



AUTOMATION PORTAL

User Guide

Version 4.3.1

Kelverion Automation Portal

Copyright 2024 Kelverion Inc. All rights reserved.

Published: June 2025

Feedback

Send suggestions and comments about this document to support@kelverion.com

Table of Contents

Table of Contents	3
Introduction.....	6
Accessibility Statement	7
Installation.....	8
System Requirements.....	8
System Specs	8
Web Browser	9
Installation Components	9
Azure App Registration.....	9
<i>Using the App Registration PowerShell Script</i>	10
<i>Create-AppRegistration Syntax.....</i>	11
IIS Website Installation.....	11
<i>Installing the Web Site</i>	11
<i>Updating the Web Site.....</i>	12
Database Setup.....	13
<i>Creating a New Database On-Prem</i>	13
<i>Creating a New Database in Azure</i>	15
<i>Updating an Existing Database On-Prem</i>	19
<i>Updating an Existing Database in Azure.....</i>	20
<i>Configuring a Database User On-Prem.....</i>	22
<i>Configuring a Managed Identity and User in Azure.....</i>	23
Automation Portal Users	25
Firewall Configuration	25
On-Prem High Availability (HA) Deployment.....	25
Configuring Azure IIS Website for External Access	27
<i>Configure Inbound Port Rule.....</i>	28
<i>Configure Inbound Firewall Rule</i>	28
<i>Update App Registration Redirect URLs</i>	29
<i>Configure IIS CORS Rule</i>	29
<i>Configure Content Security Policy</i>	30
<i>Configure Automation Portal API URL</i>	30
<i>Update IIS Server Certificate</i>	31
Licensing your Automation Portal	31
<i>License Notifications</i>	31
Getting Started	32
Logging In.....	32

Overview of the User Interface	32
Application Bar	33
<i>Universal Search</i>	33
<i>Feedback</i>	33
<i>Display Settings</i>	33
<i>Account Profile</i>	34
Navigation Bar	34
Content View	34
Setup and Administration.....	36
Settings Page	36
<i>License</i>	36
<i>Customization</i>	36
<i>Request</i>	37
<i>Wiki Section</i>	37
<i>Maintenance Tasks</i>	37
Services Page	38
Lists Page	41
Connections Page	42
Queries Page.....	44
<i>Security Recommendations</i>	45
Wiki Page	45
Integrations	46
<i>Webhooks Page</i>	46
Logs Page	47
Feedback Page.....	47
Permissions Page	48
Themes Page	49
<i>Enable Custom Themes</i>	49
<i>Import/Export</i>	49
<i>Light Mode and Dark Mode</i>	49
<i>Customize Portal Font</i>	50
<i>Customize Specific Theme Settings</i>	50
<i>Customize Portal Logo</i>	50
<i>Custom Themes Settings Reference</i>	51
About Page	52
<i>Details</i>	52
<i>Accessibility Statement</i>	52
<i>Open Source</i>	52
Importing and Exporting Resources	52
<i>Exporting Resources</i>	53

<i>Importing Resources</i>	<i>53</i>
Working With the Automation Portal	54
Home Page	54
Services and Offerings	54
Submitting Requests.....	55
Request Management	55
Wiki Page	56
Integration.....	58
Integration Scope	58
Integration Priority	58
Kolverion Automation Monitor Service.....	59
Support and Guidance.....	59
Sending Feedback.....	60

Introduction

The Kelverion Automation Portal is an easy to implement self-service front end for your automation solutions. It offers a versatile interface without the lengthy list of prerequisites required by many other self-service portals available today.

The Automation Portal ethos is to *keep things simple and flexible*. The portal has been designed to complement the existing Automation platforms and does not attempt to replicate the automation platforms capability. Integration with the automation tools takes place via the Kelverion Automation Portal REST API and is most easily achieved using the Kelverion integrations for Automation Portal.

The Automation Portal has been designed for use with System Center Orchestrator and Azure Automation in mind, however it equally complements any automation platform or scripting language that can use REST web services.

The Automation Portal is simple to implement, but even more importantly it is easy for your end users to navigate, and by adding a simple web interface to your solutions you can allow users to easily interact with your automated solutions.

Accessibility Statement

The [Web Content Accessibility Guidelines \(WCAG\)](#) defines requirements for designers and developers to improve accessibility for people with disabilities. It defines three levels of conformance: Level A, Level AA, and Level AAA. The Automation Portal is partially conformant with WCAG 2.1 level AA.

Important: The Automation Portal provides features to customize themes and colors. Making changes to themes and colors may result in the Automation Portal no longer conforming to WCAG requirements.

Installation

Installing the Kelverion Automation portal involves the following steps.

1. Reviewing System Requirements.
2. Creating an Azure App Registration.
3. Installing the Automation Portal website in IIS.
4. Setting up your Automation Portal Database.
5. Add Microsoft Entra ID users.
6. Login and update your license.

System Requirements

The Kelverion Automation Portal has the following system requirements:

- (On-Prem) Windows Server 2022
- (On-Prem) SQL Server 2019, or SQL Server 2022
- (Azure) Windows Server 2022 Datacenter Azure Edition
- (Azure) Azure Database
- Microsoft Entra ID
- Web Server (IIS)
- The Server Role **Web Server (IIS) > Web Server > Application Development > APS.NET 4.8** must be enabled.
- IIS website certificate (.pfx) file
- The [ASP.NET Core 8.0 Windows Hosting Bundle](#) must be installed.
- The [CORS](#) and [URL Rewrite 2.1](#) IIS modules must be installed.
- The [Microsoft.Graph.Applications \(2.24.0\)](#) and [Microsoft.Graph.Identity.SignIns \(2.24.0\)](#) PowerShell modules must be installed. The following PowerShell can be used to install these modules.

```
Install-Module -Scope AllUsers -Name Microsoft.Graph.Applications -Force -RequiredVersion 2.24.0
Install-Module -Scope AllUsers -Name Microsoft.Graph.Identity.SignIns -Force -RequiredVersion 2.24.0
```

System Specs

The following are the minimum recommended system specifications for the Automation Portal installation.

Portal Version	IIS Server Windows Server 2019 Windows Server 2022	SQL Server SQL Server 2019 SQL Server 2022	SQL Database Auto grow 64MB increments Full Recovery Mode
Starter	2 Cores, 8GB RAM	2 Cores, 8GB RAM	2 GB Data 1 GB Transaction Logs
Professional	2 Cores, 8GB RAM	2 Cores, 8GB RAM	2 GB Data 1 GB Transaction Logs

Enterprise	2 Cores, 16GB RAM each HA Node	2 Cores, 16GB RAM	2 GB Data 1 GB Transaction Logs
Unlimited	4 Cores, 16GB RAM each HA Node	2 Cores, 16GB RAM	2 GB Data 1 GB Transaction Logs

For Production deployments in Microsoft Azure, we recommend:

- A minimum of D series for Virtual Machines
- A minimum of Standard for the Azure SQL Database

Web Browser

The Automation Portal has been evaluated with the following web browsers. Whichever browser you use, you must have support for **JavaScript** and **Cookies** enabled.

- Google Chrome 135.0
- Firefox 137.0
- Microsoft Edge 135.0

Installation Components

To install the Kelverion Automation portal you will need the following installation components:

- Azure App registration PowerShell script - Create-AppRegistration.ps1
- Automation portal installer - Kelverion.AutomationPortal.Installer-4.x.exe
- Database configuration utility - automation-portal-db-cmd.exe

The first two components can be extracted from the ZIP file **Kelverion.AutomationPortal.Installer-4.x.zip**. The database configuration utility will be deployed by the portal installer.

Unblock ZIP: Your **Kelverion.AutomationPortal.Installer-4.x.zip** file may have been blocked if downloaded from the internet. Make sure you unblock the zip file before extracting the required installation components. You can unblock the ZIP file from the General tab, Security section, in the ZIP file properties.

Azure App Registration

The Kelverion Automation portal requires an Azure App Registration in Microsoft Entra ID. Use the provided **Create-AppRegistration.ps1** script to assist in creating the app registration. This script must be run on the IIS server that will host the Kelverion Automation website.

Global Administrator: When running the Create-AppRegistration.ps1 script, you will be prompted to sign-in with an Azure user. This user must have the Global Administrator role assigned, in the tenant where the app registration will be created, in order for the app registration to be created successfully.

Using the App Registration PowerShell Script

To create a new App Registration from the IIS server that will host the Automation Portal:

1. On the IIS server that hosts the Kelverion portal, make sure the [Microsoft.Graph.Applications \(2.24.0\)](#) and [Microsoft.Graph.Identity.SignIns \(2.24.0\)](#) PowerShell modules are installed. See [System Requirements](#).
2. Open a PowerShell command prompt.
3. Navigate to the folder that contains the Create-AppRegistration.ps1 file.
4. Type **.\Create-AppRegistration**.
5. For the **TenantId** parameter enter the Microsoft Entra ID tenant ID where the app registration will be created.
6. For the **AppName** parameter enter the name of the app registration.
7. Run the command.

Example:

```
.\Create-AppRegistration -TenantID 00000000-0000-0000-0000-000000000000 -AppName "Kelverion Automation Portal"
```

8. The script outputs the **Tenant ID**, **Application ID**, and **Client Secret**. Copy this information to a safe place so that it can be used in the next installation step.
9. The script outputs the **Client Secret expiry date**. Copy this information to a safe place so that it can be used to schedule a maintenance task.

To create a new App Registration from another machine:

1. On any machine with access to your Azure portal, make sure the [Microsoft.Graph.Applications \(2.24.0\)](#) and [Microsoft.Graph.Identity.SignIns \(2.24.0\)](#) PowerShell modules are installed. See [System Requirements](#).
2. Open a PowerShell command prompt.
3. Navigate to the folder that contains the Create-AppRegistration.ps1 file.
4. Type **.\Create-AppRegistration**.
5. For the **TenantId** parameter enter the Microsoft Entra ID tenant ID where the app registration will be created.
6. For the **AppName** parameter enter the name of the app registration.
7. For the **ApiWebFqdn** enter the FQDN of the IIS server that will host the Automation Portal.
8. For the **ApiWebIp** enter the IP address of the IIS server that will host the Automation Portal.
9. Run the command.

Example:

```
.\Create-AppRegistration -TenantID 00000000-0000-0000-0000-000000000000 -AppName "Kelverion Automation Portal" -ApiWebFqdn portal.acme.com -ApiWebIp 10.59.63.17
```

10. The script outputs the **Tenant ID**, **Application ID**, and **Client Secret**. Copy this information to a safe place so that it can be used in the next installation step.

11. The script outputs the **Client Secret expiry date**. Copy this information to a safe place so that it can be used to schedule a maintenance task.

Create-AppRegistration Syntax

Create-AppRegistration.ps1 -TenantId -AppName [-ApiWebPort] [-ClientSecretExpiresInMonths]

- **TenantId:** The Azure tenant ID where the app registration will be created.
- **AppName:** The name of the app registration.
- **ApiWebFqdn:** (Optional) The FQDN of the machine hosting the Kelverion Automation portal API. When not specified, the local host name will be used.
- **ApiWebIP:** (Optional) The IP address of the machine hosting the Kelverion Automation portal API. When not specified, the local host IP address will be used.
- **ApiWebPort:** (Optional) The port number that will be used for the Kelverion Automation portal API. The default is 8443.
- **ClientSecretExpiresInMonths:** (Optional) The number of months the client secret is valid. The default is 12 months.

IIS Website Installation

The Automation Portal Website can be installed on an IIS Windows Server machine that is located either on premises or in Azure. Before installing the Kelverion Automation portal in IIS you will need the following information:

- Directory (tenant) ID
- Application (client) ID
- Client Secret
- IIS website certificate (.pfx) file
- IIS website identity service account

On-premises: For on-premises installations, the specified IIS website identity service account should be a domain user, with limited privileges on the IIS web server. The user can be specified either as <domain>\<username> or in UPN format. For example, **acme\service.account** or **service.account@acme.com**.

Azure: For Azure installations, the specified IIS website identity service account should be a local machine user, with limited privileges on the Azure IIS web server. Note that this should not be the Azure user that was used to create the app registration. The user must be specified as <computername>\<username>, where <computername> is the computer name of the Azure IIS web server machine, which may be truncated from the Azure VM name. For example, for the VM name **Kelverion-Portal-VM**, the service account should be **Kelverion-Porta\service.account**.

Update: When upgrading the automation portal from a previous portal installation, you must provide the same IIS website identity service account that was used during the initial installation.

Installing the Web Site

Follow these steps when installing the Kelverion Automation Portal 4.x for the first time:

1. Run the **Kelverion Automaton Portal Setup Wizard** (Kelverion.AutomationPortal.Installer-4.x.exe).
2. Check **I agree to the license terms and conditions** and then click **Install**.
3. Click **Next**. The **Destination Folder** page opens.
4. In the box, enter or select the destination folder. The default is C:\Inetpub\.
5. Click **Next**. The **IIS Website** page appears.
6. In the **Web Port** box, enter the port that Automaton Portal website will use.
7. In the **API Port** box, enter the port that the Automation Portal REST API will use. Make sure that you use the same port that you used when you created the Azure App Registration.
8. In the **Web Certificate (.pfx)** box, enter the path to the certificate for the website.
9. In the **Web Certificate Password** box, enter the password for the web certificate.
10. In the **Confirm Password** box, enter the password for the web certificate again.
11. Click **Next**. The **IIS Website Identity/Monitor Service Account** page appears.
12. In the **Username** box, enter the username for the IIS website identity service account. This account will also be configured as the Log On user for the [Kelverion Automation Portal Service](#).
13. In the **Password** box, enter the password for the user.
14. In the **Confirm Password** box, enter the password for the user again.
15. Click **Next**. The **Microsoft Entra ID** page appears.
16. In the **Directory (tenant) ID** box, enter the directory ID that you used when creating the Azure App Registration.
17. In the **Application (client) ID** box, enter the Application ID that was generated by the Azure App Registration.
18. In the **Client Secret Value** box, enter the client secret that was generated by the Azure App Registration.
19. Click **Next**. The **Ready to Install Portal** page appears.
20. Click **Install**.
21. Click **Finish**.
22. Click **Close**.
23. Once the portal website installation is complete, proceed with creating the portal database.
For on-premises deployments, please refer to [Creating a New Database On-Prem](#).
For Azure deployments, please refer to [Creating a New Database in Azure](#).
24. Once the portal database has been created, proceed to start the [Kelverion Automation Monitor Service](#) in the Service Control Manager (SCM).

Updating the Web Site

Follow these steps when updating an existing installation of the Kelverion Automation Portal 4.x:

1. Backup your Kelverion Automation Portal database for the current installation.
2. Run the **Kelverion Automaton Portal** uninstall for the current installation.
3. Run the **Kelverion Automaton Portal Setup Wizard** for the new version being installed (Kelverion.AutomationPortal.Installer-4.x.exe).
4. Check **I agree to the license terms and conditions** and then click **Install**.
5. Click **Next**. The **Destination Folder** page opens.
6. In the box, enter or select the destination folder. The default is C:\Inetpub\.
7. Click **Next**. The **IIS Website** page appears.

8. In the **Web Port** box, enter the port that Automaton Portal website will use.
9. In the **API Port** box, enter the port that the Automation Portal REST API will use. Make sure that you use the same port that you used when you created the Azure App Registration.
10. In the **Web Certificate (.pfx)** box, enter the path to the certificate for the website.
11. In the **Web Certificate Password** box, enter the password for the web certificate.
12. In the **Confirm Password** box, enter the password for the web certificate again.
13. Click **Next**. The **IIS Website Identity/Monitor Service Account** page appears.
14. In the **Username** box, enter the username for the IIS website identity service account. **Important:** You must provide the same service account that was used during the initial portal installation.
15. In the **Password** box, enter the password for the user.
16. In the **Confirm Password** box, enter the password for the user again.
17. Click **Next**. The **Microsoft Entra ID** page appears.
18. In the **Directory (tenant) ID** box, enter the directory ID that you used when creating the Azure App Registration.
19. In the **Application (client) ID** box, enter the Application ID that was generated by the Azure App Registration.
20. In the **Client Secret Value** box, enter the client secret that was generated by the Azure App Registration.
21. Click **Next**. The **Ready to Install Portal** page appears.
22. Click **Install**.
23. Click **Finish**.
24. Click **Close**.
25. Once the portal website installation is complete, proceed with updating your portal database.
For on-premises deployments, please refer to [Updating an Existing Database On-Prem](#).
For Azure deployments, please refer to [Updating an Existing Database in Azure](#).
26. Once the portal database has been updated, proceed to start the [Kelverion Automation Monitor Service](#) in the Service Control Manager (SCM).

Database Setup

The Kelverion Automation Portal requires a Microsoft SQL Server database. To help with the creation of the database use the Kelverion **automation-portal-db-cmd** command line utility. This utility can be found at **C:\Program Files\Kelverion\Automation Portal\Tools\Database Command Line**. View help for this utility by running this command without any parameters.

Creating a New Database On-Prem

The **automation-portal-db-cmd** provides the **DbCreate** command for creating a new on-premises Automation Portal database.

Important: The **DbCreate** command must be run on the IIS server where the Automation Portal website has been installed, and must be run by a user with local administrator privileges, and with sufficient permissions to configure the database on the specified SQL Server.

Important: The Column Encryption Certificate is created in the Local Machine store and the configured user is granted read permissions on the new certificate. The configured user should be the same as the user specified for the IIS website identity service account. If the IIS website is modified to use a service account different than the configured user, the new service account must be granted read permissions on the Column Encryption certificate.

Important: Exercise caution when working with the Column Encryption Certificate. This certificate is used for encrypting/decrypting data in the Automation Portal database. Deleting or modifying this certificate may result in data no longer being accessible. Make sure to always back up your database before making changes.

The **DbCreate** command has the following parameters:

Parameter	Description
DbName* (-D)	Required. Name of the database to be configured.
User* (-U)	Required. Domain user to be configured for database access and column encryption certificate access, in the form <domain>\<username> . This must be the same as the IIS website identity service account that was specified during the IIS Website Installation .
Host* (-H)	Required. SQL Server host name or IP address.
Port (-P)	Optional. SQL Server port. Default port is 1433 .
Encrypt (-E)	Optional. Specifies if communication with the database is encrypted. Default is True .
TrustServerCert (-T)	Optional. Specifies whether the SQL server host certificate is trusted. Default is False .
Replace (-R)	Optional. Specifies whether an existing database with the specified name will be deleted before creating the new database. Default is True .
ColumnMasterKey (-CMK)	Optional. Name for the new Always Encrypted master key that will be created for column encryption. Default value is KelverionCMK .
ColumnEncryptKey (-CEK)	Optional. Name for the new Always Encrypted column encryption key. Default value is KelverionCEK .
CertName (-Cert)	Optional. Name for the Column Encryption Certificate used when creating the new ColumnMasterKey. A new certificate is created, with the specified friendly name, when no certificate is found in the Local Machine certificate store, and if CertCreate = true. Existing certificates with the same name are not deleted or overwritten. Default value is Kelverion CMK Certificate .
CertCreate (-CCr)	Optional. Specifies if a new certificate is created when not. Default is True.
AppSettingsApiPath (-A)	Optional. Specifies the path to the Kelverion Automation Portal API appsettings.json file. Default value is C:/inetpub/Kelverion/Kelverion Automation Portal API/AppSettings.json .
AppSettingsPortalPath (-Ap)	Optional. Specifies the path to the Kelverion Automation Portal appsettings.json file. Default value is C:/inetpub/Kelverion/Kelverion Automation Portal/AppSettings.json .
AppSettingsMonitorPath (-App)	Optional. Specifies the path to the Kelverion Automation Monitor appsettings.json file. Default value is C:/Program Files/Kelverion/Automation Portal/Monitor/AppSettings.json .

To create a new Automation Portal database:

1. Open an Admin command prompt.

2. Change the directory to `C:\Program Files\Kelverion\Automation Portal\Tools\Database Command Line`.
3. Run the **automation-portal-db-cmd.exe DbCreate** command with parameters specific to your environment.
4. Confirm the command ran successfully and the database was created correctly.
5. After the IIS Website and database have been correctly configured, you should be able to navigate to the Automation Portal in your browser using `https://<Portal FQDN>` or `https://<Portal IP Address>`.

DbCreate Examples

This first example creates a new Automation Portal database in SQL Server. The command creates a new self-signed certificate and registers it in the LocalMachine certificate store. This certificate will be used to create SQL Always Encrypted master and column keys. Default names are used for the created certificate and for the master and column keys.

```
automation-portal-db-cmd.exe DbCreate -DBName KelverionPortal -Host
sqlServer.acme.com -User acme\service.account
```

To force the SQL server host certificate to be trusted, include the **TrustServerCert** option.

```
automation-portal-db-cmd.exe DbCreate -DBName KelverionPortal -Host
sqlServer.acme.com -User acme\service.account -TrustServerCert
```

You can also specify the names to use for the Always Encrypted master and column keys, using the **CMK** and **CEK** parameters, respectively.

```
automation-portal-db-cmd.exe DbCreate -DBName KelverionPortal -Host
sqlServer.acme.com -User acme\service.account -CertName AcmeServiceCert -CMK
AcmeCMK -CEK AcmeCEK
```

Creating a New Database in Azure

The **automation-portal-db-cmd** provides the **DbCreateAz** command for creating a new Automation Portal database in Azure.

Important: The **DbCreateAz** command must be run on the Azure IIS server where the Automation Portal website has been installed, and must be run by a user with local administrator privileges.

Important: When using the **DbCreateAz** command you will be prompted to sign into the Azure Portal. Make sure to sign in with an Azure user that has been configured as administrator on the target Azure SQL Server, so that the command has the necessary permissions to create and configure the new database. For details see [Configuring Azure SQL Server Admin](#).

Important: Before using the **DbCreateAz** command to create a new database in Azure, you will need to add a firewall rule to allow your Azure IIS server to access your Azure SQL server. For details, see [Adding an Azure SQL Server Firewall Rule](#).

Important: The Automation Portal uses Azure Managed Identities to connect to the database server. Before creating a new database in Azure, you must configure a system identity for the Automation Portal IIS VM. Optionally, you may also configure a user assigned managed identity. For details, see [Configuring Automation Portal VM Managed Identity](#).

Important: The Column Encryption Certificate is created in the Local Machine store and the configured user is granted read permissions on the new certificate. The configured user should be the same as the user specified for the IIS website identity service account. If the IIS website is modified to use a service account different than the configured user, the new service account must be granted read permissions on the Column Encryption certificate.

Important: Exercise caution when working with the Column Encryption Certificate. This certificate is used for encrypting/decrypting data in the Automation Portal database. Deleting or modifying this certificate may result in data no longer being accessible. Make sure to always back up your database before making changes.

The **DbCreateAz** command has the following parameters:

Parameter	Description
DbName* (-D)	Required. Name of the database to be configured.
User* (-U)	Required. Local machine user to be configured for column encryption certificate access. This must be the same as the IIS website identity service account that was specified during the IIS Website Installation . The user must be specified in the form <computername>\<username>, where <computername> is the computer name of the Azure IIS web server machine, which may be truncated from the Azure VM name. For example, for the VM name Kelverion-Portal-VM , the user should be Kelverion-Portal\service.account .
ManagedIdentityName* (-MIn)	Required. Specifies the name of the system or user assigned managed identity that is used to connect to the Azure SQL database. For details, see Configuring Azure Portal VM Managed Identity .
ManagedIdentityClientId (-MId)	Optional. Managed identity client ID, when ManagedIdentityName specifies a user assigned managed identity. For details, see Configuring Azure Portal VM Managed Identity .
Host* (-H)	Required. Azure SQL server name or IP address.
Port (-P)	Optional. Azure SQL server port. Default port is 1433 .
Encrypt (-E)	Optional. Specifies if communication with the database is encrypted. Default is True .
TrustServerCert (-T)	Optional. Specifies whether the SQL server host certificate is trusted. Default is False .
Replace (-R)	Optional. Specifies whether an existing database with the specified name will be deleted before creating the new database. Default is True .
ColumnMasterKey (-CMK)	Optional. Name for the new Always Encrypted master key that will be created for column encryption. Default value is KelverionCMK .
ColumnEncryptKey (-CEK)	Optional. Name for the new Always Encrypted column encryption key. Default value is KelverionCEK .
CertName (-Cert)	Optional. Name for the Column Encryption Certificate used when creating the new ColumnMasterKey. A new certificate is created, with the specified friendly name, when no certificate is found in the Local Machine certificate store, and if CertCreate = true. Existing certificates with the same name are not deleted or overwritten. Default value is Kelverion CMK Certificate .
CertCreate (-CCr)	Optional. Specifies if a new certificate is created when not found. Default is True .

AppSettingsApiPath (-A)	Optional. Specifies the path to the Kelverion Automation Portal API appsettings.json file. Default value is C:/inetpub/Kelverion/Kelverion Automation Portal API/AppSettings.json .
AppSettingsPortalPath (-Ap)	Optional. Specifies the path to the Kelverion Automation Portal appsettings.json file. Default value is C:/inetpub/Kelverion/Kelverion Automation Portal/AppSettings.json .
AppSettingsMonitorPath (-App)	Optional. Specifies the path to the Kelverion Automation Monitor appsettings.json file. Default value is C:/Program Files/Kelverion/Automation Portal/Monitor/AppSettings.json .

To create a new Automation Portal database:

1. Open an Admin command prompt.
2. Change the directory to *C:\Program Files\Kelverion\Automation Portal\Tools\Database Command Line*.
3. Run the **automation-portal-db-cmd.exe DbCreateAz** command with parameters specific to your environment.
4. Confirm the command ran successfully and the database was created correctly.
5. After the IIS Website and database have been correctly configured, you should be able to navigate to the Automation Portal in your browser using <https://<Azure VM name >> or <https://<Azure internal IP Address>>.

Configuring Azure SQL Server Admin

When using the **DbCreateAz** command to create a new Azure database, you will be prompted to sign into the Azure Portal. The user signing in must be configured as an administrator on the target Azure SQL Server, so that the command has the necessary permissions to create and configure the new database.

To configure the Azure SQL Server Admin:

1. Connect to Azure portal and navigate to the Azure SQL Server where the database will be created.
2. Navigate to **Settings > Microsoft Entra ID**.
3. Click **Set Admin**.
4. Select the user to be set as admin. Alternatively, specify a group containing the user to be set as admin.
5. Click **Save**.
6. Make sure to sign into Azure with this user when using the **DbCreateAz** command.

Adding an Azure SQL Server Firewall Rule

Before using the **DbCreateAz** command to create a new database in Azure, you will need to add a firewall rule to allow your Azure IIS server to access your Azure SQL server. For details, see [Adding an Azure SQL Server Firewall Rule](#).

To add an Azure SQL Server firewall rule:

1. Connect to Azure portal and navigate to the Azure SQL Server where the database will be created.
2. Navigate to **Security > Networking**.
3. In the **Firewall rules** section click **Add a firewall rule**.
4. In the **Add a firewall rule** popup:

- a. Specify the rule name.
- b. In the **Start IP** and **End IP** boxes, enter the **public IP address** of the Azure IIS server VM where Automation Portal Website has been installed. You can find the VM public IP address in the **Overview** section of the VM, in the Azure portal.

Configuring Automation Portal VM Managed Identity

The Automation Portal VM uses Azure Managed Identities to connect to the database server. Before creating a new Azure database, you must configure either a system assigned, or user assigned managed identity for the Automation Portal IIS VM.

To configure a system assigned managed identity:

1. Connect to Azure portal and navigate to your Azure VM where the Automation Portal IIS is installed.
2. Navigate to **Security > Identity** and select the **System assigned** tab.
3. Make sure the **Status** setting is turned on. The identity name will be the same as the VM name.
4. To specify the system assigned managed identity when creating the Azure database, specify the identity name (VM name) in the **ManagedIdentityName** parameter.

To configure a user assigned managed identity:

1. Connect to Azure portal and navigate to **Managed Identities**.
2. Create a new managed identity in the same region and resource group where your Azure Portal VM is located.
3. Record the newly managed identity Client ID.
4. Navigate to your Azure Portal VM where the Automation Portal IIS is installed.
5. Navigate to **Security > Identity** and select the **User assigned** tab.
6. Click **+Add** to add the new managed identity to the Portal VM. You may have to re-log into the Azure portal, before the new managed identity is available for assignment.
7. To specify the user assigned managed identity when creating the Azure database, specify the identity name in the **ManagedIdentityName** parameter and the identity Client ID GUID in the **ManagedIdentityClientId** parameter.

DbCreateAz Examples

This first example creates a new Automation Portal database in Azure SQL Server. The system assigned managed identity associated with the portal IIS VM will be used to connect to the database server. The command creates a new self-signed certificate and registers it in the LocalMachine certificate store. This certificate will be used to create SQL Always Encrypted master and column keys.

```
automation-portal-db-cmd.exe DBCreateAz -DBName KolverionPortal -Host
sqlServer.database.windows.net -User Portal-VM\localUser -ManagedIdentityName
Portal-VM
```

You can also use a user assigned managed identity for connecting to the database server. In this case, the managed identity client ID GUID must also be provided.

```
automation-portal-db-cmd.exe DBCreateAz -DBName KelverionPortal -Host
sqlServer.database.windows.net -User Portal-VM\localUser -ManagedIdentityName
My-user-MI -ManagedIdentityClientId A96EC3DB-6658-4444-8AFD-E4E6C5B3B5E2
```

You can also specify the names to use for the Always Encrypted master and column keys, using the **CMK** and **CEK** parameters, respectively.

```
automation-portal-db-cmd.exe DBCreateAz -DBName KelverionPortal -Host
sqlServer.database.windows.net -User Portal-VM\localUser -ManagedIdentityName
Portal-VM -CertName AcmeServiceCert -CMK AcmeCMK -CEK AcmeCEK
```

Updating an Existing Database On-Prem

The **automation-portal-db-cmd** provides the **DbUpdate** command for updating an existing on-premises Automation Portal database. In addition, the **DbConnectionStr** command is used to update connection string configuration in the portal website, after running DbUpdate.

Important: Make sure you back up your existing database before running the DbUpdate and/or DbConnectionStr commands.

Important: The **DbUpdate** and **DbConnectionStr** commands must be run on the IIS server where the Automation Portal website has been installed, and must be run by a user with local administrator privileges, and with sufficient permissions to configure the database on the specified SQL Server.

The **DbUpdate** command has the following parameters:

Parameter	Description
DbName* (-D)	Required. Name of the database to be configured.
Host* (-H)	Required. SQL Server host name or IP address.
Port (-P)	Optional. SQL Server port. Default port is 1433 .
Encrypt (-E)	Optional. Specifies if communication with the database is encrypted. Default is True .
TrustServerCert (-T)	Optional. Specifies whether the SQL server host certificate is trusted. Default is False .

The **DbConnectionStr** command has the following parameters:

Parameter	Description
DbName* (-D)	Required. Name of the database to be configured.
Host* (-H)	Required. SQL Server host name or IP address.
Port (-P)	Optional. SQL Server port. Default port is 1433 .
Encrypt (-E)	Optional. Specifies if communication with the database is encrypted. Default is True .
TrustServerCert (-T)	Optional. Specifies whether the SQL server host certificate is trusted. Default is False .
AppSettingsApiPath (-A)	Optional. Specifies the path to the Kelverion Automation Portal API appsettings.json file. Default value is C:/inetpub/Kelverion/Kelverion Automation Portal API/AppSettings.json .

AppSettingsPortalPath (-Ap)	Optional. Specifies the path to the Kelverion Automation Portal appsettings.json file. Default value is C:/inetpub/Kelverion/Kelverion Automation Portal/AppSettings.json .
AppSettingsMonitorPath (-App)	Optional. Specifies the path to the Kelverion Automation Monitor appsettings.json file. Default value is C:/Program Files/Kelverion/Automation Portal/Monitor/AppSettings.json .

To update an existing Automation Portal database:

1. Open an Admin command prompt.
2. Change the directory to *C:\Program Files\Kelverion\Automation Portal\Tools\Database Command Line*.
3. Run the **automation-portal-db-cmd.exe DbUpdate** command with parameters specific to your environment.
4. Run the **automation-portal-db-cmd.exe DbConnectionString** command with parameters specific to your environment.
5. Confirm the commands ran successfully and the database was updated.
6. After the IIS Website and database have been correctly configured, you should be able to navigate to the Automation Portal in your browser using <https://<Portal FQDN>> or <https://<Portal IP Address>>.

DbUpdate Example

The following updates an existing Automation Portal database in SQL Server. The command specifies the DbName and Host parameters, and uses defaults for Port, Encrypt and TrustServerCert parameters, respectively.

```
automation-portal-db-cmd.exe DbUpdate -DbName KelverionPortal -Host
sqlServer.acme.com
```

DbConnectionString Example

The following configures the Automation Portal connection string. The command specifies the DbName and Host parameters, and uses defaults for AppSettingsApiPath, AppSettingsPortalPath, as well as Port, Encrypt and TrustServerCert parameters, respectively.

```
automation-portal-db-cmd.exe DbConnectionString -DbName KelverionPortal -Host
sqlServer.acme.com
```

Updating an Existing Database in Azure

The **automation-portal-db-cmd** provides the **DbUpdateAz** command for updating an existing Azure Automation Portal database. In addition, the **DbConnectionStringAz** command is used to update connection string configuration in the portal website, after running DbUpdateAz.

Important: Make sure you back up your existing database before running the DbUpdateAz and/or DbConnectionStringAz commands.

Important: The **DbUpdateAz** and **DbConnectionStringAz** commands must be run on the Azure IIS server where the Automation Portal website has been installed, and must be run by a user with local administrator privileges.

Important: When using the **DbUpdateAz** command you will be prompted to sign into the Azure Portal. Make sure to sign in with an Azure user that has been configured as administrator on the target Azure SQL Server, so that the command has the necessary permissions to create and configure the new database. For details see [Configuring Azure SQL Server Admin](#).

The **DbUpdateAz** command has the following parameters:

Parameter	Description
DbName* (-D)	Required. Name of the database to be configured.
Host* (-H)	Required. Azure SQL Server name or IP address.
ManagedIdentityName* (-MIn)	Required. Specifies the name of the system or user assigned managed identity that is used to connect to the Azure SQL database.
ManagedIdentityClientId (-MId)	Optional. Managed identity client ID, when ManagedIdentityName specifies a user assigned managed identity.
Encrypt (-E)	Optional. Specifies if communication with the database is encrypted. Default is True .
TrustServerCert (-T)	Optional. Specifies whether the SQL server host certificate is trusted. Default is False .

The **DbConnectionStrAz** command has the following parameters:

Parameter	Description
DbName* (-D)	Required. Name of the database to be configured.
Host* (-H)	Required. SQL Server host name or IP address.
ManagedIdentityName* (-MIn)	Required. Specifies the name of the system or user assigned managed identity that is used to connect to the Azure SQL database.
ManagedIdentityClientId (-MId)	Optional. Managed identity client ID, when ManagedIdentityName specifies a user assigned managed identity.
Encrypt (-E)	Optional. Specifies if communication with the database is encrypted. Default is True .
TrustServerCert (-T)	Optional. Specifies whether the SQL server host certificate is trusted. Default is False .
AppSettingsApiPath (-A)	Optional. Specifies the path to the Kelverion Automation Portal API appsettings.json file. Default value is C:/inetpub/Kelverion/Kelverion Automation Portal API/AppSettings.json .
AppSettingsPortalPath (-Ap)	Optional. Specifies the path to the Kelverion Automation Portal appsettings.json file. Default value is C:/inetpub/Kelverion/Kelverion Automation Portal/AppSettings.json .
AppSettingsMonitorPath (-App)	Optional. Specifies the path to the Kelverion Automation Monitor appsettings.json file. Default value is C:/Program Files/Kelverion/Automation Portal/Monitor/AppSettings.json .

To update an existing Azure Automation Portal database:

1. Open an Admin command prompt.
2. Change the directory to *C:\Program Files\Kelverion\Automation Portal\Tools\Database Command Line*.

3. Run the **automation-portal-db-cmd.exe DbUpdateAz** command with parameters specific to your environment.
4. Run the **automation-portal-db-cmd.exe DbConnectionStrAz** command with parameters specific to your environment.
5. Confirm the commands ran successfully and the database was updated.
6. After the IIS Website and database have been correctly configured, you should be able to navigate to the Automation Portal in your browser using <https://<Portal FQDN>> or <https://<Portal IP Address>>.

DbUpdateAz Example

The following updates an existing Automation Portal database in Azure SQL Server. The command specifies the DbName and Host parameters, and the ManagedIdentityName parameter with the system assigned managed identity (VM name).

```
automation-portal-db-cmd.exe DbUpdateAz -DbName KelverionPortal -Host
sqlServer.database.windows.net -ManagedIdentityName Portal-VM
```

DbConnectionStrAz Example

The following configures the Automation Portal connection string. The command specifies the DbName and Host parameters, and the ManagedIdentityName and ManagedIdentityClientId parameters for the user assigned managed identity.

```
automation-portal-db-cmd.exe DbConnectionStrAz -DbName KelverionPortal -Host
sqlServer.database.windows.net -ManagedIdentityName My-user-managed-identity
-ManagedIdentityClientId A96EC3DB-6658-4444-8AFD-E4E6C5B3B5E2
```

Configuring a Database User On-Prem

The **automation-portal-db-cmd** provides the **DbUser** command for configuring a new user on an existing on-premises Automation Portal database. The command is also used for configuring the existing column encryption certificate for the new user. The previously configured database user is not removed from the database.

Important: Make sure you back up your existing database before running the DbUser command.

Important: When configuring a new database user, make sure the same user is also configured as IIS website identity service account.

Important: The **DbUser** command must be run on the IIS server where the Automation Portal website has been installed, and must be run by a user with local administrator privileges, and with sufficient permissions to configure the database on the specified SQL Server.

Important: Exercise caution when working with the Column Encryption Certificate. This certificate is used for encrypting/decrypting data in the Automation Portal database. Deleting or modifying this certificate may result in data no longer being accessible. Make sure to always back up your database before making changes.

The **DbUser** command has the following parameters:

Parameter	Description
-----------	-------------

DbName* (-D)	Required. Name of the database to be configured.
Host* (-H)	Required. SQL Server host name or IP address.
User* (-U)	Required. New domain user to be configured for database access and column encryption certificate access, in the form <domain>\<username> . This user must also be configured as the IIS website app pool identity service account.
Port (-P)	Optional. SQL Server port. Default port is 1433 .
Encrypt (-E)	Optional. Specifies if communication with the database is encrypted. Default is True .
TrustServerCert (-T)	Optional. Specifies whether the SQL server host certificate is trusted. Default is False .
CertName (-Cert)	Optional. Name for the existing Column Encryption certificate in the Local Machine certificate store. Default value is Kelverion CMK Certificate .

To update the user for an existing Automation Portal database:

1. Open an Admin command prompt.
2. Change the directory to *C:\Program Files\Kelverion\Automation Portal\Tools\Database Command Line*.
3. Run the **automation-portal-db-cmd.exe DbUser** command with parameters specific to your environment.
4. Confirm the commands ran successfully and the database user was configured correctly.
5. After the database user has been correctly configured, you should be able to navigate to the Automation Portal in your browser using <https://<Portal FQDN>> or <https://<Portal IP Address>>.

DbUser Example

The following adds a new user for an existing Automation Portal database. The command specifies the DbName, Host and User parameters, and uses the default Column Encryption certificate.

```
automation-portal-db-cmd.exe DbUser -DbName KelverionPortal -Host
sqlServer.acme.com -User acme\another.service.account
```

Configuring a Managed Identity and User in Azure

The **automation-portal-db-cmd** provides the **DbUserAz** command for configuring a managed identity on an existing Azure Automation Portal database. The command is also used for configuring the existing column encryption certificate for a new user. The previously configured database managed identity is not removed from the database.

Important: Make sure you back up your existing database before running the **DbUserAz** command.

Important: The **DbUserAz** command must be run on the Azure IIS server where the Automation Portal website has been installed, and must be run by a user with local administrator privileges.

Important: When using the **DbUserAz** command you will be prompted to sign into the Azure Portal. Make sure to sign in with an Azure user that has been configured as administrator on the target Azure SQL Server, so that the command has the necessary permissions to create and configure the new database. For details see [Configuring Azure SQL Server Admin](#).

Important: Exercise caution when working with the Column Encryption Certificate. This certificate is used for encrypting/decrypting data in the Automation Portal database. Deleting or modifying this certificate may result in data no longer being accessible. Make sure to always back up your database before making changes.

The **DbUserAz** command has the following parameters:

Parameter	Description
DbName* (-D)	Required. Name of the database to be configured.
Host* (-H)	Required. SQL Server host name or IP address.
User* (-U)	Required. Local machine user to be configured for column encryption certificate access. This must be the same as the IIS website identity service account that was specified during the IIS Website Installation . The user must be specified in the form <computername>\<username> , where <computername> is the computer name of the Azure IIS web server machine, which may be truncated from the Azure VM name. For example, for the VM name Kelverion-Portal-VM , the user should be Kelverion-Portal\service.account .
ManagedIdentityName* (-MIn)	Required. Specifies the name of the system or user assigned managed identity that is used to connect to the Azure SQL database.
ManagedIdentityClientId (-MIc)	Optional. Managed identity client ID, when ManagedIdentityName specifies a user assigned managed identity.
TrustServerCert (-T)	Optional. Specifies whether the SQL server host certificate is trusted. Default is False .
CertName (-Cert)	Optional. Name for the existing Column Encryption certificate, in the Local Machine certificate store. Default value is Kelverion CMK Certificate .

To update the user for an existing Automation Portal database:

1. Open an Admin command prompt.
2. Change the directory to *C:\Program Files\Kelverion\Automation Portal\Tools\Database Command Line*.
3. Run the **automation-portal-db-cmd.exe DbUserAz** command with parameters specific to your environment.
4. Confirm the commands ran successfully and the database user was configured correctly.
5. After the database user has been correctly configured, you should be able to navigate to the Automation Portal in your browser using <https://<Portal FQDN>> or <https://<Portal IP Address>>.

DbUserAz Example

The following adds a new user/managed identity for an existing Automation Portal database. The command specifies the DbName, Host and User parameters, and uses the default Column Encryption certificate.

```
automation-portal-db-cmd.exe DbUserAz -DbName KelverionPortal -Host
sqlServer.acme.com -User acme\another.service.account -ManagedIdentityName
Portal-VM
```


Automation Portal Users

The Automation Portal uses Microsoft Entra ID for authentication and authorization. Every user added to the portal must be assigned one of the following roles.

- The **Administrator** role has full permissions for all Automaton Portal pages and tools.
- The **Developer** role has permissions for creating and editing services, offerings, and wiki items.
- The **Operator** role has permissions for submitting and managing requests and viewing wiki content.

To add a user to the Automation Portal:

1. Login to Microsoft Azure portal.
2. On the navigation bar, select **Microsoft Entra ID**.
3. Select **Enterprise applications**.
4. Open the Kelverion Automation Portal enterprise application.
5. Select **Users and groups**.
6. Click **Add user/group**.
7. On the **Add Assignment** page under **Users**. Select **None Selected**.
8. Select one or more users.
9. Click **Select**.
10. On the **Add Assignment** page under **Select a role**. Select **None Selected**.
11. Select a role (e.g., administrator, developer, or operator).
12. Click **Select**.
13. Review the selected users and role.
14. Click **Assign**.

Firewall Configuration

You must ensure that your firewall has inbound rules for the ports that are used by the Automation Portal website and API, which by default are ports 443 and 8443, respectively. If you used other ports during your Automation Portal installation, ensure that the appropriate inbound rules have been configured.

Failure to add a firewall rule for the API port will result in the portal failing with the error message: "Something went wrong. Cannot read properties of undefined (reading 'data'). Please refer to your system administrator."

On-Prem High Availability (HA) Deployment

The baseline configuration for a portal High availability (HA) deployment is using the Windows Server Network Load Balancing (NLB) feature, and the instructions below describe its configuration. The portal has also been validated in HA mode deployed to Azure using a Virtual Machines (IaaS), and an Azure Load Balancer. The configuration process for the portal is the same as documented below when allowing for the infrastructure differences between your environment and our documented steps using Windows NLB.

Note: Additional licensing fees apply. Please speak to your account manager regarding support for other HA configurations.

Additional System Requirements:

- Network Load Balancing feature installed.
- Each Server in the cluster must have all System Requirements installed with matching versions of ASP.NET.

To deploy the Automation Portal High Availability:

1. Configure a cluster of IIS servers by installing the NLB Windows Server Feature.
<https://docs.microsoft.com/en-us/windows-server/networking/technologies/network-load-balancing>
2. Complete the On-Prem install steps above on the first Host (Host A) in the Cluster.
3. On Host A, export the two certificates:
 - a. The web certificate.
 - b. The database certificate **Kelverion CMK Certificate**.
4. On Host A, replace IP address and FQDN with the **NLB IP address** and **FQDN** in the following files:
 - a. The **Content-Security-Policy** in the **C:\inetpub\Kelverion\Kelverion Automation Portal\appsettings.json**

```
https://nlb-automationportal.AD.net:8443 https://10.10.10.10:8443 blob: data:: connect-src \u0027se
https://nlb-automationportal.AD.net:8443 https://10.10.10.10:8443
https://login.microsoftonline.com/79e07d0b-c666-4b51-a7fe-24858d198b0a/oauth2/v2.0/token https://a
https://api.simplesvg.com https://api.unisvg.com; frame-src \u0027self\u0027 https://login.microsof
form-action \u0027self\u0027; manifest-src \u0027self\u0027; frame-ancestors \u0027self\u0027; ",
"ConnectionStrings": {
  "PortalConnection": "Data Source=tcp:SQL.AD.net,1433;Initial Catalog=AutomationPortal;Integrated
```

- b. The **window.ApiConfig** in the **C:\inetpub\Kelverion\Kelverion Automation Portal\wwwroot\configuration\apiConfig.js**

```
window.ApiConfig = {"ENTRA_ID_AUTHORITY": "https://login.microsoftonline.com/al
"ENTRA_ID_CLIENT_ID": "alb2c3-a261-4dd6-a908-16cce420dd92", "ENTRA_ID_SCOPE":
"api://alb2c3-a261-4dd6-a908-16cce420dd92/user_impersonation", "PORTAL_API_URL":
"https://nlb-automationportal.AD.net:8443/api/V2"};
```

- c. The **CORS** in the **C:\inetpub\Kelverion\Kelverion Automation Portal API\web.config**

```
<cors enabled="true">
  <add allowCredentials="true" maxAge="120" origin="https://nlb-automationportal.ad.net"
    <allowHeaders allowAllRequestedHeaders="true"/>
    <allowMethods>
      <add method="GET"/>
      <add method="HEAD"/>
      <add method="POST"/>
      <add method="PUT"/>
      <add method="PATCH"/>
      <add method="DELETE"/>
    </allowMethods>
  </add>
  <add allowCredentials="true" maxAge="120" origin="https://10.10.10.10"
    <allowHeaders allowAllRequestedHeaders="true"/>
```

5. In Azure, update the Authentication in App registrations:
 - a. Navigate to **Azure Portal Microsoft Entra ID**.
 - b. Navigate to **Manage > App registrations** and locate your Automation Portal app registration.
 - c. Navigate to **Manage > Authentication**.
 - d. Under **Web Redirect URIs**, update the URI with the NLB IP address and FQDN. For example:
<https://10.10.10.10:8443/oauth2-redirect.html> and **<https://nlb-automationportal.AD.net:8443/oauth2-redirect.html>**

- e. Under **Single-page application Redirect URIs**, update the URI with the NLB IP address and computer name. For example: **https:// 10.10.10.10/** and **https://nlb-automationportal.AD.net/**
 - f. Click **Save**.
6. Create two websites in each additional host:
 - a. Copy the folder **C:\Inetpub\Kelverion** from Host A to all other hosts in the cluster, in the same location **C:\Inetpub\Kelverion**.
 - b. Copy the web certificate from Host A to each additional host and import to IIS.
 - c. Open IIS.
 - d. Right click on **Sites** and select **Add Website**.
 - e. Enter the Site name **Kelverion Automation Portal**.
 - f. Select the Physical path **C:\inetpub\Kelverion\Kelverion Automation Portal**.
 - g. Adjust any other settings to match Host A.
 - h. Click OK.
 - i. Right click on **Sites** and select **Add Website**.
 - j. Enter the Site name **Kelverion Automation Portal API**.
 - k. Select the Physical path **C:\inetpub\Kelverion\Kelverion Automation Portal API**.
 - l. Adjust any other settings to match Host A.
 - m. Click OK.
 - n. In the **Application Pools**, update the Identity of both "Kelverion Automation Portal" and "Kelverion Automation Portal API". The identity should be the IIS website identity service account used in Host A.
7. Update the permission of the logo folder in each additional host:
 - a. Right click on the folder **C:\inetpub\Kelverion\Kelverion Automation Portal\wwwroot\logo**.
 - b. Click **Properties**.
 - c. Click the **Security** tab.
 - d. Click Edit and Add the IIS website identity service account with Read and Write permissions. The account and permissions should be the same as Host A.
8. Update the permission of the database certificate in each addition host:
 - a. Copy the Database certificate from Host A to each additional host.
 - b. Open the **Manage computer certificates** and navigate to Personal > Certificates.
 - c. Import the database certificate that was exported from Host A.
 - d. Right-click the certificate Kelverion CMK Certificate, All Tasks -> **Manage Private Key**.
 - e. Add the same service user as IIS identity pool.
9. Restart the IIS servers.
10. From a supported web browser, navigate to the Portal using the NLB FQDN.
11. Upload a license to the Portal, see [Uploading License](#).

Configuring Azure IIS Website for External Access

After installing the Automation Portal in Azure, additional configuration steps are required to make the portal externally accessible.

As an example, the following steps outline the process for configuring the Automation Portal for external access by using the Azure VM public IP address. This may vary depending on your Azure environment, but the general steps would be similar. You can find the Automation Portal VM public IP address in the **Overview** tab of the VM.

1. [Configure Inbound Port Rule](#)
2. [Update App Registration Redirect URLs](#)
3. [Configure IIS CORS RULE](#)
4. [Configure Content Security Policy](#)
5. [Configure Automation Portal API URL](#)
6. Update IIS Server Certificate
7. After the Azure IIS Website and database have been correctly configured, you should be able to navigate to the Automation Portal in your browser using `https://<Azure external IP Address>`

Configure Inbound Port Rule

An inbound port rule must be configured on the Automation Portal VM to allow incoming traffic to access the website.

To configure the Automation Portal VM inbound port rule:

1. Navigate to **Automation Portal VM > Networking > Network settings**.
2. In the **Rules** section, click on **Create port rule > Inbound port rule**.
3. Set **Source** to **Any**.
4. Set **Source port ranges** to *****.
5. Set **Destination** to **Any**.
6. Configure **Destination port ranges** with the IIS ports configured for the Kelverion Automation Portal and Kelverion Automation Portal API websites, respectively. Default port values in the Automation Portal are **443, 8443**.
7. Set **Protocol** to **TCP**.
8. Set **Action** to **Allow**.
9. Set **Priority** as suggested.
10. Click **Save**.

Configure Inbound Firewall Rule

An inbound Windows firewall rule must be configured on the Automation Portal VM machine to allow incoming traffic to access the website.

To configure the Automation Portal VM inbound Windows firewall rule:

1. On the Automation Portal VM machine, open **Windows Defender Firewall**.
2. Expand the tree view and right click on Inbound Rules to add a new **Inbound Rule**.
3. Specify Rule Type as **Port**.
4. Configure allowed TCP ports with the IIS ports configured for the Kelverion Automation Portal and Kelverion Automation Portal API websites, respectively. Default port values in the Automation Portal are **443, 8443**. Your firewall may already allow connection on port 443.

5. Specify **Domain** and **Private** profiles for the rule.
6. Specify a rule **Name** and click **Finish**.

Update App Registration Redirect URLs

The Azure Portal App Registration must be updated to specify new redirect URLs with the Automation Portal VM public IP address:

To configure the VM public IP address in the app registration:

1. Navigate to **Azure Portal Microsoft Entra ID**.
2. Navigate to **Manage > App registrations** and locate your Automation Portal app registration.
3. Navigate to **Manage > Authentication**.
4. Under **Web Redirect URIs** add a new URI with the Portal VM public IP address. For example:
https://20.12.215.184/oauth2-redirect.html
5. Under **Single-page application Redirect URIs** add a new URI with the Portal VM public IP address. For example: **https://20.12.215.184/**
6. Click **Save**.

Configure IIS CORS Rule

A new IIS CORS rule must be added to list the Automation Portal VM public IP address as a valid origin.

To configure a new IIS CORS rule for the VM Public IP Address:

1. Connect to your Portal Azure IIS VM using Remote Desktop.
2. Navigate to the folder where the Kelverion Automation Portal API has been installed. By default, this is **C:\inetpub\Kelverion\Kelverion Automation Portal API**.
3. Use a text editor with Administrator elevated privileges to edit the **web.config** XML file.
4. Under the **configuration/system.webServer/cors** XML element configure a new **add** section. The new section should be like the existing ones but will specify the public IP address as the origin:

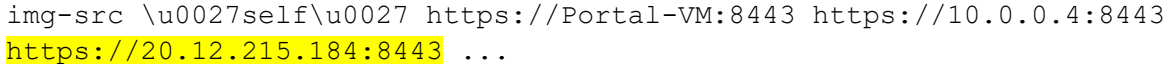
```
<add allowCredentials="true" maxAge="120" origin="https://20.12.215.184">
  <allowHeaders allowAllRequestedHeaders="true"/>
  <allowMethods>
    <add method="GET"/>
    <add method="HEAD"/>
    <add method="POST"/>
    <add method="PUT"/>
    <add method="PATCH"/>
    <add method="DELETE"/>
  </allowMethods>
</add>
```

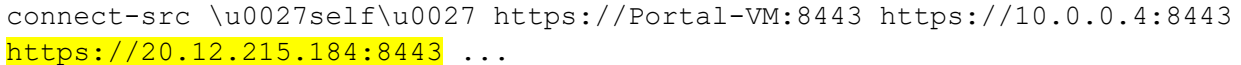
5. Save the **web.config** file.
6. Restart the **Kelverion Automation Portal API** website.

Configure Content Security Policy

The Automation Portal Content Security Policy must be modified to permit the Automation Portal VM as a valid source.

To configure the Content Security Policy:

1. Connect to your Portal Azure IIS VM using Remote Desktop.
2. Navigate to the folder where the Kelverion Automation Portal has been installed. By default, this is **C:\inetpub\Kelverion\Kelverion Automation Portal**.
3. Use a text editor with Administrator elevated privileges to edit the **appsettings.json** configuration file.
4. Locate **Content-Security-Policy** in the appsettings.json file. This contains a semi-colon separated list of policy settings. You will have to modify the **img-src** and **connect-src** settings.
5. Locate the **img-src** setting and add a URL that includes the Automation Portal VM public IP address. Make sure to also configure the API port (default 8443). For example, the modified img-src should look like this:



```
img-src \u0027self\u0027 https://Portal-VM:8443 https://10.0.0.4:8443 https://20.12.215.184:8443 ...
```
6. Locate the **connect-src** setting and add a URL that includes the Automation Portal VM public IP address. Make sure to also configure the API port (default 8443). For example, the modified connect-src should look like this:


```
connect-src \u0027self\u0027 https://Portal-VM:8443 https://10.0.0.4:8443 https://20.12.215.184:8443 ...
```
7. Save the appsettings.json file.
8. Restart the **Kelverion Automation Portal** website.

Configure Automation Portal API URL

The Automation Portal API URL must be modified to use the Automation Portal VM IP address.

To configure the Content Security Policy:

1. Connect to your Portal Azure IIS VM using Remote Desktop.
2. Navigate to the folder where the Kelverion Automation Portal has been installed. By default, this is **C:\inetpub\Kelverion\Kelverion Automation Portal**.
3. Navigate into the **wwwroot\configuration** folder and locate the **apiConfig.js** file.
4. Use a text editor with Administrator elevated privileges to edit the **apiConfig.js** file.
5. Locate the **PORTAL_API_URL** setting and update it with a URL that contains the Automation Portal VM public IP address. Make sure to also configure the API port (default 8443). For example, the modified PORTAL_API_URL should look like this:


```
"PORTAL_API_URL": "https://20.12.215.184:8443/api/v2"
```
6. Save the **apiConfig.js** file.
7. Restart the **Kelverion Automation Portal** website.

Update IIS Server Certificate

To avoid certificate warnings when accessing the Automation Portal website with the public IP address, the public IP address must be included in the IIS certificate.

Licensing your Automation Portal

After installing the portal, you must provide a valid Kelverion license to activate the portal.

Provide the **Server ID** value found on the **Setup > Settings** page to Kelverion when requesting a license.

Alternatively run this PowerShell command on the target IIS server:

```
(Get-CimInstance -ClassName Win32_ComputerSystemProduct).UUID
```

To apply your license:

1. Select **Setup > Settings**.
2. In the **License** section, click **Upload license**.
3. Click **browse for files** or drag and drop a file into the drop-zone.
4. Click **Upload**.

License Notifications

The Kelverion Automation portal will notify administrators when the current license is less than 30 days from expiring and when the user capacity is nearing capacity. License notifications will be displayed every 30 minutes and can be closed by clicking **X**.



Licensing: Your licensed user capacity is at 90 percent. Please contact **Kelverion support** for assistance.



Getting Started

Logging In

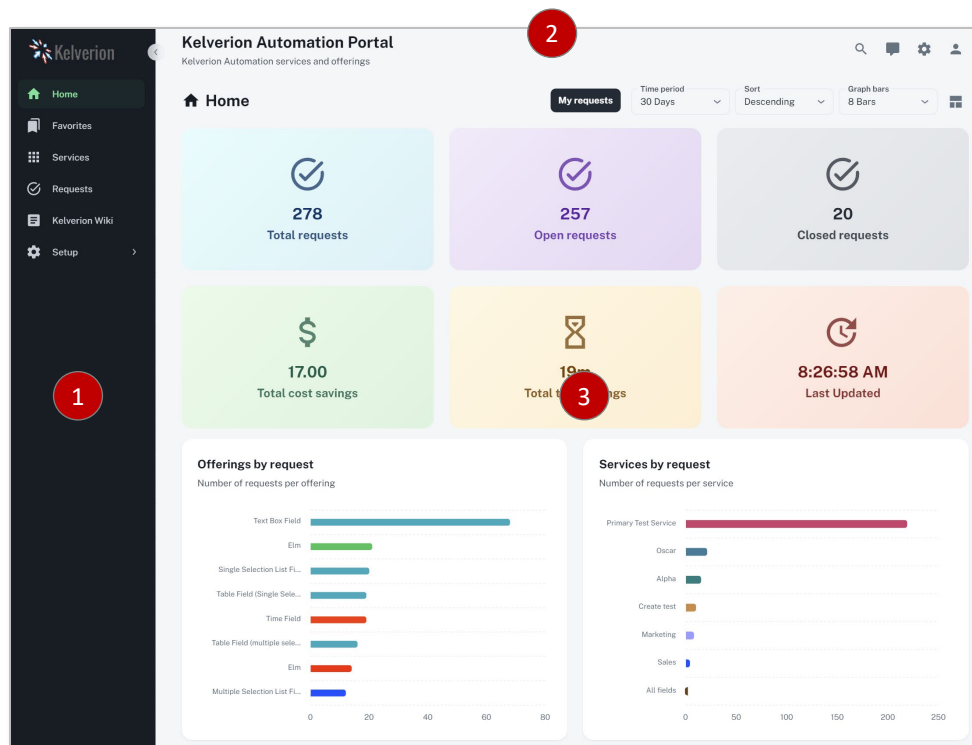
Login to the Kelverion Automation Portal from your web browser using your Microsoft Entra ID account.

1. Open a web browser and go to URL provided by your portal administrator.
2. On the **Login** page, click **Login**.
3. Enter your Microsoft Entra ID credentials.

Overview of the User Interface

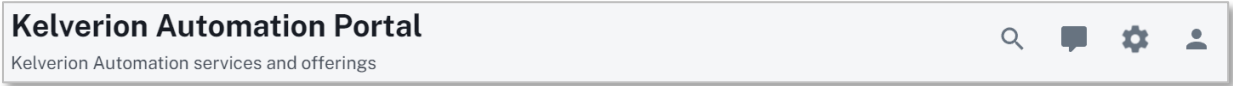
The Kelverion Automation Portal user interface is composed of three main sections.

1. The **Application bar** is located at the top of the user interface and provides access to search, feedback and help, display settings and your user profile.
2. The **Navigation bar** appears on the left side of the user interface by default and provides access to all available pages.
3. The **Content view** takes up the remaining space of the user interface and displays the pages of the portal, including your home page, services, offerings, and requests.



Application Bar


The **application bar** appears at the top of the Automation Portal window. The application bar displays the name of your portal and provides quick access buttons to access universal search, feedback/support, display settings and your user account.



Universal Search

The universal search tool lets you search for Automation Portal resources, including services, offerings, service folders, wiki folders and wiki documents.


To search for Automation Portal resources:

1. On the application bar, click the **search** button ().
2. On the search dialog, enter the text of the item that you are looking for. The dialog will display a list of items that match the text that you entered. The tag on the right identifies what type of resource the item is.
3. Click on the desired item. The page for that item is opened in the Content frame.

Feedback

The feedback tool provides you with a way to send feedback to Automation Portal administrators.


To send feedback:

1. On the application bar, click the **feedback** button ().
2. In the **Comment** box, enter the feedback that you want to send.
3. Click **Submit**.

Display Settings

As an Automation Portal user, you can customize some aspects of the layout and appearance. You can switch between light and dark modes, improve the contrast between foreground and background, control where the navigation bar appears and choose an accent color.


To change your display settings:

1. On the application bar, click the **display settings** button ().
2. Select between **light** and **dark** modes.
3. Select **hi** or **low** contrast.
4. Select the **layout** of the navigation bar.
5. Select an **accent color**.

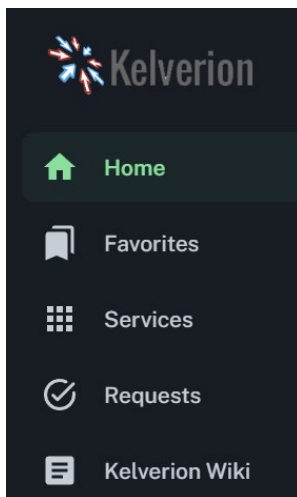
Account Profile

The account profile displays the name of the user that is connected to the Automation Portal and provides a logout option.

To log out of the portal:

1. On the application bar, click the **profile** button ().
2. Click **Logout**.
3. You are taken to the Automation Portal login screen.

Navigation Bar




The **Navigation bar** provides links that you can use to open the pages that are available to you. By default, the navigation bar appears on the left side of the portal window; however, you can also choose to display the Navigation bar horizontally beneath the Application bar.

Collapse or expand the navigation bar by clicking the < button or > button, respectively.

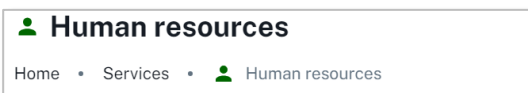
If you collapse the width of the browser window sufficiently, the navigation bar will be hidden and replaced with a navigation button in the top left corner of the portal. Clicking the navigation button opens the navigation bar as a drawer, which will close when you select a page.

Note: If you login as an administrator, the navigation bar will include a **Setup** option that can be expanded to access pages for configuring the portal and for creating and managing the services and offerings that the portal will provide.

Content View

The **Content view** is where the current Automation Portal page is displayed. When you first login to the Automation Portal the Content view will display your **Home** page. Return to the Home page at any time by clicking the **Home** button () on the navigation bar.

Many of the pages that will be displayed in the Content view include **Breadcrumb bar** that contains links that you can use to navigate the Automation Portal. Some Breadcrumb bars, especially those on setup pages, will also include buttons for tasks related to the page.



The Automation Portal is organized into six primary categories:

- The **Home** page provides a landing page for operators and administrators. The Home page provides an overview of the current state of your portal and quick access to your requests.
- The **Favorites** page displays a list of your favorite offerings.
- The **Services** page displays a list of all the services and offerings that are available to you.
- The **Requests** page displays all your requests, requests from other team members and requests that require your approval.
- The **Wiki** page displays wiki documents that were created to help you use the Automation Portal.
- The **Setup** page is available when you login as an administrator and provides resources and tools for managing your Automation Portal and creating and managing content.

Setup and Administration

The Automation Portal provides administrators with a collection of pages to support customization, building and managing content and for viewing feedback and diagnosing issues.

- The **Settings** page provides options for customizing your portal and managing your license.
- The **Services** page provides tools for creating and managing services and offerings.
- The **Lists** page provides tools for creating and managing lists for list fields.
- The **Connections** page provides tools for creating and managing database connections.
- The **Queries** page provides tools for creating and managing queries for list and table fields.
- The **Permissions** page provides tools for managing group permissions for offerings.
- The **Wiki** page provides tools for creating and managing wiki items.
- The **Integrations** menu provides integration options.
 - The **Webhooks** page provides tools for creating and managing webhook integrations
- The **Logs** page displays log entries that can be used to diagnose issues with your portal.
- The **Feedback** page displays feedback entries from portal operators.
- The **About** page displays information about your portal instance.

Settings Page

The **Settings** page provides Automation Portal administrators with options for customizing the appearance and behavior of the portal. To open the Settings page, select **Setup > Settings** on the navigation bar. The Settings page is organized into **License**, **Customization**, **Request** and **Wiki** sections.

License

The **License** section displays information about your current Automation Portal license, including status, type, contact information, expiry date and user count. It also lets you update your license.

To update your Automation Portal license:

1. On the **License** section, click **Upload license**.
2. Click **browse for files** or drag and drop a file into the drop-zone.
3. Click **Upload**.

Customization

The **Customization** section provides options for customizing the appearance of the portal.

1. In the **Portal name** box, enter the name of the portal. This name is displayed in bold font on the Application bar.
2. In the **Portal description** box, enter a brief description. This description is displayed beneath the portal name on the Application bar.
3. Select a **Currency symbol** to be displayed with monetary values.

4. In the **Dashboard refresh interval** box, enter an interval in seconds that will be used to periodically refresh the **Home** page dashboard.
5. In the **Support link** box, enter a support link for your organization. Operators use the support link to contact your organization's technical support team.
6. Click **Save changes**.

Note: You can completely customize the appearance of the portal for all users using a custom theme file. For more information see [Theme Customization](#).

Request

The **Request** section provides options for changing the behavior of the request submission form.

1. In the **Query timeout** box, enter the number seconds for database queries to run before timing out.
2. In the **Request attachment max size** box, enter the maximum file size in MB for file attachment fields.
3. To require approvers to enter a reason when rejecting a request, turn on the **Require a reason to reject a request** switch.
4. To stay on the new request form after submitting a request, turn on the **Stay on request** switch.
5. Click **Save changes**.

Wiki Section

The **Wiki** section provides options for customizing the appearance and behavior of your wiki.

To change the name of the Wiki:

1. In the **Wiki name** box, enter the name of the Wiki. This name will be displayed in the navigation bar.
2. Click **Save changes**.

The portal wiki can be enabled or disabled as needed.

To disable the Wiki page:

1. On the top right corner of the **Wiki** card, turn off the **Enabled** switch.
2. Click **Save changes**.

To enable the Wiki page:

1. On the top right corner of the **Wiki** card, turn on the **Enabled** switch.
2. Click **Save changes**.

Maintenance Tasks

The **Settings** page also provides administrators with maintenance tools, including the ability to purge log and feedback entries and deleted items. *Purged items are permanently removed from the portal database and cannot be recovered.*

To purge all log entries:

1. On the toolbar click **Maintenance** and then click **Purge logs**.

2. On the confirmation dialog, click **Purge**.

To purge all feedback entries:

1. On the toolbar click **Maintenance** and then click **Purge feedback**.
2. On the confirmation dialog, click **Purge**.

To purge all deleted resources:

1. On the toolbar click **Maintenance** and then click **Purge deleted items**.
2. On the confirmation dialog, click **Purge**.

Services Page

The **Services page** provides administrators with tools to create and manage the services and offerings that will be provided by the portal. Open the Services page by selecting **Setup > Services** on the navigation bar.

To create a new service:

1. Click **New service**.
2. In the **Name** box, enter the name of the service.
3. In the **Description** box, enter a brief description of what the service does.
4. Select **Change icon** to change the icon that is used to display the service.
5. Select **Change color** to change the color of the icon used to display the service.
6. Click **Create service**.

When you create a new service the Automation Portal automatically opens the service and selects the **Offerings** tab so that you can start adding folders and offerings to your service. Folders are used to organize a collection of related offerings within a service. You cannot create a folder within a folder.

To open an existing service, on the service list click the service's **Name** or click the **more** button (**:**) and then select **View**.

In the Services **Integrations** tab you can configure root, or global, integrations. Root integrations are invoked for all portal requests. For details, please refer to the [Integration](#) section.


To add root level integrations:

1. On the services page select the **Integrations** tab.
2. Click **Add Integration**.
3. In the **Type** box, select the integration type.
4. In the **Integration** box, select the integration.
5. In the **Request state** box, select the request state that will trigger the integration.
6. Continue adding integrations to the list as needed.
7. Click **Save changes**.

To add a folder to a service:

1. Open the service that you want to add the folder to.

2. Click **New folder**.
3. In the **Name** box, enter the name of the folder.
4. In the **Description** box, enter a brief description of the folder.
5. To make the folder available to mobile devices, turn on the **Mobile enabled** toggle.
6. Click **Create folder**.

When you create a new folder the Automation Portal will automatically open the folder and select the **Offerings** tab so that you can start adding offerings to the folder. To open an existing folder, on the service list click the folder's **Name** or click the **more** button () and then select **View**.

To add an offering to a service or folder.

1. Click **New offering**.
2. In the **Name** box, enter the name of the offering.
3. In the **Description** box, enter a brief description of what the offering does.
4. In the **Tag** box, enter an optional tag to help manage the offering.
5. Select **Change icon** to change the icon used to display the offering.
6. Select **Change color** to change the color of the icon used to display the offering.
7. To make the offering available to mobile devices, turn on the **Mobile enabled** toggle.
8. If the offering requires an external reference identifier, turn on the **Requires External Ref. ID** toggle.
9. Click **User Groups** to select the Microsoft Entra ID groups that will have permission to create requests for this offering. Users in these groups can only view and manage their own requests.
10. Click **Team Groups** to select the Microsoft Entra ID groups that will have permission to create requests for this offering and view and manage the requests made by others in their groups.
11. Click **Approval Groups** to select Microsoft Entra ID groups that have permission to approve and reject the requests made for this offering. Adding one or more groups automatically flags the offering as requiring group approval.
12. In the **Cost Saved** box, enter an optional cost saved by using this offering.
13. In the **Time Saved** box, enter the time saved, in total minutes, by using this offering.
14. Click **Create offering**.

Once you have created an offering, the Automation Portal will automatically open the offering and select the **Fields** tab so that you can start adding fields to your offering. The Automation Portal provides several types of fields including fields for text, fields for date and time and fields for selecting values and database content.

Integrations can also be configured at the service, folder or offering level. Service and folder integrations are invoked for requests corresponding to offerings that are contained that service or folder. Offering integrations are invoked for requests corresponding to the offering. For details, please refer to the [Request Integration](#) section in [Working With the Automation Portal](#).

To add an integration to a service, folder or offering:

1. Open the service, folder or offering that you want to add the integration to.
2. On the service, folder or offering page select the **Integrations** tab.
3. Click **Add Integration**.
4. In the **Type** box, select the integration type.


5. In the **Integration** box, select the integration.
6. In the **Request state** box, select the request state that will trigger the integration.
7. Continue adding integrations to the list as needed.
8. Click **Save changes**.

To add new field a to an offering:

1. On the **Offering** page select the **Fields** tab.
2. Click **New field**.
3. In the **Name** box, enter the name of the field.
4. In the **Type** box, select the field type. The default is **Text Box**, but you can also select:
 - **Date** fields provide a date picker.
 - **DateTime** fields provide a date and time picker.
 - **File Attachment** fields provide a browser for uploading attachments.
 - **Hidden** fields are not displayed on the offering form, but the assigned value will be submitted with requests for this offering and can be used by your automation runbooks.
 - **List Multiple Selection** fields provide a drop-down list that can be used to select one or more values.
 - **List Single Selection** fields provide a drop-down list that can be used to select a single value.
 - **Radio Button** fields provide an alternate way for selecting a single value from a concise list of options.
 - **Secure Text Box** fields provide a box for entering sensitive text.
 - **Switch** fields provide a toggle that can be switched on or off.
 - **Table Display Only** fields provide a read-only table for displaying information.
 - **Table Multiple Selection** fields provide a table for selecting multiple rows from a database query.
 - **Table Single Selection** fields provide a table for selecting a single row from a database query.
 - **Text Box** fields provide a single-line text box for entering non-sensitive text.
 - **Text Area** fields provide a multiple-line text box or non-sensitive text.
 - **Time** fields from a time picker.
5. In the **Help Text** box, enter an optional help message to be displayed beneath the field.
6. Depending on the field **Type** that you selected, there may be additional options to configure.
7. Click **Create field**.

On the **Fields** tab you can use the mouse to change the position of a field on the offering form.

To change the position of a field:

1. On the **Fields** tab, click and hold the **drag** button ().
2. Use the mouse to position the field in the list and then release.

You can also add markdown text that will be displayed to operators when they open the offering. The markdown text will be displayed on the side of the offering page and is a good place for providing instructions on how to use the offering. For more information on formatting offering markdown, refer to the [Common Mark](#) documentation.

To add markdown text to an offering:

9. On the offering page select the **Markdown** tab.
10. In the **Title** box, enter a title to be displayed at the top of the markdown text. Click the markdown editor to start adding content. Use the options in the markdown editor toolbar to help format your content.
11. Click **Save markdown**.

Services and the folders and offerings that they contain can be enabled and disabled. A disabled service, folder or offering will be hidden from operators but can still be accessed by administrators by selecting **Setup > Services**.

To enable/disable a service:

1. On the service list, turn on or off the **Enabled** switch.
2. Alternatively, click the **more** button (**:**) and select **View**.
3. Select the **Settings** tab.
4. On the **Details** card, turn the **Enabled** switch on or off.
5. Click **Save changes**.

To enable/disable an offering or folder:

1. Open the service that contains the folder or offering that you want to enable/disable.
2. Select the **Offerings** tab.
3. On the list, turn on or off the **Enabled** switch.
4. Alternatively, click the **more** button (**:**) and select **View**.
5. Select the **Settings** tab.
6. On the **Details** card, turn the **Enabled** switch on or off.
7. Click **Save changes**.

If you need to reorganize your offerings and folders, you can move them to another location. When you move a folder to another service, it moves the folder and all the offerings that it contains to the new service.

To move an offering to another service and/or folder:

1. Click the **more** button (**:**) on offering that you want to move and click **Edit**.
2. Select the **Settings** tab.
3. In the **Services** box, select the service that you want to move the offering to.
4. In the **Folders** select the folder that you want to move the offering to.
5. Click **Save changes**.

Lists Page

The **Lists** page provides tools for creating and managing lists for **list** and **radio button** offering fields. Open the Lists page by selecting **Setup > Lists** on the navigation bar.


To create a new list:

1. Click **New list**.
2. In the **Name** box, enter a name for the list.
3. In the **Description** box, enter a brief description of the list.

4. Click **Add Value** and enter a value in the box that is provided.
5. Continue adding new values to the list as needed.
6. When you are finished adding values, click **Create list**.


You can make changes to a list after you have created it, and this includes changing the name and description and the values that are in the list.

To modify an existing list:

1. Click the **More** button () on the row of the list that you want to modify and then select **Edit**.
2. Modify the list as needed.
3. Click **Save changes**.

You can delete a list *that is not in use*. To determine whether a list is in use, review the **Use count** column of the Lists table.

To delete a list that is not being used:

1. Click the **more** button () on the row of the list that you want to delete and then select **Delete**.
2. Confirm that you want to delete the list by clicking **Delete**.

Connections Page

The **Connections** page provides tools for creating and managing database connections. Database connections are used by the queries that are used to select database content for list and table fields. Open the Connections page by selecting **Setup > Connections** on the navigation bar.


New: The Connections page is new for Automation Portal 4.0 and is an improvement on previous versions, where connections were configured when you created a query. This new page minimizes duplication and makes it easier to manage connections that are shared by multiple queries.

To create a new database connection:

1. Click **New connection**.
2. In the **Name** box, enter a name for the new connection.
3. In the **Description** box, enter a brief description of the connection.
4. Select an **Authentication Type**.
5. In the **Data Source** box, enter the name or network address of the SQL Server instance to connect to.
6. In the **Initial Catalog** box, enter the name of the database that you want to connect to.
7. If you selected **SQL Authentication**:
 - 7.1. In the **Username** box, enter the username of the user that you want to connect with.
 - 7.2. In the **Password** box, enter the password of the user that you want to connect with.
8. If you selected **Managed Identity**:
 - 8.1. If you are using a **System Assigned Managed Identity**, leave the Managed Identity Client ID box empty.
 - 8.2. If you are using a **User Assigned Managed Identity**, in the **Managed Identity Client ID** box, enter the client ID GUID of the managed identity.
9. Click **Create connection**.


You can make changes to an existing offering after you have created it; however, any changes that you make will affect every query that is using the connection.

To modify an existing connection:

1. Click the **more** button () on the row of the connection that you want to modify and then select **Edit**.
2. Modify the connection as needed.
3. Click **Save changes**.

You can delete a connection ***that is not in use***. To determine whether a connection is in use, review the **Use count** column of the Lists page.

To delete a connection that is not being used:

1. Click the **more** button () on the row of the connection that you want to delete and then select **Delete**.
2. On the confirmation dialog, click **Delete**.

Queries Page

The **Queries** page provides tools for creating and managing database queries for **list** and **table** offering fields. Open the Queries page by selecting **Setup > Queries** on the navigation bar.

To create a new database query:

1. Click **New query**.
2. In the **Name** box, enter the name of the new query.
3. In the **Description** box, enter a brief description of the new query.
4. Select a **Connection** from the list of available connections.
5. For **Command Type** select **SQL query** or **Stored procedure**.
 - 5.1. If you selected SQL query as the command type, then in the **SQL query** box, enter the select statement that will be used to fetch the desired data.
 - 5.2. If you selected Store procedure as the command type, then select the **Stored procedure** that will be used to fetch the desired data.
6. If your new query requires input from another query
 - 6.1. Click **Add query input**.
 - 6.2. In the **Input name** box, enter the name of the input. This name should match the name of a parameter in your SQL query or stored procedure.
 - 6.3. In the **Source query** box, select the query that will be used as the source query.
 - 6.4. In the **Source query output** box, select the output from the source query that will be used to provide the value for this input parameter.
7. If your new query requires input from an offering text field:
 - 7.1. Click **Add field input**.
 - 7.2. In the **Input name** box, enter the name of the input. This name should match the name of a parameter in your SQL query or stored procedure.
 - 7.3. In the **Field name** box, select the field that will be used to provide the value for the input parameter.
8. If your new query will provide outputs for other queries:
 - 8.1. Click **Add query output**.
 - 8.2. In the **Output name** box, enter the name of the output. This should match an output from your SQL query or stored procedure.
9. Click **Create query**.

You can make changes to an existing query after you have created it; however, be aware that changes that you make will affect any offerings that make use of the query.

To modify an existing query:

1. Click the **more** button (**:**) at the right side of the row that contains the query that you want to modify and click **Edit**. The **Edit query** page appears.
2. Modify the query as needed.
3. Click **Save changes**.

You can delete a query *that is not in use*. To determine whether a query is in use, review the **Use count** column of the Queries page.

To delete a query that is not being used:

1. Click the **more** button (**:**) on the row of the query that you want to delete and click **Delete**.
2. On the confirmation dialog, click **Delete**.

Security Recommendations

To enable the execution of SQL queries and stored procedures, you must provide a User Account in SQL Server with the necessary permissions. To minimize security risks, we recommend that you:

- Create a special *least privilege* database account for use with the Automation Portal.
- For SQL queries, use a database user with *Select-only* permissions to the required tables.
- Preferably, use stored procedures exclusively and limit the database user permissions to only those stored procedures that are required for Automation Portal.

Guidance on SQL Permissions can be found at: <https://docs.microsoft.com/en-us/sql/relational-databases/security/permissions-database-engine?page=sql-server-ver15>

Wiki Page

The **Wiki** page provides Automation Portal administrators with tools for creating and managing wiki content. Open the Wiki page by selecting **Setup > Wiki** on the navigation bar.

To create a new wiki document:

1. Optionally, open the folder that you want to create the document in.
2. Click **New document**.
3. In the **Name** box, enter the name of the document.
4. In the **Description** box, enter a description of the folder.
5. Click **User groups**. Select the Microsoft Entra ID groups that you want to have access to the document and then click **Done**.
6. Click beneath the toolbar in the **Content** card to start entering content. Use the options in the content toolbar to assist with formatting. For more information on formatting markdown text, refer to the [Common Mark](#) documentation.
7. Click **Create document**.

Folders can be used within the wiki to organize related content. You can create folders with folders to create a hierarchy of wiki items.

To create a new wiki folder:

1. Click **New folder**.
2. In the **Name** box, enter the name of the new folder.
3. In the **Description** box, enter a description of the folder.

4. Click **User groups**. Select the Microsoft Entra ID groups that you want to have access to the folder and then click **Done**.
5. Click **Create folder**.

You can enable and disable wiki documents and folders to make them available and unavailable to portal operators, respectively.

To enable/disable a wiki items:

1. Navigate to the folder that contains the document/folder that you want to enable/disable.
2. In the wiki items list, turn on or off the **Enabled** switch.

You can delete wiki documents and folders that are no longer required.

To delete wiki documents and folders:

1. Navigate to the folder that contains the wiki item that you want to delete.
2. Click the **more** button (**:**) on the row of the wiki item that you want to delete and click **Delete**.
3. On the confirmation dialog, click **Delete**.

Integrations

Webhooks Page

The **Webhooks** page provides Automation Portal administrators with tools for creating and managing webhook integrations. Open the Webhooks page by selecting Setup > Integrations > Webhooks on the navigation bar.

To create a new webhook:

1. Click **New webhook**.
2. In the **Name** box, enter a name for the new webhook.
3. In the **Description** box, enter a brief description of the webhook.
4. In the **URL** box, enter the webhook URL.
5. If your new webhook includes headers:
 - 5.1. Click **Add header**.
 - 5.2. In the **Name** box, enter the name of the header.
 - 5.3. In the **Value** box, enter the value of the header.

You can make changes to an existing webhook after you have created it; however, be aware that changes that you make will affect any integrations that make use of the webhook.


To modify an existing webhook:

1. Click the **more** button (**:**) at the right side of the row that contains the webhook that you want to modify and click **Edit**. The **Edit webhook** page appears.
2. Modify the webhook as needed.
3. Click **Save changes**.

You can delete a webhook *that is not in use*. To determine whether a webhook is in use, review the **Use count** column of the Webhooks page.

Logs Page

The **Logs** page provides Automation Portal administrators with a place to review diagnostic information, which can help monitor the status of the service and investigate and resolve issues. Open the Logs page by selecting **Setup > Logs** on the navigation bar.

You can select a **Level** on the Logs page toolbar to quickly filter diagnostic information by level (e.g., critical, error, warning, etc.). To page the details of a log entry, click the **more** button () on the row of the log that you want to page and select View. Log details include:

- The **Message** property provides a description of the event.
- The **Category** property specifies the event category.
- The **Created** property specifies the date and time of the event.
- The **Level** property specifies the severity of the event (e.g., critical, error, warning, etc.)
- The **ID** specifies the unique ID of the event.
- The **Stack Trace** property specifies the location of the code that generated the event.


You can purge all log entries from the Automation Portal database if they are no longer required. *Purged log entries will be permanently removed* from the Automation Portal database and will no longer be available.

To purge all log entries:

1. Click **Purge logs**.
2. On the confirmation dialog, click **Purge**.

Feedback Page

The **Feedback** page provides Automation Portal administrators with a place to review feedback from Automation Portal operators. Open the Feedback page by selecting **Setup > Feedback** on the navigation bar.

To page the details of a feedback entry, click the **more** button () on and then select **View**. The log details page is organized into two sections: Details and Feedback.

The **Details** section displays information about the feedback entry, including:

- The **User** property specifies the email of the user the submitted the feedback.
- The **URL** property specifies the URL of the Automation Portal page that was open when the feedback was submitted.
- The **Created** property specifies the date and time that the feedback was submitted.

The **Feedback** section displays the content of the feedback message that was submitted.

You can purge all feedback entries from the Automation Portal database if they are no longer required. *Purged feedback entries will be permanently removed* from the Automation Portal database and will no longer be available.

To purge all feedback entries:

1. On the Feedback page, click **Purge feedback**.
2. On the confirmation dialog, click **Purge**.

Permissions Page

The **Permissions** page provides Automation Portal administrators with tools for managing the Microsoft Entra ID groups that are used to control access to offerings. To open the Permissions page, select **Setup > Permissions** on the navigation bar.

New: The Permissions page is new for Automation Portal 4.0, and it lets you manage group permissions for all your offerings in a single place. You can also make batch changes to one or more offerings at the same time.

The permissions list contains all the offerings in your portal and displays the number of User, Team and Approval groups that are used by each one. To review the names of the Microsoft Entra ID groups that are used by an offering, click the usage number.

To change the permissions for a single offering:

1. On the row of the offering that you want to update, click the **more** button (**:**) and then select **Update**.
2. You can quickly remove a group by clicking its delete (**x**) button.
3. To change the groups that can use the offering click the **User groups** box. Select the groups that you want to include and unselect the ones that you want to exclude. When you are finished, click **Done**.
4. To change the groups that can use the offering and review and manage requests made by other team members click **Team groups**. Select the groups that you want to include and unselect the ones that you want to exclude. When you are finished, click **Done**.
5. To change the groups that can approve or reject requests for this offering click the **Approval groups** box. Select the groups that you want to include and unselect the ones that you want to exclude. When you are finished, click **Done**.
6. Click **Save changes**.

The permissions page also lets you make changes to multiple offerings at the same time. You can add or remove one or more user, team or approval groups from multiple offerings. You can also replace the user, team, and approval groups for multiple offerings.

To change the permissions for multiple offerings:

1. On the navigation bar, select **Setup > Permissions**.
2. Select the checkbox of the offerings that you want to update.
3. On the toolbar, click **Update**. The bulk group permissions dialog appears.
 - a. Select the **Operation** that you want to apply.
 - b. Select the **Group type** that you want to apply the changes to.

- c. Click the **Groups** box. Select the groups that you want to add, remove, or replace.
4. To add additional operations, click **Add**.
5. Click **Save changes**.

Themes Page

The **Themes** page provides Automation Portal administrators with tools for customizing the portal display themes, to make the Automation Portal a better fit for your organization. Open the Themes page by selecting **Setup > Themes** on the navigation bar.

Enable Custom Themes

On the Themes page, click on the **Enable Custom Themes** switch to enable or disable theme customization with one click. This way, you can keep theme customization disabled while configuring all the settings, and then enable theme customization when it is ready for the entire organization.

To enable/disable custom themes:

1. On the navigation bar, select **Setup > Themes**.
2. On the Themes page click the **Enable Custom Themes** switch.
3. Click **Save changes**.

Import/Export

Import/export your custom theme settings by using the Import and Export buttons on the Themes page. Note that logo images are not imported/exported, only light and dark mode theme colors and fonts.

To export your current custom themes:

1. On the navigation bar, select **Setup > Themes**.
2. On the Themes page click the **Export** button.
3. A Themes export file will be downloaded in your **Downloads** folder.

To import themes from an export file:

1. On the navigation bar, select **Setup > Themes**.
2. On the Themes page click the **Import** button.
3. Select a previously exported themes export file.
4. Click the **Import** button.
5. The themes settings will be imported.

Light Mode and Dark Mode

Customize the Light Mode and Dark Mode themes by selecting the **Light** or **Dark** tab respectively, and then configuring specific settings as needed. You can display the portal in Light Mode or Dark Mode by configuring the Mode setting, in Display Settings, on the Application Bar.

To customize light or dark mode themes:

1. On the navigation bar, select **Setup > Themes**.
2. On the Themes page click the **Light/Dark** tab.
3. Configure specific color settings.
4. Configure Logo and Compact Logo as needed.
5. Click **Save changes**.

Customize Portal Font

In the **Font** tab you can customize font that is used for displaying text throughout the portal.

To change the portal font:

1. On the navigation bar, select **Setup > Themes**.
2. On the Themes page click the **Font** tab.
3. Select one of the available fonts. By default, the portal is using the Public Sans font.
4. Click the switch next to the font picker to enable the custom font.
5. Enable custom themes.
6. Click **Save changes**.

Customize Specific Theme Settings

On the Themes page there are numerous theme settings for customizing specific aspects of the portal.

To customize a specific setting:

1. On the navigation bar, select **Setup > Themes**.
2. On the Themes page click the **Light/Dark** tab.
3. Click on a specific color setting to display the color picker. Choose the desired color and then click anywhere on the page or click Esc to exit the color picker.
4. Alternatively, in the color text box, you can enter an RGB color value in the format **#RRGGBB**.
5. Click the switch next to the color box to enable the specific custom color.
6. Enable custom themes.
7. Click **Save changes**.

For example, to customize the Application Bar light mode background color:

1. On the navigation bar, select **Setup > Themes**.
2. On the Themes page click the **Light** tab.
3. In the **Application Bar** section, change the **Background** color.
4. Click the switch next to the background color box to enable the custom background color.
5. Enable custom themes.
6. Click **Save changes**.

Customize Portal Logo

Starting with version 4.1 of the Automation Portal, you can customize the logo and compact logo for light mode and dark mode, respectively.

To customize the logo:

1. On the navigation bar, select **Setup > Themes**.
2. On the Themes page click the **Light/Dark** tab and scroll to the **Logo** section.
3. Select a **Logo** image to be displayed at the top of the expanded navigation bar. This image must have a size of 38 x 140 pixels.
4. Select a **Compact logo** image to be displayed at the top of the collapsed navigation bar. This image must have a size of 38 x 38 pixels.
5. Click **Save changes**.

Custom Themes Settings Reference

When configuring Themes settings, color values must be specified in the format **#RRGGBB**. Where RR, GG, BB are hexadecimal values for the red, green, and blue color components, respectively. In some cases, the Portal reduces the opacity of the specified color, for example for navigation bar hover colors, to achieve a semi-transparent effect when hovering over an item.

Application Bar

In this section you can customize the appearance of the Application Bar area in the Automation Portal.

Setting	Description
Portal name	Text color for the portal name.
Portal description	Text color for the portal description.
Background	Background color for the application bar.
Contrast background	Background color for the application bar in high contrast mode.

Navigation Bar

In this section you can customize the appearance of the Navigation Bar area in the Automation Portal.

Setting	Description
Background	Background color for the navigation bar.
Item	Text color for menu items.
Item hover	Background color for menu items when hovered over.
Selection	Text color for selected menu items.
Selection background	Background color for selected menu items.
Selection hover	Background color for selected menu items when hovered over.
Open item	Text color for open menu items.
Open item background	Background color for open menu items.
Open item hover	Background color for open menu items when hovered over.
Subitem selection	Text color for selected menu subitems.
Subitem selection background	Background color for selected menu subitems.
Subitem selection hover	Background color for selected menu subitems when hovered over.

Main Area

In this section you can customize the appearance of the Automation Portal main area.

Setting	Description
Background	Background color for the main area.
Panel Background	Background color for main area panels.
List Header Background	Background color list header bar.
Primary Text	Text color for primary text in the main area.
Secondary Text	Text color for secondary text in the main area.
Disabled Text	Text color for disabled text in the main area.
Accent	Accent item color. Visible on certain portal items, switches for example.

Main Area High Contrast (Light Mode Only)

In this section you can customize the appearance of the Automation Portal main area for high contrast mode. This section is only available for Light Mode.

Setting	Description
Background	Background color for the main area.
Panel Background	Background color for main area panels.
List Header Background	Background color list header bar.

About Page

The **About page** provides Automation Portal administrators with information about their portal instance. The About page is organized into three sections: Details, Accessibility Statement and Open source.

Details

The **Details** section provides information about your Automation Portal instance, including the product name and version.

Accessibility Statement

The **Accessibility statement** section provides details of the [Web Content Accessibility Guidelines \(WCAG\)](#) measures that are provided the Automation Portal. The Automation Portal is partially conformant with WCAG 2.1 level AA.

Open Source

The **Open-source** section provides details of all the open-source code libraries that were used to develop the Automation Portal.

Importing and Exporting Resources

The Automation Portal lets you export and import resources (services, offerings, list, etc.) so that you can share them between multiple instances.

Exporting Resources

You can export a collection of resources – such as a service and all the folders and offerings that it contains – or a single resource.

To export a resource:

1. Open the setup page that contains the resources (e.g., Services, offerings, wiki document).
2. On the resource list toolbar, click the **export** button (📄➔).
3. The Automation Portal creates an export file, named after the resource(s) that you are exporting (e.g., Services_1730209409932.export) and saves it to your **Downloads** folder.

Importing Resources

You can import export files containing resources so that they can be incorporated into your Automation Portal instance. Every resource in an Automation Portal export file has a globally unique **Coalesce ID** that is used to identify duplicate resources.


To import a resource:

1. Open a setup page that contains a list of resources (e.g., Services).
2. On the resource list toolbar, click the **import** button (📄➔).
3. Select how to handle duplicate resources:
 - a. If you select **Keep existing resources** your Automation Portal will ignore any resource that has the same coalesce ID as a resource in your instance.
 - b. If you select **Overwrite existing resources** your Automation Portal will overwrite resources in your instance with the resource data that is contained in the export file.
 - c. If you select **Create duplicate resources** your Automation Portal will create novel resources, with a unique name, for any duplicates that it identifies.
4. Click **browse for files**. Select the export file that you want to import and click **Open**.
5. Click **Import**.

Working With the Automation Portal

Home Page

The **Home** page is the main landing page for the Automation Portal and provides administrators and operators with an overview of the portal's current operational state. Additional Home page options are available to you when you connect to the Automation Portal as a user with the **administrator** role.

The home page is configurable, and you can select the information that you want to see by clicking the dashboard settings button  at edge the Home page header bar. You can select what summary items and charts that you want to display on your home page. To quickly access your requests, click **My requests** on the home page toolbar.

You can also configure the information that is displayed in the home page charts using the **Time period**, **Sort** and **Graph bars** options on the home page toolbar. The **Time period** controls how many days are represented in the information that is displayed. **Sort** determines whether the information in the charts is displayed in ascending or descending order and **Graph bars** determines how many bars are displayed.

Services and Offerings

The **Services** page provides operators with a place to access the services and offerings that are available to them. Open the services page by selecting **Services** on the navigation bar.

The service list displays the services and offerings that are available to you, based on the permissions that were configured by your portal administrator. If you do not see the service or offering that you are looking for, scroll down to retrieve more. To sort the items in the list, click on the column header – clicking multiple times will switch between ascending and descending order.



You can add one or more filters to control what services or offerings appear in the list. Filters are maintained for the duration of the current session (i.e., closing the browser clears all filters).

To add a filter:

1. On the list toolbar, click **Filters**.
2. Select the **Column** that you want to filter on.
3. Select the **Operator** that you want to filter with. The available operators are determined by the field type (e.g., string, number, date/time, etc.)
4. In the **Value** box, enter the value that you want to filter on.
5. You can add additional filters by clicking **Add filter**.

To remove a filter:


1. On the list toolbar, click **Filters**. The filter dialog appears.
2. Click the delete button (**x**) next to the filter that you want to remove.
3. To remove all filters, click **Remove all**.

To open a service, click its **name** or click the **more** button () and then select **View**. When you open a service, you will see the folders and offerings that it contains. To view the offerings in a folder, click the **more** button () and then select **View**.

Submitting Requests

As a portal operator, you can create requests for any offering that is available to you. If the offering includes markdown instructions, they will be displayed at the side of the new request page.

To Create a Request for an offering:

1. On the navigation bar, click **Services**.
2. Use the services list to find the offering that you want to submit a request for.
3. On the row of the offering, click the **more** button () and then select **New request**.
4. Fill out the request form. *You must provide values for all required fields.*
5. Click **Submit request**.

If your organization has enabled the **Stay on request** option, the request form will reset so that you can create another request for the same offering.

Request Management


The **Requests** page displays all the requests that you have created and those that were created by other operators in the same team groups that you are in. You will also see requests that are awaiting your approval. Open the Requests page by selecting **Requests** on the navigation bar.

You can quickly filter requests by state by selecting a **Status** on the request list toolbar. To sort the items in the list, click the arrow on the column header – clicking multiple times will switch between ascending and descending order. You can add one or more filters to control what requests appear in the list. Filters are maintained when you navigate away and back to the Requests page.

To add a filter:

1. On the list toolbar, click **Filters**.
2. Select the **Column** that you want to filter on.
3. Select the **Operator** that you want to filter with. The available operators are determined by the field type (e.g., string, number, date/time, etc.)
4. In the **Value** box, enter the value that you want to filter on.
5. You can add additional filters by clicking **Add filter**.

To remove a filter:

1. On the list toolbar, click **Filters**. The filter dialog appears.
2. Click the remove button () next to the filter that you want to remove.
3. To remove all filters, click **Remove all**.

The requests list provides tools for managing requests. You will have the option to close any requests that you submit and those submitted by other operators that share the same offering team groups.

To close a request:

1. On the request that you want to close, click the **more** button (⋮) and then select **Close**.

If you are in the approval group for a request's offering, you will have the option to approve or reject the request.

To approve a request that is pending approval:

1. On the request that you want to approve, click the **more** button (⋮) and then select **Approve**.

To reject a request that is pending approval:

1. On the request that you want to reject, click the **more** button (⋮) and then select **Reject**.
2. If a reason for rejecting the request is required,
 - 2.1. In the **Reason** box, enter your reason for rejecting the request.
 - 2.2. Click **Reject**.

The request list includes limited information; however, you can see more, including information assigned to request from automation runbooks, the field data that was submitted and full historical timeline.

To view the details of a request:

1. On the row of the request that you want to page, click the **more** button (⋮) and then select **View**.
2. Alternatively, you can click the request's **ID** number.

The Requests detail page is organized into three sections, **Details**, **Field Data**, and **History**.

The **Detail** section lists basic information, such as the service and offering, the date that the request was created, last updated and by whom it was requested. Note that the **Runbook owner** and **Message** properties assigned value by the runbooks that are involved in processing the request. For more information, see the Kelverion Integration Pack for Automation Portal and/or Integration Module for Automation Portal User Guides.

The **Field Data** section displays the values that were entered into the request form when it was submitted. The **History** card provides a timeline of the request, from when it was created to when it was closed and all the updates in between, including integration calls.

Wiki Page

The **Wiki page** provides operators with information that Automation Portal administrators and developers have compiled to help you both use the portal and the services and offerings that it contains. Open the Wiki by selecting **Wiki** on the navigation bar. Note that the name that you see on the navigation bar may be different as it can be customized for your instance.

The wiki page lists the folders and documents that are contained in the wiki. Folders are used to organize collections of related wiki documents. To sort the items in the list, click the arrow on the column header – clicking multiple

times will switch between ascending and descending order. You can add one or more filters to control what wiki items appear in the list. Filters are maintained when you navigate away and then back to the wiki page.

To add a filter:

1. On the list toolbar, click **Filters**.
2. Select the **Column** that you want to filter on.
3. Select the **Operator** that you want to filter with. The available operators are determined by the field type (e.g., string, number, date/time, etc.)
4. In the **Value** box, enter the value that you want to filter on.
5. You can add additional filters by clicking **Add filter**.

To remove a filter:

1. On the list toolbar, click **Filters**.
2. Click the **remove** button (x) next to the filter that you want to remove.
3. To remove all filters, click **Remove all**.

You can open a wiki folder or document by clicking its **Name** or by clicking the **more** button (:) and then selecting **View**. Opening a wiki folder displays a list of the folders and documents that are contained in the folder. Opening a wiki document displays details about the document and its content of the document.

Integration

The Automation Portal provides the ability to integrate request changes with other 3rd party systems. Configured integrations are invoked when requests are created or when request states are modified.

The following request states can trigger integrations:

- New
- Pending Approval
- Approved

The first step in configuring an integration is to define connectivity settings, so the portal can invoke the integration. Currently the only supported integration type is **Webhooks**. For details on how to configure webhook integration settings, please refer to the [Webhooks Page](#).

Integration Scope

Once you have created an integration, you have to configure which requests will trigger the integration. Integrations can be configured at different scopes in the root-service-folder-offering hierarchy:

- Root – integrations will trigger for all portal requests
- Service – integrations trigger for requests corresponding to service offerings
- Folder – integrations trigger for requests corresponding to folder offerings
- Offering – integrations trigger for requests corresponding an offering

Important: As a best practice, it is recommended to configure narrow scope integrations, at the offering level, and to avoid wide scope root integrations. This way you can avoid situations when integrations are invoked unintentionally.

For details on how to configure integrations at the root/service/folder/offering level, please refer to the [Services Page](#).

Integration Priority

The Automation Portal will invoke integrations according to the following priority rules:

- **Offering Integrations** take priority over **Folder Integrations**
- **Folder Integrations** take priority over **Service Integrations**
- **Service Integrations** take priority over **Root Integrations**

For example, consider a folder with two offerings O1 and O2. If you configure an integration I1 for the folder, the integration will trigger as follows:

- Offering O1 requests will trigger integration I1
- Offering O2 requests will trigger integration I1

Integration I1 triggers for both offerings, since the integration is configured on the parent folder and neither O1 nor O2 has any offering level integrations.

Now, if you configure a second integration I2 for offering O2, integrations will trigger as follows:

- Offering O1 requests will trigger integration I1
- Offering O2 requests will trigger integration I2

This is because offering integration I2 takes priority over folder integration I1, and will override the folder level integration for O2 requests. Integration I1 will continue to be invoked for offering O1, since O1 does not have any offering level integrations.

Kolverion Automation Monitor Service

The Kolverion Automation Monitor Service is a Windows service that monitors portal requests and invokes integrations configured for those requests. When the monitor service detects a request state change, it determines if that request is configured to trigger an integration, and then proceeds to invoke that integration according to its connection settings.

The service is installed on the same machine where the Automation Portal is installed, and must be started after installation. The service is configured to run as the same user account that is configured on the IIS app pool.

Support and Guidance

If you require any support or guidance with deploying the portal and integrating it with your automation tool, our professional services team are ready to help.

Please contact your local sales representative who can organize a services support engagement.

Sending Feedback

If you encounter a problem while working with the Automation Portal or have an idea for making the Automation Portal even better, we would like to hear from you.

You can send us an e-mail at support@kelverion.com

We look forward to hearing from you.