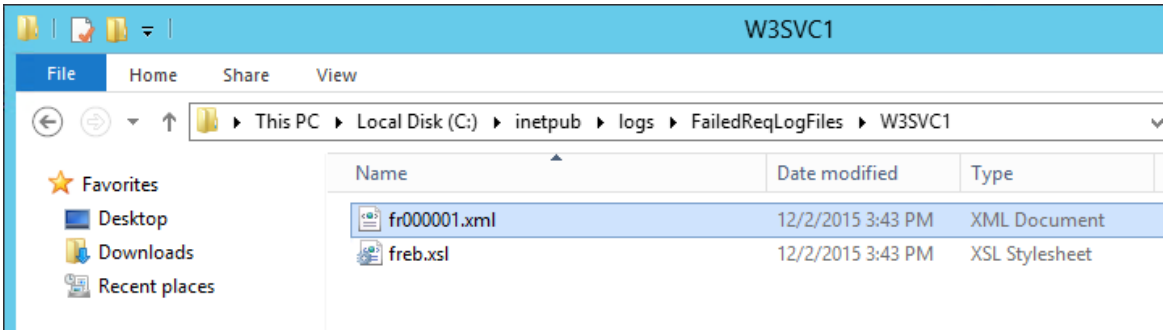
Failed Request Tracing rule defined

9.6.5.3 Consult the Failed Request Tracing log

CONSULT THE FAILED REQUEST TRACING LOG

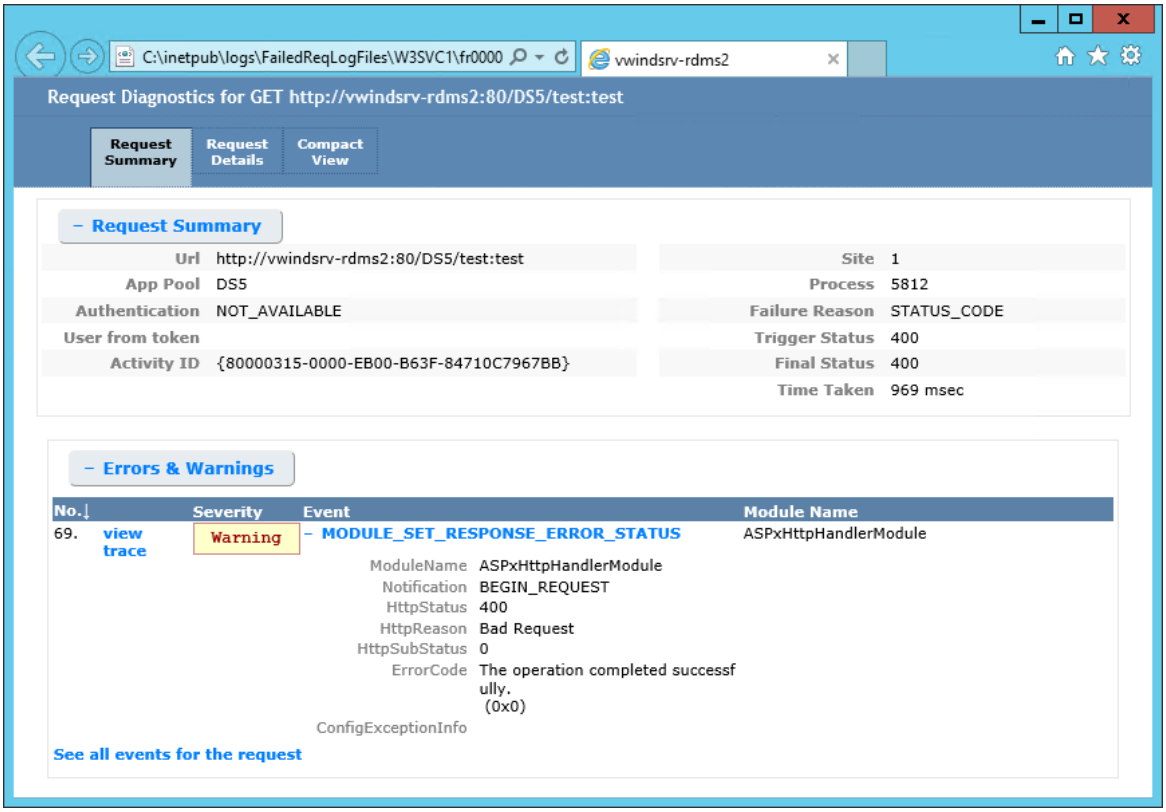
With **Failed Request Tracing enabled**, the logs files are created and populated in the directory set up on step Edit Website Failed Request Tracing Settings. By default, the path is ***%SystemDrive%\inetpub\logs\FailedReqLogFiles***. In this place, a folder typically named ***W3SVC1*** will be created when the first case happen.

There will be an XSL file (freb.xsl) for the display style in an XML viewer like Internet Explorer. Also, the most important, the XML files (fr#######.xml). Open an XML file to view the log triggered by the tracing rule.



Failed Request Tracing log Folder

Here is an example of a **Failed Request Tracing log**:



Failed Request Tracing log

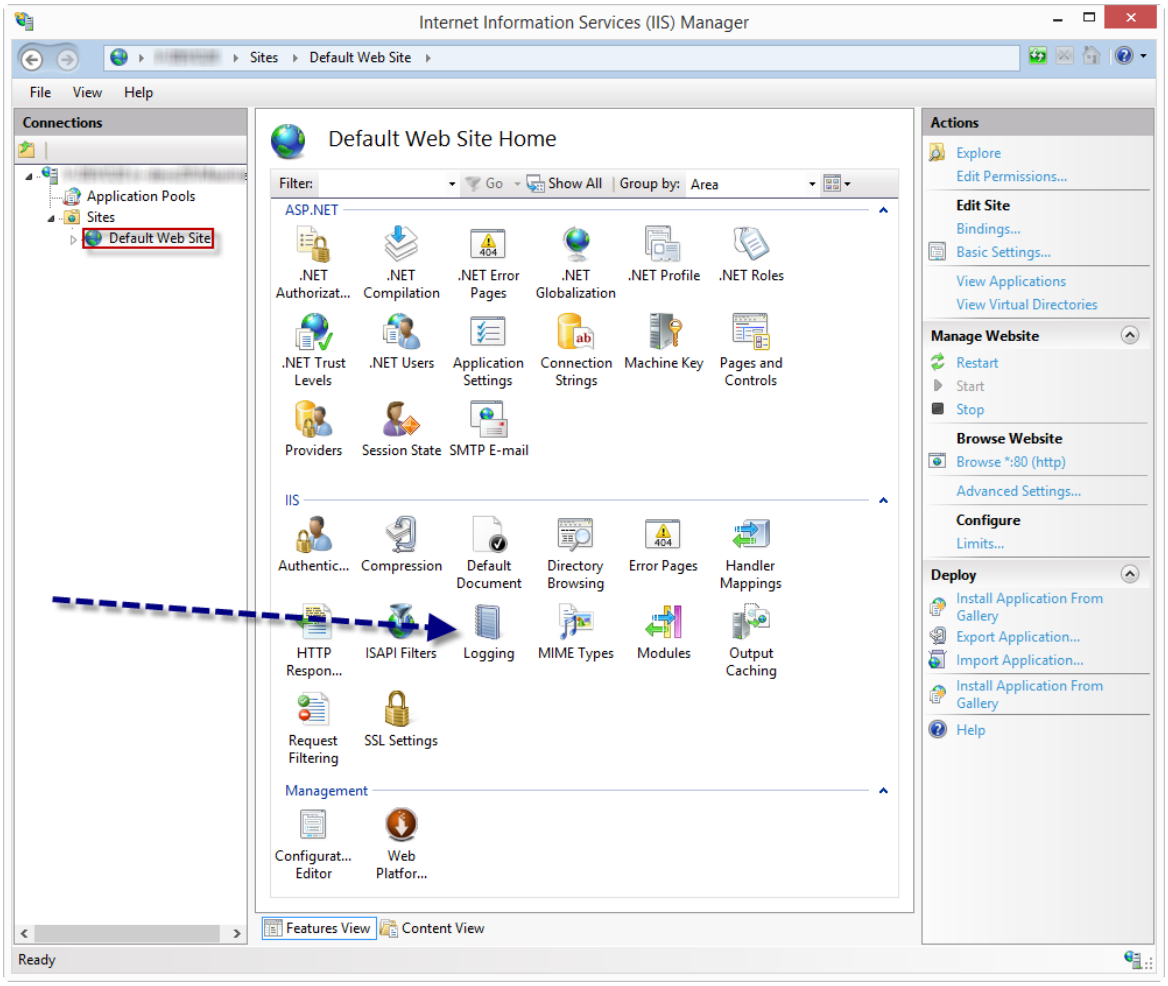
9.6.6 IIS Logging

DESCRIPTION

Here is the description of desired settings when we troubleshoot a performance/connectivity issue related to the client application.

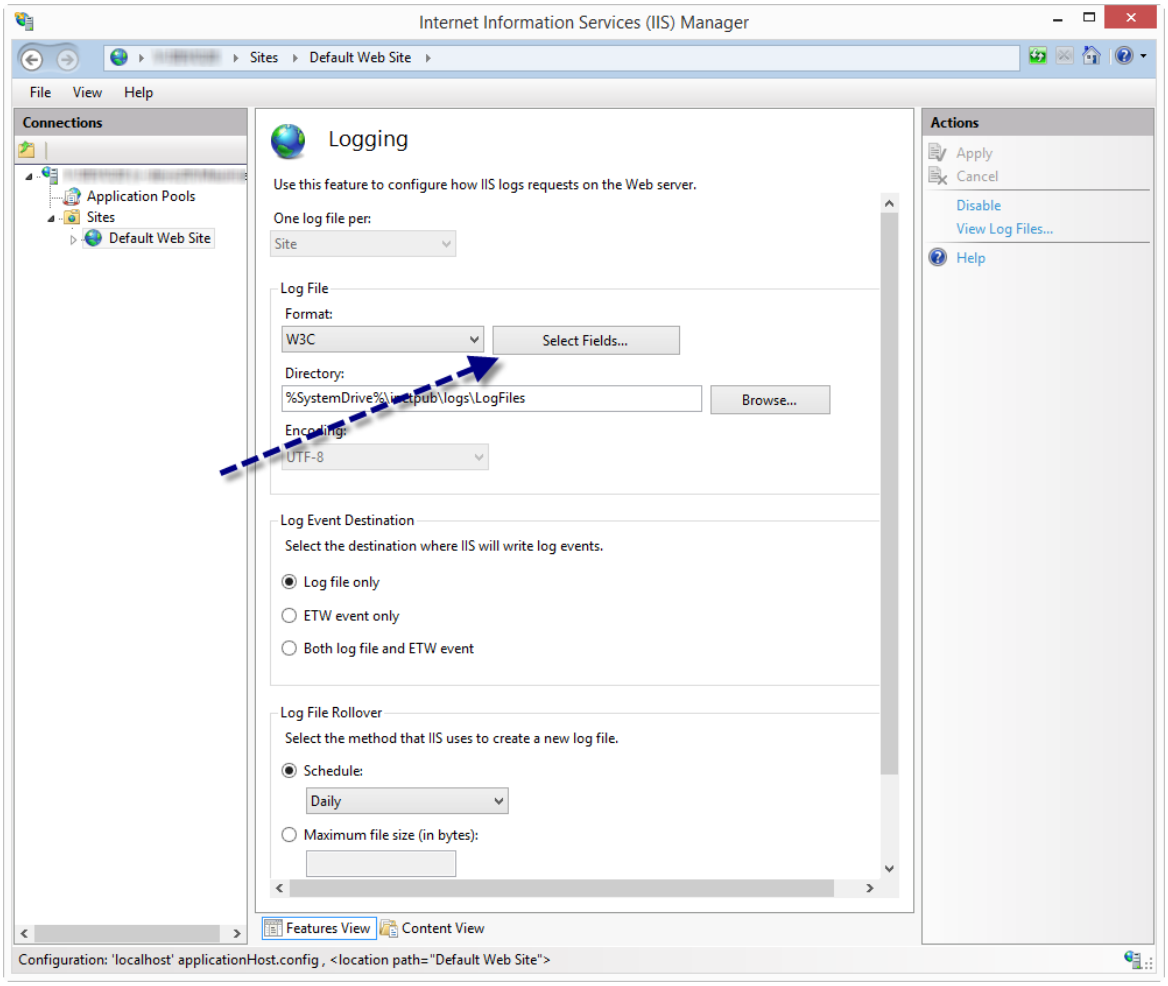
IIS WEB SITE LOGGING

1. Open **IIS Manager** and go in the **Logging** settings.



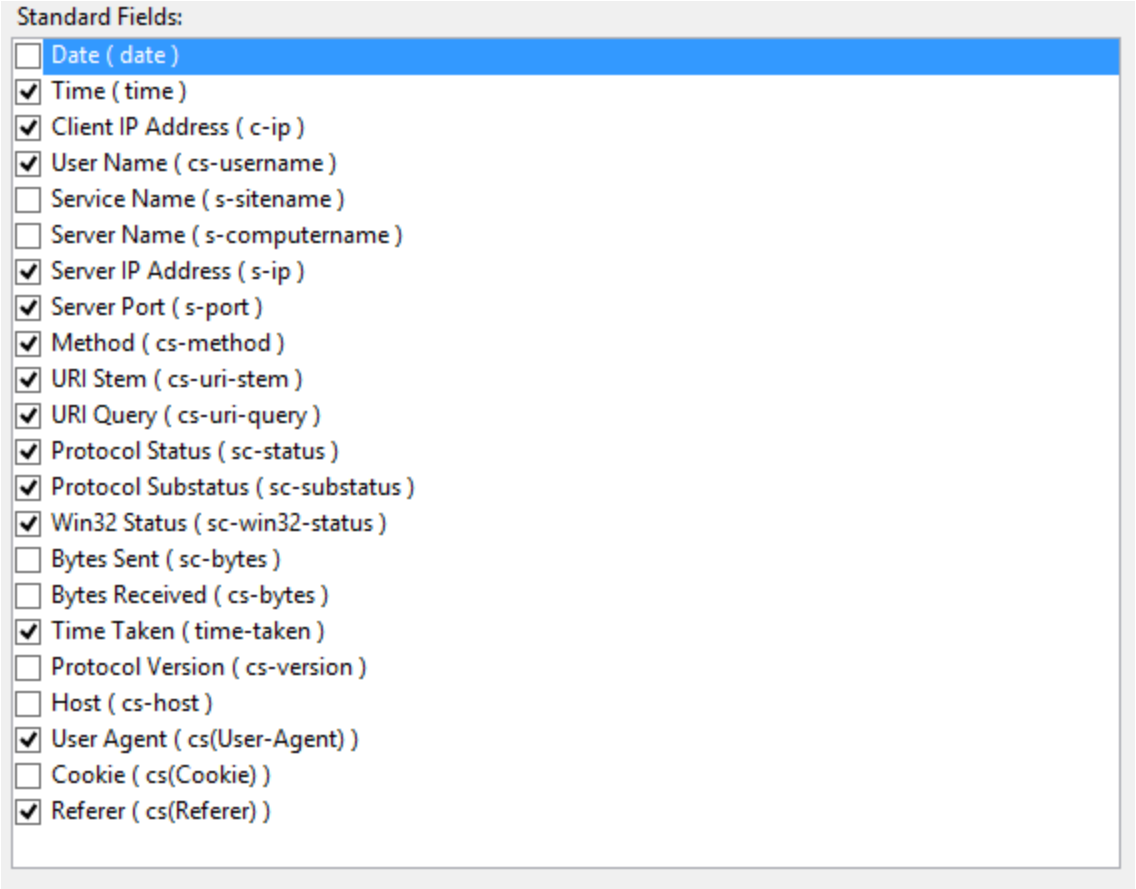
IIS Manager

2. Click on **Select Fields**



Logging Panel

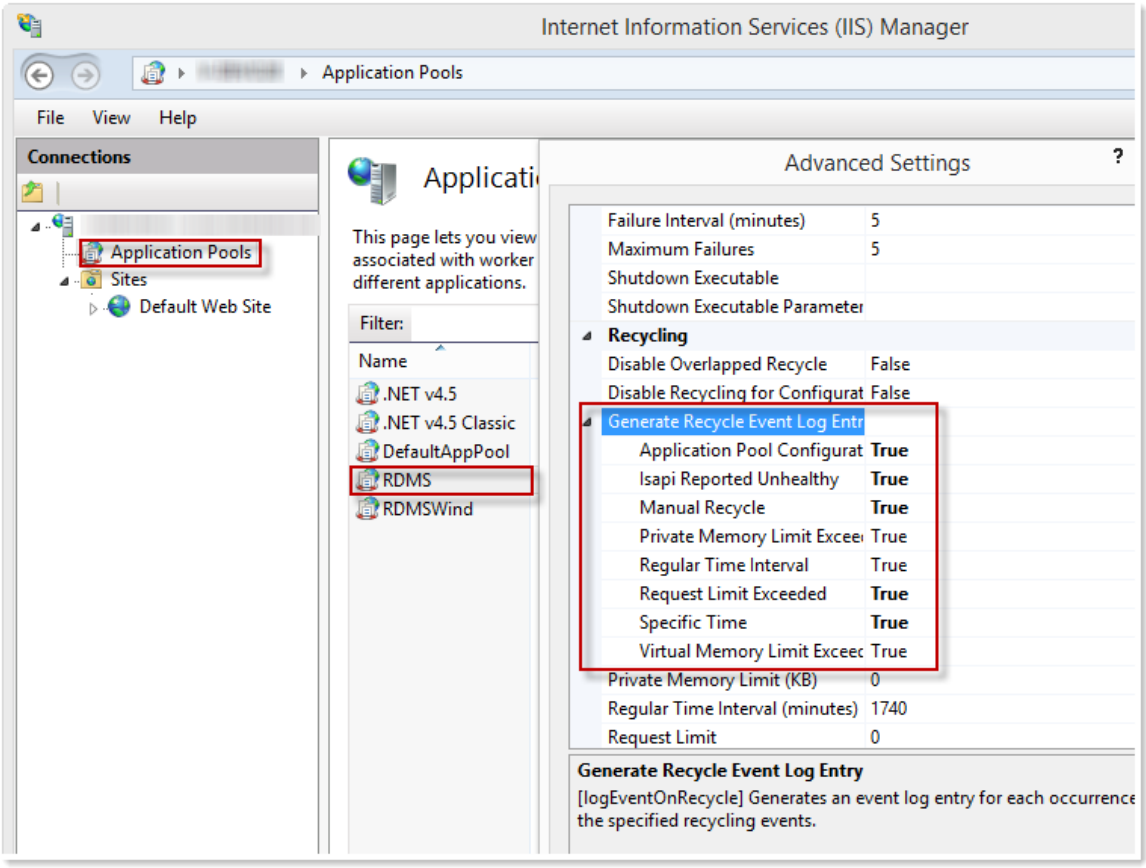
3. We recommend that at the very least the following fields be selected:



Field selection Dialog

APPLICATION POOL RECYCLE

The application pool that is in fact running the instance can be restarted for a multitude of reasons. It may be useful to know when those **recycles** occur as well as the reasons. Go in the **Application pools** section of the **IIS manager**, then open the **Advanced settings** for your application pool. Enable all of the **Recycle events**, it will create a log entry in the **Windows Event Log**.

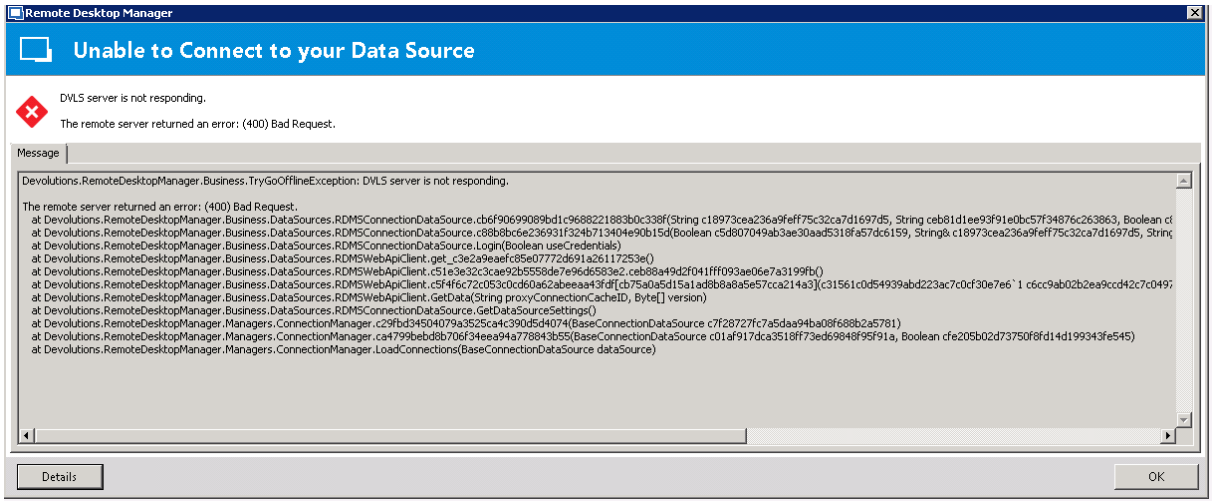


Advanced settings for an Application Pool.

9.6.7 The remote server returned an error: (400) Bad Request

DESCRIPTION

You get the following Error message dialog when you try to authenticate on the Devolutions Password Server instance with Remote Desktop Manager.



Error message Dialog

SOLUTION

There are two different solutions for this issue.

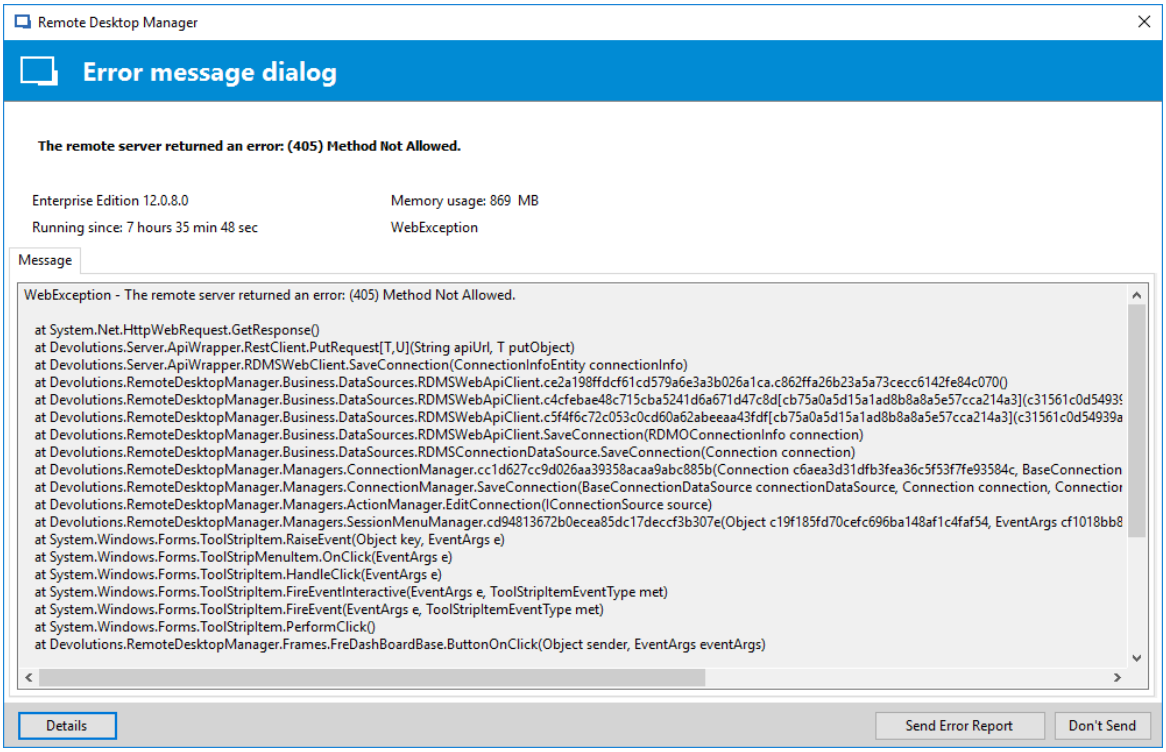
1. Reduce the number of AD Groups that the user account is part of. We are aware that most of the time, because of the design of the AD structure, it is not possible to reduce the number of AD groups.

2. Increase the settings for the **MaxFieldLength** and the **MaxRequestBytes** registry entries on the server. Please consult the following Microsoft article for more information on how to increse these values. https://support.microsoft.com/en-us/help/2020943/http-400-bad-request-request-header-too-long-response-to-http-request

9.6.8 The remote server returned an error (405) Method Not Allowed

DESCRIPTION

You get the following Error message dialog when you try to create or modify an entry.



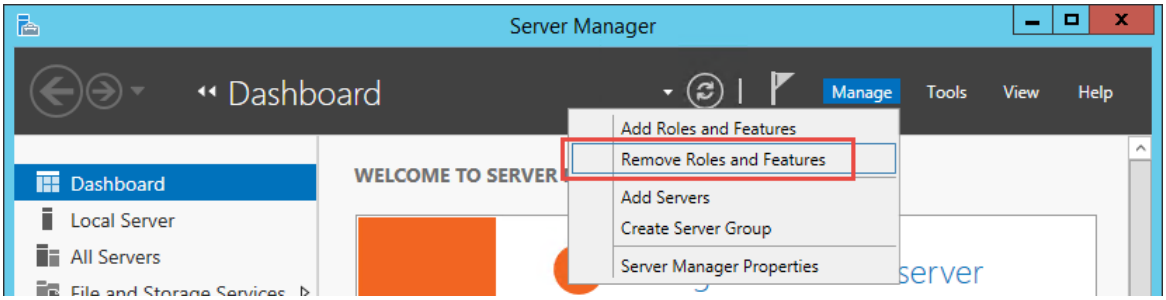
Error message Dialog

STEPS

> Please note that you will have to restart the server after removing the WebDAV Publishing role to complete the procedure.

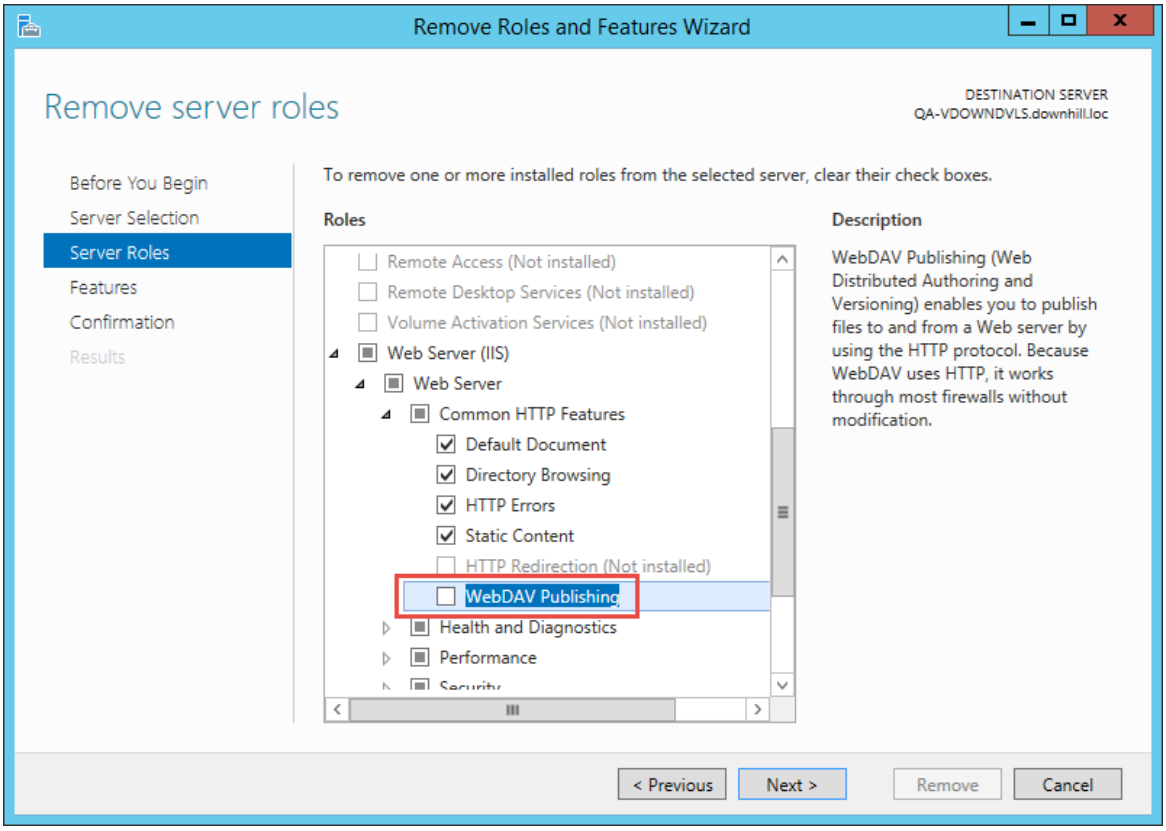
1. On the server where the Devolutions Password Server instance is hosted, open the **Server Manager** application.

2. Then, open the **Remove Roles and Features** in the **Manage** menu.



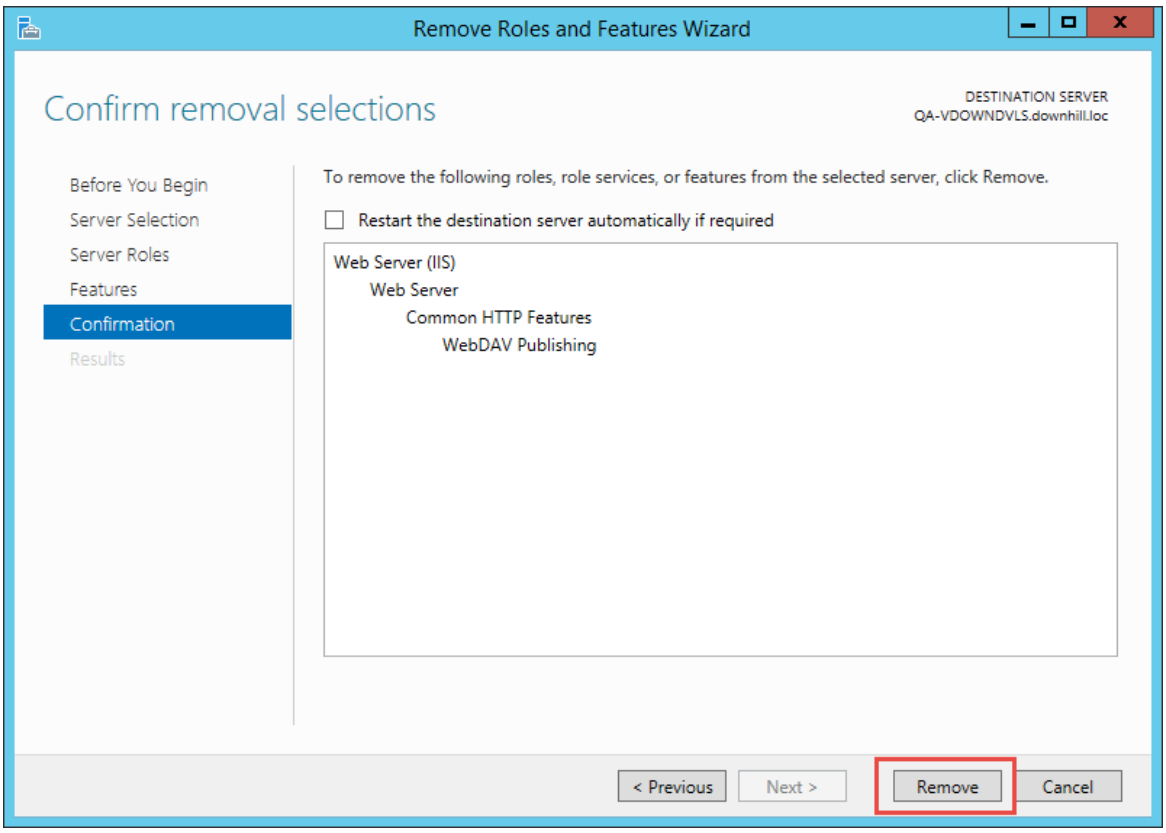
Server Manager

3. In the **Server Roles**, uncheck the **WebDAV Publishing role**.



Remove Roles and Features Wizard Dialog

4. Click on the **Remove** button to uninstall the WebDAV Publishing role from the server.

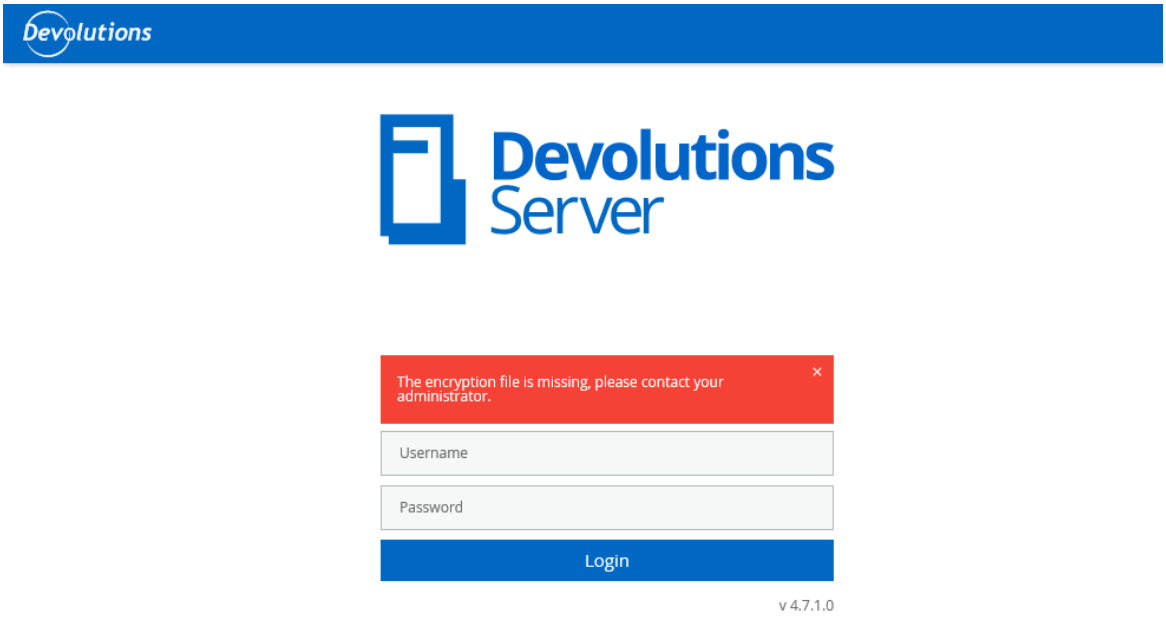


Remove Roles and Features Wizard Dialog

9.6.9 The encryption file is missing

DESCRIPTION

When opening the Devolutions Password Server web interface, the error The encryption file is missing, please contact your administrator is displayed.



Devolutions Password Server login page

This issue is the result of using an old version of Remote Desktop Manager Enterprise Edition for Windows (prior to version 13.0.x.x) to install Devolutions Password Server version 4.7.x.x.

SOLUTION

Install Remote Desktop Manager Enterprise Edition for Windows version 13.0.6.0 or higher and then reinstall Devolutions Password Server version 4.7.1.0 or higher over the current instance with the **Upgrade Server** button.

9.6.10 The INSERT statement conflicted with the FOREIGN KEY constraint "FK_ConnectionState_ConnectionID"

DESCRIPTION

As an administrator of the Devolutions Password Server instance, you receive this error message.

Error:

SqlException - The INSERT statement conflicted with the FOREIGN KEY constraint "FK_ConnectionState_ConnectionID". The conflict occurred in database "DVLS", table "dbo.Connections", column 'ID'. The statement has been terminated. at System.Data.SqlClient.SqlConnection.OnError(SqlException exception, Boolean

breakConnection, Action`1 wrapCloseInAction) at System.Data.SqlClient.TdsParser.ThrowExceptionAndWarning(TdsParserStateObject stateObj, Boolean callerHasConnectionLock, Boolean asyncClose) at System.Data.SqlClient.TdsParser.TryRun(RunBehavior runBehavior, SqlCommand cmdHandler, SqlDataReader dataStream, BulkCopySimpleResultSet bulkCopyHandler, TdsParserStateObject stateObj, Boolean& dataReady) at System.Data.SqlClient.SqlCommand.FinishExecuteReader(SqlDataReader ds, RunBehavior runBehavior, String resetOptionsString, Boolean isInternal, Boolean forDescribeParameterEncryption) at System.Data.SqlClient.SqlCommand.RunExecuteReaderTds(CommandBehavior cmdBehavior, RunBehavior runBehavior, Boolean returnStream, Boolean async, Int32 timeout, Task& task, Boolean asyncWrite, Boolean inRetry, SqlDataReader ds, Boolean describeParameterEncryptionRequest) at System.Data.SqlClient.SqlCommand.RunExecuteReader(CommandBehavior cmdBehavior, RunBehavior runBehavior, Boolean returnStream, String method, TaskCompletionSource`1 completion, Int32 timeout, Task& task, Boolean& usedCache, Boolean asyncWrite, Boolean inRetry) at System.Data.SqlClient.SqlCommand.InternalExecuteNonQuery(TaskCompletionSource `1 completion, String methodName, Boolean sendToPipe, Int32 timeout, Boolean& usedCache, Boolean asyncWrite, Boolean inRetry) at System.Data.SqlClient.SqlCommand.ExecuteNonQuery() at Devolutions.Server.DatabaseManager.ExecuteNonQuery(String sql, IEnumerable`1 parameters, CommandType commandType) at Devolutions.Server.ConnectionLogManager.AddLogEntry(SessionContext context, LogEntryEntity logEntry) --- INSERT INTO ConnectionLog ([ID] ,[Username] , [MachineName] ,[Message] ,[MessageType] ,[ConnectionName] , [ConnectionTypeName] ,[ConnectionID] ,[ConnectionUserName] ,[StartDateTime] , [EndDateTime] ,[StartDateTimeUTC] ,[EndDateTimeUTC] ,[GroupName] , [CustomerID] ,[Comment] ,[LoggedUserName] ,[Prompt] ,[SecurityGroup] ,[Cost] , [Data] ,[UserInfoID] ,[SupportClose] ,[CloseMode] ,[OpenMode] ,[HostName] , [Application] ,[IsEmbedded] ,[RepositoryID]) VALUES (?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,? ,?,?,?,?,?,?,?,?,?,?,?,?)

Please contact us at ticket@devolutions.net and we will send you a SQL statement to execute on the database to fix this issue.

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Control the IT Chaos

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