PUBLIC

SAP BusinessObjects Business Intelligence platform

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BI Administration Console Guide

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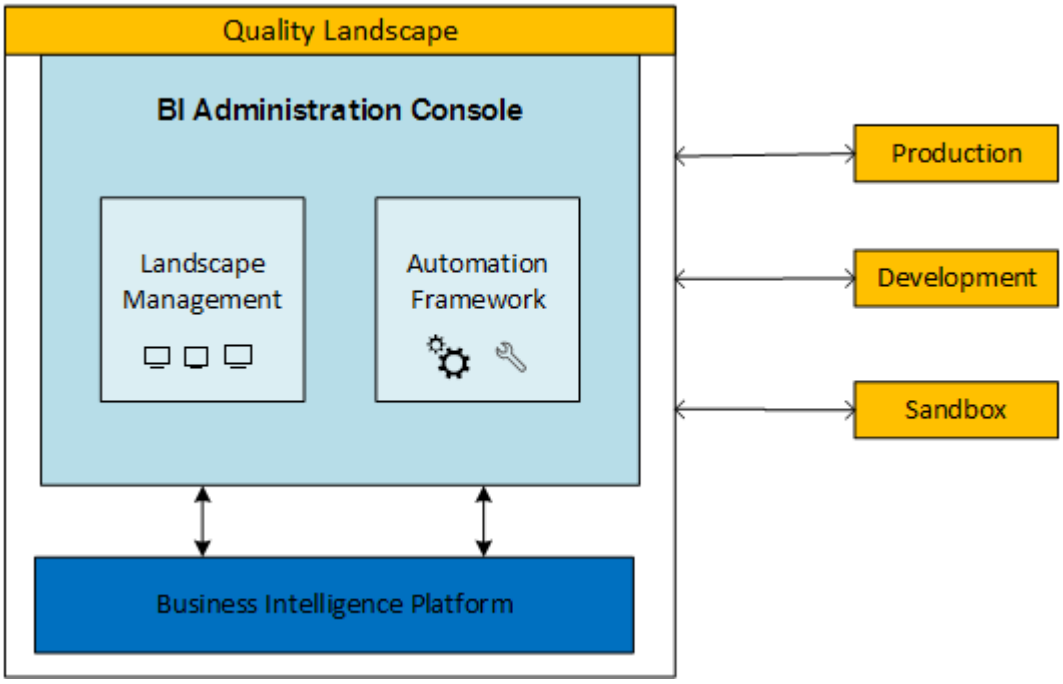
1 Overview of BI Administration Console

BI Administration Console is an SAP Fiori Launchpad site that you access through a Web browser. It's a single point of access to two Web-based applications for online administration of BI landscapes and automation of BI tasks.

BI Administration Console displays content as tiles: *Landscape Management* and *Automation Framework*. From these tiles, you can drill down into the relevant application for more detailed information and functions.

BI Administration Console implements a role-based concept so that users only have access to those tiles for which they are authorized.



- Working with Landscape Management [page 19]
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About Landscape Management

Landscape refers to a single BI machine or a cluster of BI machines that you are authorized to access. Landscape management is an application that lets you access and manage your BI landscapes centrally. To

avail the capabilities of other applications such as Automation Framework, it is essential to first register your BI landscapes using the Landscape Management application.

About the Automation Framework

Automation Framework provides you the capability to automate complex and repetitive BI tasks.

> **Example**
>
> Consider that you need to perform the following BI tasks in order:
>
> 1. Log on to the BI platform.
> 2. Change the source of certain Web Intelligence documents from `.unv` to `.unx`.
> 3. Refresh these Web Intelligence documents.
> 4. Log out of the BI platform.

With Automation Framework, you don't need to do all this manually. You can create a scenario using standard workflow templates, save this scenario with input data and execute (run) this scenario to view the results.

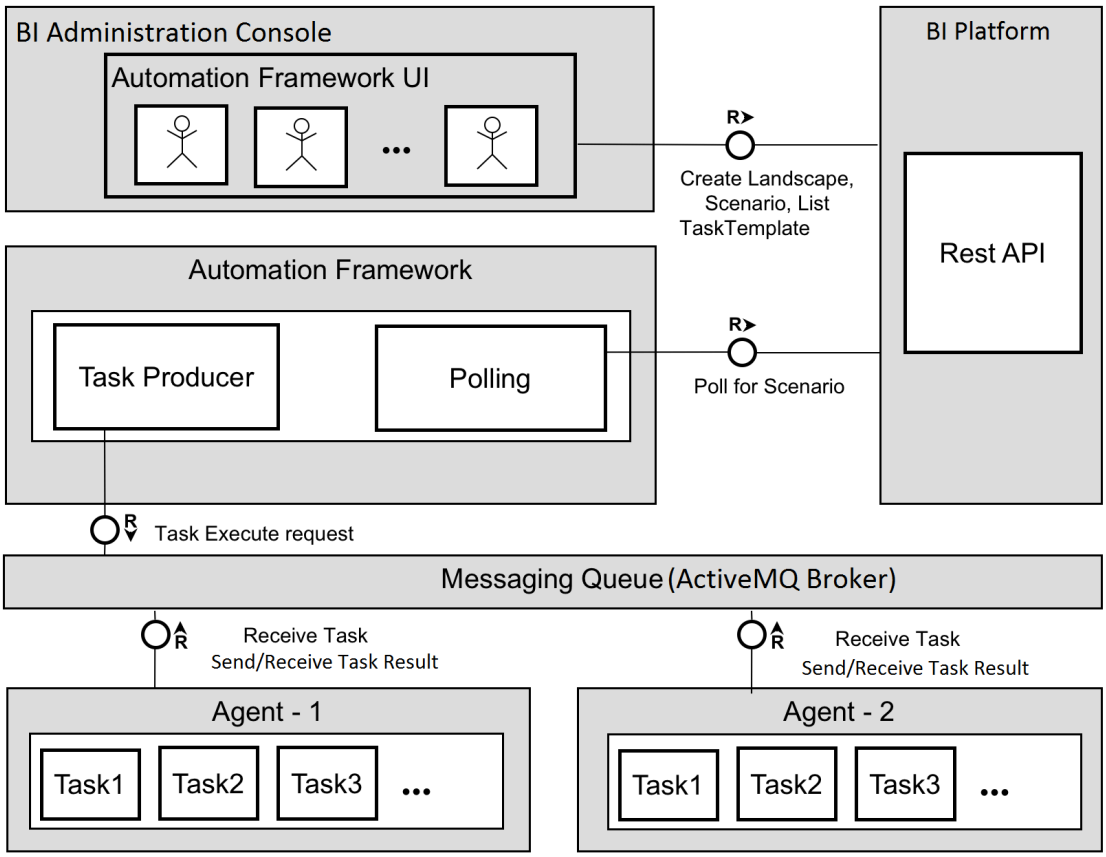
2 Target Audience

This guide is intended for certain users of the Business Intelligence (BI) platform and certain BI platform developers.

- BI platform users who use this guide should have rights to access the Central Management Console (CMC) and the BI Administration Console. These users have the role of administrators or delegated administrators.
- BI platform developers who use this guide should be conversant with working on Java SDKs who can create JSON schemas for custom requirements by using the Task Template SDK.

3 Understanding the Architecture

The below diagram helps you understand the Automation Framework architecture and the inter-connections between its components.



Glossary of Terms Used in the Above Diagram:

Term	Definition
Master Node	The CMS on which the Automation Framework runs in your set up.
Agent	A light weight process which sits on different nodes of a clustered environment and shares the overall execution-load of a scenario among the available BI landscapes.
ActiveMQ Artemis	A third party (Apache) tool which is used to communicate between Automation Framework and agents for exchange of task information and for handling the results.
ActiveMQ Broker	An instance of ActiveMQ Artemis.

4 About Installation and Update

Depending on whether you make a fresh installation or update an existing installation, your access to back-end functionality may be different.

When you make a **fresh installation** of SAP BusinessObjects BI platform 4.2, SP05 (default installation), you gain full access to the BI Administration Console on the machines where you have installed and configured the BI platform. This includes access to the front-end [http://<Web_App_Server_IP_address>:<port>/BOE/BIAdminConsole] and the back-end functionality (Automation Framework).

However, when you update from the BI platform 4.2 SP4 or earlier to 4.2 SP5 or later, you gain access to the front-end of the BI Administration Console, but not to the complete functionality of the Automation Framework. To gain full access to the BI Administration Console after an update installation, run the "Modify" installation workflow after your update installation has successfully completed. For more information on Modify installation, refer to the *Support Package Update Guide* posted on SAP Business Intelligence platform page of Help portal .

> **Note**
>
> BI Administration Console web application is a part of the BOE.war file. After you update from the BI platform 4.2 SP4 or earlier to 4.2 SP5 and above version, the web application is deployed only if the *Java Web Applications* functionality was selected during the installation of the existing version.

> **Caution**
>
> You should not install the Automation Framework in multiple machines within a landscape as clustering of Automation Framework is not supported.

> **Restriction**
>
> The default landscape and templates are not available after an update or a fresh installation of the BI platform. For more information, refer to2566764.

5 Configuring the Automation Framework

When you install the Automation Framework as part of the BI platform installation, you obtain the following by default in your set up:

- Automation Framework
- An agent
- An ActiveMQ instance (broker) with configured certificate for SSL

You then need to configure trusted authentication to get started with using the Automation Framework.

Based on your custom requirements, you can add multiple agents for executing a task. If you don't want to use the broker which comes by default with the installation, you can create a new broker and configure it for SSL.

5.1 Basic Configuration

5.1.1 Starting Automation Framework Services

The topic provides instructions to start *Automation Framework Services*.

> → Remember
>
> ActiveMQ Broker uses the default port number 5500. You should ensure that this default port number is open for communication.

Follow the steps below:

1. Configure enterprise authentication for *Automation Framework*. Refer to Configuring Enterprise Authentication for Automation Framework [page 10] for more information.
2. To start ActiveMQ Broker,
   a. In Windows, run *startbroker.bat* after executing the commands below:
      1. `set JAVA_HOME=<INSTALLDIR>\SAP BusinessObjects Enterprise XI 4.0\win64_x64\sapjvm`
      2. `cd <INSTALLDIR>\AdminConsole\MessagingQueueBroker\bin\`
   b. In Unix, run *startbroker.sh* after executing the commands below:
      1. `export JAVA_HOME=<INSTALLDIR>/sap_bobj/enterprise_xi40/linux_x64/sapjvm`
      2. `cd <INSTALLDIR>\AdminConsole\MessagingQueueBroker\bin\`
3. To start the *Automation Framework Service*
   a. In Windows, launch *Central Configuration Manager* (CCM) and start *Automation Framework Service*.
   b. In Unix, go to `<INSTALLDIR>/AdminConsole/Automation Framework/startWfManager.sh`.
4. To start the Agent

a. In Windows, launch *Central Configuration Manager* (CCM) and start *Agent*.
b. In Unix, go to `<INSTALLDIR>/AdminConsole/Agent/startAgent.sh`.

You are now ready to use the *Automation Framework* and execute scenarios.

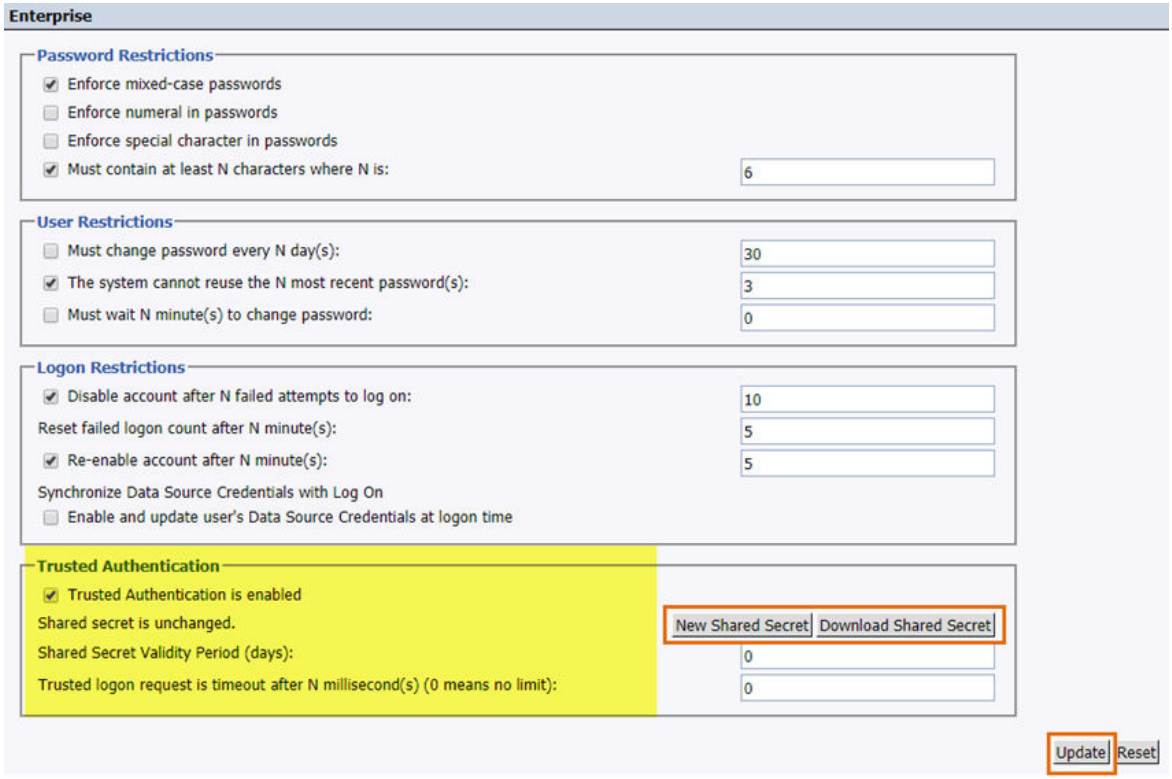
5.1.2 Configuring Enterprise Authentication for Automation Framework

You have installed the BI Administration Console as part of the BI platform installation in your set-up.

To configure trusted (Enterprise) authentication for the Automation Framework, follow the procedure given below:

1. Log on to the Central Management Console (CMC) by connecting to the CMS of the master node.
2. Select *Authentication* in the drop-down, then double-click on *Enterprise*.

   The 'Enterprise' dialogue appears as shown below:



3. In the 'Trusted Authentication' section, ensure that *Trusted Authentication* is enabled.
4. Choose *New Shared Secret*.
   The Shared secret key is generated.
5. Choose *Download Shared Secret*.
6. Select *Update*.
7. Save the generated Shared Secret Key (TrustedPrincipal.conf) at `<INSTALLDIR>\AdminConsole\Automation Framework\custom\cms_certificate\`.

> ⚠ Caution
>
> If you download or save the file in any other location, ensure to update the value of `<secret_path>` in the `wfmanager_conf.properties` file located at `<INSTALLDIR>\AdminConsole\Automation Framework\custom\`.

> ⓘ Note
>
> For more information on how to create trusted authentication certificates with different options, refer to the *Business Intelligence Platform Administrator's Guide*.

5.2 Advanced Configuration

After completing the basic configurations on the Automation Framework, you can execute the scenarios. If you want to extend the capabilities of the Automation Framework, you can opt for the advanced configurations. It allows you to manage task execution load by adding new agents and changing the type of an agent. You can also ensure security by generating SSL certificates for ActiveMQ Broker.

> → Tip
>
> It is not mandatory to perform all the steps mentioned in the subsequent topics like adding new agents, changing an agent's type, or generating SSL certificates for ActiveMQ Broker.

5.2.1 Understanding the Agent

An agent is a light weight process that sits on different nodes of a clustered environment and shares the overall execution load of a scenario among the available BI landscapes. There are two types of agents:

Generic

A Generic agent can execute tasks for any registered BI landscape.

Specific

A Specific agent manages task execution for its registered BI landscape.

> **Note**
>
> By default, the agent's type is set to Generic. A Generic agent works for BI landscapes that are not assigned to a specific agent.

5.2.1.1 About Agent Registration Behavior and Recommendations

There are a few points to note for using agents with the Automation Framework in your set up.

- If an agent is trying to register itself from the `<Production>` landscape but this landscape is not yet registered with the master node, an error appears asking to first register the landscape.

  > **Note**
  >
  > Registering the landscape and at least one connection are prequisites for registering agents in the same landscape.

- Running multiple agents on a single machine is not possible. Once an agent is registered from a given location, only that single agent is used by the Automation Framework.

5.2.1.2 Changing the Agent's Type

You can change the agent's type by editing the *agent_conf.properties* file. Follow the steps below to change the agent's type:

1. Go to `<Agent_Install_Dir>\Agent\custom`.
2. Open the *agent_conf.properties* file in a text editor.
3. Change the value *type* from *generic* to *specific*.
4. Save the file.
5. Restart the Agent.
   You have successfully changed the agent's type.

   > **→ Tip**
   >
   > You can configure the agent to manage task execution load from other clustered environments by adding the cluster names against the key value *cluster_list* in the *agent_conf.properties* file.

   > **Note**
   >
   > - If the *cluster_list* parameter has no input, a specific agent functions only for its registered landscape.
   > - You can use the *cluster_list* parameter only when an agent's *type* is *specific*.

5.2.2 Adding New Agents to a Landscape

You have installed BI Administration Console as part of the BI platform installation in your set-up.

By default, an agent is already created as part of the BI platform installation. The Automation Framework and default agent are already configured for using the default broker.

> **Note**
>
> The location of the default agent is `<INSTALLDIR>\AdminConsole\Agent`.

However, to enhance the performance efficiency of the Automation Framework, you can configure agents on additional machines of your registered BI landscapes.

> **Note**
>
> - When there is only one agent and if the task execution load increases, the task processing slows down.
> - You can add new agents to a landscape for sharing the task execution load.

To configure a new agent, follow the procedure below:

1. In the BI platform's install package, go to `\\build-drops-wdf.pgdev.sap.corp\dropzone\aurora_dev\aurora42_cons\(#insalled-build_number)\win64_x64\release\packages\BusinessObjectsServer\Collaterals\Tools\Automation`.
2. Copy and unzip the `biaca.zip` file to a new location.

   Let us assume that you have unzipped the folder at `C:/Agent/biaca/`.
3. Navigate to `C:/Agent/biaca/configuration/` and edit the file: `config.ini`.
4. Define:

   ```
   container.path=C:/biaca
   ```

   ```
   boe.install.path=<BOE-Install path>
   ```

   ```
   logging.path=C:/biaca/service-logs
   ```
5. Copy the 'mq_client_certificate' folder from the master node directory `<BOE-Install path>\AdminConsole\Agent\custom\` to the new Agent's location `C:/Agent/biaca/custom/mq_client_certificate`.
6. Navigate to `C:/Agent/biaca/` and edit the AgentReg.bat file.
7. Define:

   ```
   set PR_JVM=<BOE-Install path>\SAP BusinessObjects Enterprise XI 4.0\win64_x64\sapjvm\jre\bin\server\jvm.dll
   ```

   > **Note**
   >
   > Do not get the value from environment variables/system variables to define the value for PR_JVM file, as it does not get reflected.
8. To remove the default agent that is present in CCM, navigate to `<BOE-install path>\AdminConsole\Agent`and double-click the AgentDereg.bat file.
9. Refresh the CCM.

   The BIagent disappears.

10. Navigate to *CMC* > *BI Administration Console* > *Agents*.
11. Right-click on the existing agent and select *Delete*.
12. To register the new agent, go to biaca folder and double-click the AgentReg.bat file.

    The new agent now appears in the CCM.
13. Start the agent.

5.2.3 Creating New SSL Certificates for ActiveMQ Broker

You have installed BI Administration Console as part of the BI platform installation in your set-up and have access to the JVM.

The Broker is configured with the necessary SSL certificates. If you want to create new SSL certificates with your own password, then follow the steps given below:

1. Stop all the Agents associated with the Broker.
2. Stop Automation Framework service.
3. Stop ActiveMQ Broker.
4. Run the command given below to generate an SSL certificate.
   a. In Windows, <INSTALLDIR>\AdminConsole\ActiveMqArtemis\scripts\ActiveMQ_SSL_Config.BAT <ActiveMQ_Broker_Path> <OPTIONAL-SSL_Password>
   b. In Unix, <INSTALLDIR>\AdminConsole\ActiveMqArtemis\scripts\ActiveMQ_SSL_Config.sh <ActiveMQ_Broker_Path> <OPTIONAL-SSL_Password>

   > **Note**
   >
   > <ActiveMQ-BrokerPath> is the path to the ActiveMQ Broker install directory. Here, the ActiveMQ Broker install directory is assumed as <INSTALLDIR>\AdminConsole\MessagingQueueBroker\.
   >
   > <OPTIONAL-SSL_Password> is the SSL password that is used to create the certificate. This parameter is optional and if not provided, the SSL password is set to an auto-generated GUID.

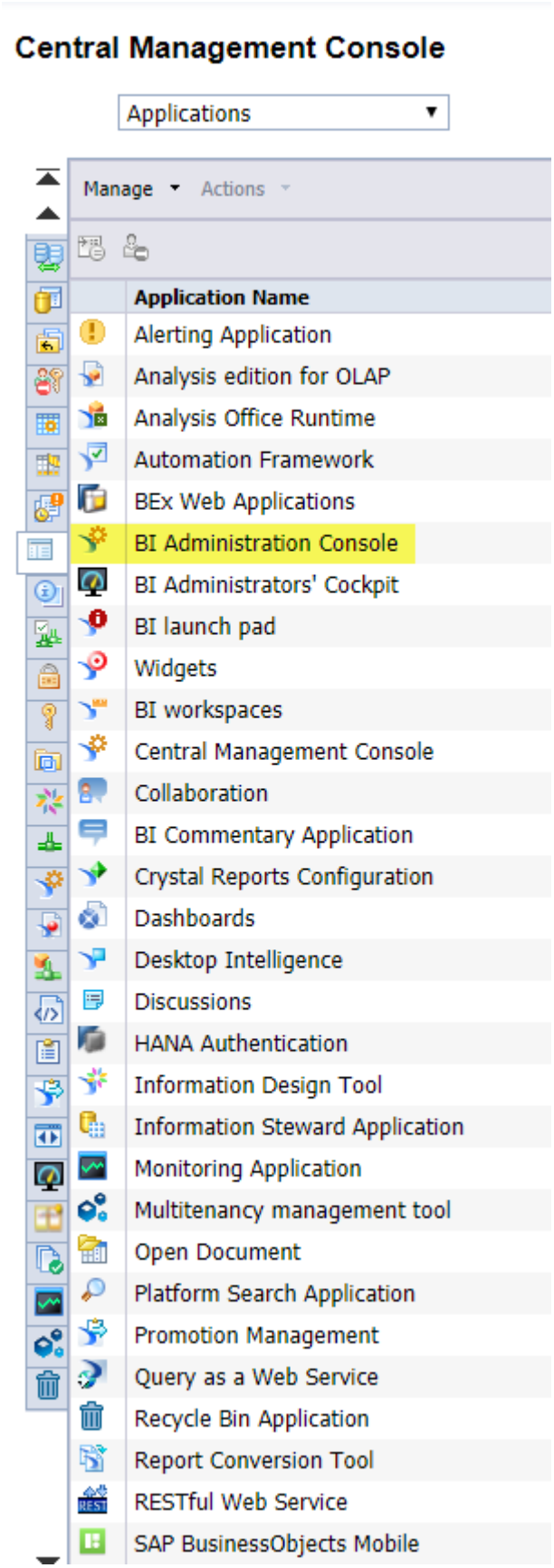
   The SSL certificate named activemq.client.truststore is generated at <INSTALLDIR>\AdminConsole\MessagingQueueBroker\etc\ssl\.
5. Copy the generated certificate to <Automation Framework-Directory>\custom\mq_client_certificate\.
6. Copy the generated certificate to <Agent-Directory>\custom\mq_client_certificate\.

   > **Note**
   >
   > Repeat the 6th step in every machine where the Agent is configured.
7. Start ActiveMQ Broker.
8. Start Automation Framework Service.
9. Start the Agents in every machine.

6 Managing BI Administration Console Rights Via the Central Management Console

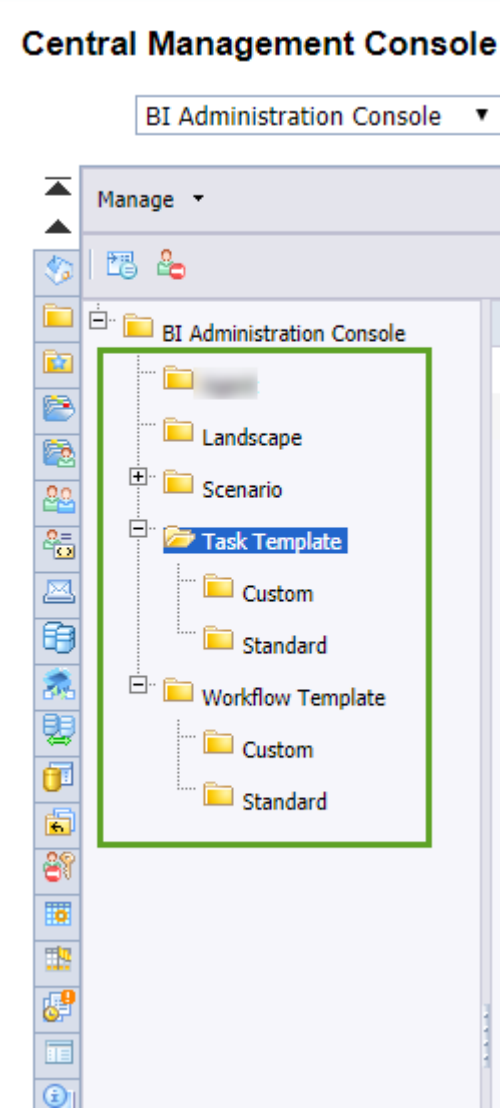
You manage security for the BI Administration Console via the Central Management Console.

BI Administration Console and *Automation Framework* are listed under *Applications* of the *Central Management Console*.


Central Management Console
Applications
Manage
Actions
Application Name
Alerting Application
Analysis edition for OLAP
Analysis Office Runtime
Automation Framework
BEx Web Applications
BI Administration Console
BI Administrators' Cockpit
BI launch pad
Widgets
BI workspaces
Central Management Console
Collaboration
BI Commentary Application
Crystal Reports Configuration
Dashboards
Desktop Intelligence
Discussions
HANA Authentication
Information Design Tool
Information Steward Application
Monitoring Application
Multitenancy management tool
Open Document
Platform Search Application
Promotion Management
Query as a Web Service
Recycle Bin Application
Report Conversion Tool
RESTful Web Service
SAP BusinessObjects Mobile

You can view and manage the access rights and overall security settings for following entities of the BI Administration Console:

- Landscapes
- Scenarios
- Task templates
- Workflow templates



For information on how to manage security settings for objects in the CMC, refer to the Managing security settings for objects in the CMC topic of the *Business Intelligence Platform Administrator Guide*.

> **Note**
>
> - You can control the access to *Landscapes*, *Scenarios*, *Task Templates*, and *Workflow Templates* by assigning rights at the folder level to the user. This means a user should have the right *Add Objects to this folder* on the *Scenario* folder to create a scenario.
> - You can control the access to a functionality in BI Administration Console by assigning rights at the folder or object level to the user but the lack of rights has no impact on the user interface. For example,

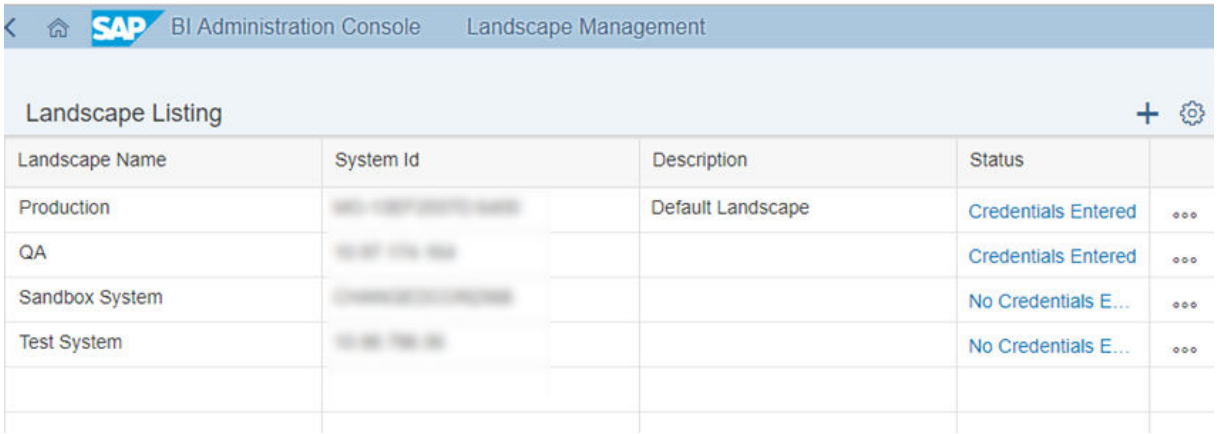
a user can see the option to create a scenario in BI Administration Console even if the user has no rights on the *Scenario* folder in CMC. If the user still tries to create and save a scenario in the *Scenario* folder, the system prompts with an error message.

7 Working with Landscape Management

Landscape Management is an application that allows you to register multiple BI landscapes.

Landscape Management gives you access to your registered BI landscapes.

Snapshot of the Landscape Management View



Using Landscape Management view, you can perform the following actions:

- Add (register) a new landscape

  > → Remember
  >
  > It is mandatory to register your BI landscapes in Landscape Management so that other applications (such as Automation Framework) can use these landscapes.

- Modify (edit or delete) an existing landscape
- Connect (or disconnect) with the landscapes by entering your credentials (`User Name, Password, Authentication`)

  > ⓘ Note
  >
  > The landscape on which you have installed the BI Administration Console appears listed as the "Default" landscape in the Landscape Management View. However, to connect with this landscape, you need to enter your credentials.

- Customize the appearance of the Landscape Management view

7.1 Registering New BI Landscapes

To connect with your authorized BI landscapes and to use the Automation Framework capabilities, it is essential to first register (add) BI landscapes in the BI Administration Console.

To register landscapes, follow the procedure given below:

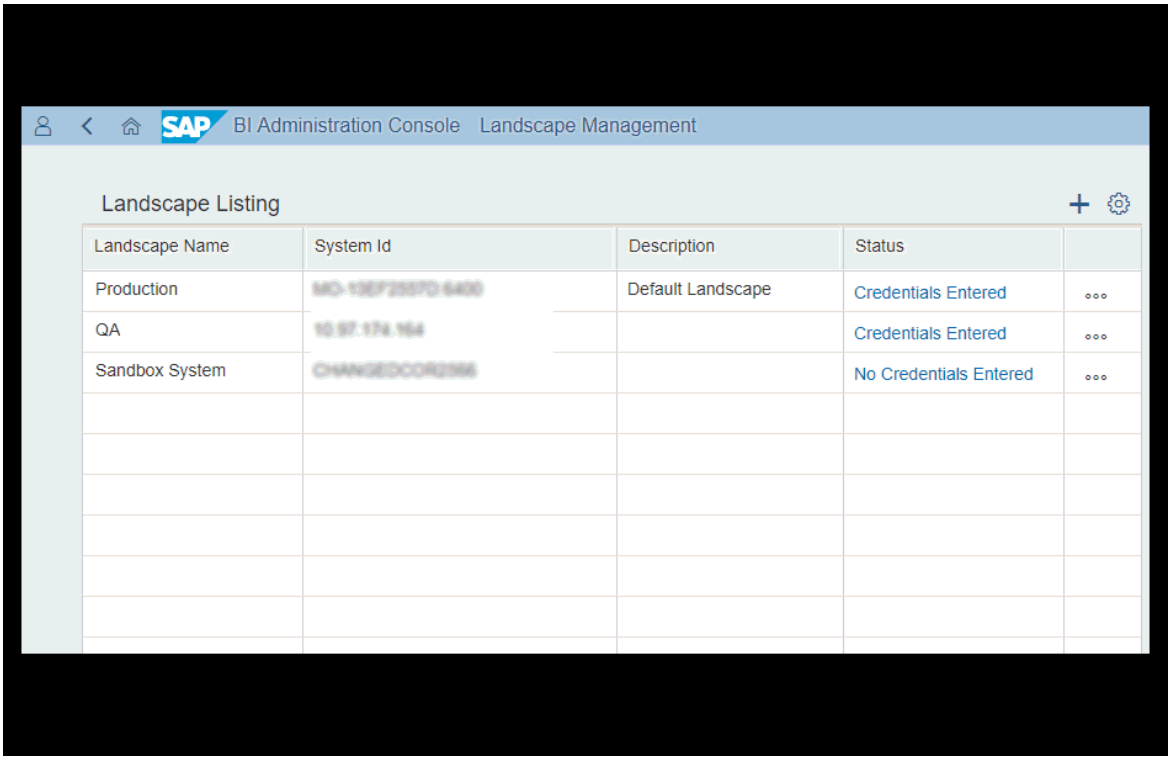
1. Log on to BI Administration Console.
2. On the *Home* page, choose *Landscape Management*.

   This view lists your available registered landscapes.
3. Choose the + (*Add*) icon.

   The "Register New Landscape" dialogue appears.
4. For `<Name>`, enter an alias with which you can spot your landscape.
5. For `<System ID>`, enter the host name or IP address which identifies your machine or your cluster of machines.
6. For `<Access URL>`, enter the RESTful Web services URL for the BI platform server. Optionally, you can add a `<Description>` for the landscape.
7. Choose *Register*.

> **Note**
>
> You can register the same BI landscape with different names, but it is recommended to have a BI landscape registered only once in the Landscape Management view.

The registered landscape is added to your list of landscapes in the Landscape Management View.



7.2 Modifying Existing BI Landscapes

The Landscape Management View allows you to modify your registered landscapes.

To modify an existing landscape, follow the procedure given below:

1. Log on to BI Administration Console and choose *Landscape Management*.
2. In the Landscape Management view, choose (*More*) → *Edit* for the listed landscape that you want to modify.

   The "Edit Landscape" dialogue appears.
3. Modify the `<Name>` (alias), `<System ID>`, `<Access URL>` or `<Description>` based on your requirements, and choose *Done*.

   The modifications start reflecting in the listed landscape in the "Landscape Management" view.

   > **Note**
   >
   > To delete a landscape, choose (*More*) → *Delete* for the listed landscape that you want to remove, and then confirm the deletion in the dialogue which appears.

7.3 Connecting to Registered BI Landscapes

You can connect to your registered landscapes, using the `<Status>` field of Landscape Management view. Connecting to BI landscapes is essential for using your landscapes in the scenarios in Automation Framework.

To connect to an added BI landscape, follow the procedure given below:

1. Log on to BI Administration Console and choose *Landscape Management*.
2. Choose the flag string (*No Credentials Entered*) appearing in the `<Status>` of the registered landscapes to which you are not yet connected.

   The "Enter Credentials" dialogue appears.
3. Enter your credentials for the BI landscape (based on authorization granted by your platform administrator): `<User Name>`, `<Password>` and `<Authentication>`. Then choose *Save*.

   The BI Administration Console validates your credentials and updates the `<Status>` of your BI landscape to *Credentials Entered* if the validation is successful. Otherwise, an error message is displayed and the `<Status>` remains unchanged.

7.4 Customizing the Landscape Management View

You can customize the appearance of the Landscape Management view by changing the visibility of fields (columns) in the view.

To hide/show specific columns of the Landscape Management View, follow the below procedure:

1. Log on to BI Administration Console and choose *Landscape Management*.
2. Choose (*Settings*) and deselect the columns (field headers) that you wish to hide in the Landscape Management View.

   Your deselected columns no longer appear in the Landscape Management view.
3. To include a hidden column back into the view, choose *Settings* and select the required field headers again.

8 Working with the Automation Framework

The Automation Framework is an application that lets you automate your repetitive and complex BI Administration tasks. In the following sections, you are going to learn how you can automate the BI Administration tasks.

8.1 Glossary

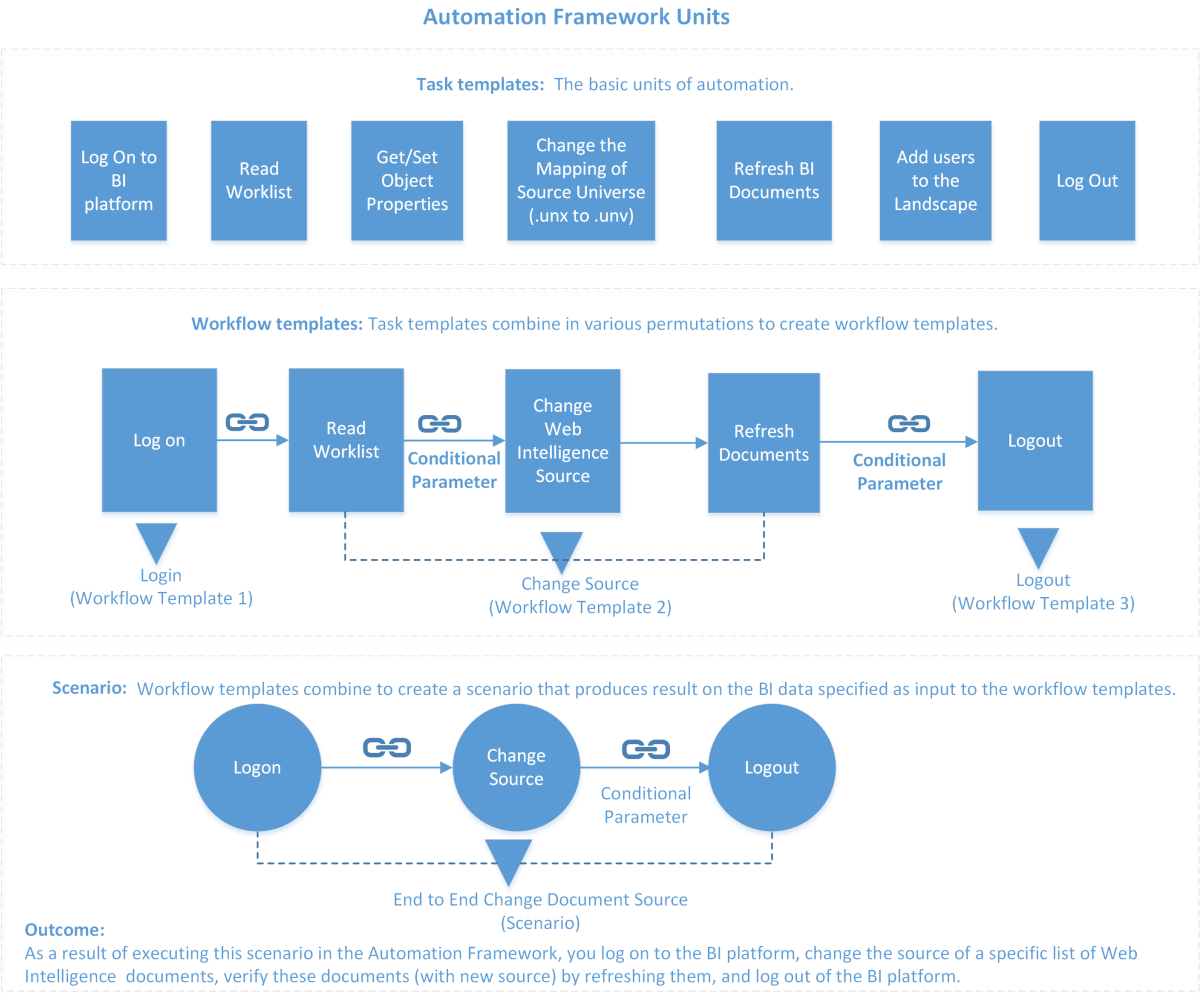
The Automation Framework has its own specialized vocabulary.

Frequently Used Terms in Automation Framework

Term	Definition
Standard Task Template	The basic unit of automation provided by default in the application. These units are used to create workflow templates. For example, a simple task such as logging on to the BI platform, refreshing BI documents, reading data, changing the mapping of source Universe of Web Intelligence documents (from `unv` to `unx`), adding users to your landscape or logging out.
Custom Task Template	A task template (basic unit of automation) which is created by developers for custom requirements. **Restriction** You cannot create a custom task template using the UI of Automation Framework. It requires the Task Template SDK.
Workflow Template	A logical group of task templates ordered in the required sequence to achieve the outcome of a workflow.
Standard Workflow Template	Workflow templates which are provided out of-the-box in the Automation Framework. Administrators can readily use standard workflow templates when creating scenarios for their various BI automation requirements.
Custom Workflow Template	A workflow template created by administrators for their custom requirements. It is created in the Automation Framework by grouping standard or custom task templates.

Term	Definition
Scenario	An executable entity which is created by grouping single or multiple workflow templates in the required sequence. **→ Remember** Input data is mandatory for scenarios.
Conditional Parameter	The connecting link between templates in a workflow template or between workflow templates in a scenario, which directs the flow of control, are based on one of the following conditions: • Continue (default) • On success • On failure • On partial success **ⓘ Note** A conditional parameter also lets you insert a *"Time Delay"*(in seconds) to ensure that the next task in the workflow starts only after a certain time duration once the previous task execution is completed. **→ Remember** The Automation Framework considers the conditional parameter value: 'Continue', only if the previous task has completed with either of the three states : 'Success', 'Partial Success' or 'Failure'. If the previous task has the status of 'Error' or 'Not Executed', the state of next node is automatically set to 'Not-executed'.

This illustration will help you understand the interconnection between some of the above terms:



8.2 About Standard Task Templates

The Automation Framework provides several standard task templates.

Standard Task Template	Description
Logon	Establishes a session with the target BI platform server.
Refresh Documents	Opens and refreshes the list of provided documents using the `<Schedule now>` operation.

Standard Task Template	Description
	Note For documents with prompts, the default values must be specified in the documents before execution.
Change Web Intelligence Source	Changes the mapping of source universe for your list of documents from .unv to .unx, .unx to .unx, or .unv to .bex.
Add/Remove User & User Group	Adds or removes users and user groups to the BI landscape. **Note** This task template corresponds to the `<Import functionality>` on the BI platform. Refer to the topic To add users or user groups in bulk in the *BI platform Administrator Guide* for information on the Import functionality.
Get Properties	Returns the values of certain properties for the queried InfoObjects.
Set Properties	Sets the values of certain properties for the given InfoObjects in the CMS.
Read Worklist	Reads .CSV files as an input and returns the comma separated values which can be consumed by subsequent tasks. Use this task template when a large number of values (bulk data) must be consumed by workflow templates in your scenario and it is not feasible to manually feed the values using the Input panel of Automation Framework.
Query Worklist	Queries the CMS tables and provides the output in CSV format.
Save Output	Saves the values obtained from the *Output Parameter* of a task into a CSV file in the CMS.
Logout	Ends the task session with the target BI platform server.

8.2.1 Log On

Parameters for Log On Task Template

Input Parameters

Name	Type	Description
Landscape	String	Name of the registered landscape in the BI Administration console

8.2.2 Refresh Documents

Parameters for Refresh Documents

Input Parameter

Name	Type	Description
*Documents	CSV	Document identifiers (id/cuid) for documents that need to be refreshed. A user can also choose documents from Repository Explorer through Value Help. CSV format: id or cuid

Output Parameters

Name	Type	Description
SuccessfullyRefreshedDocuments	CSV	Documents that are successfully refreshed. CSV format: id, cuid
UnsuccessfullyRefreshedDocuments	CSV	Documents that are not successfully refreshed. CSV format: id, cuid
All	CSV	List of processed documents. CSV format: id, cuid

8.2.3 Change Web Intelligence Source

Parameters for Change Web Intelligence Source

Input Parameters

Name	Type	Description
*Document	CSV	Specify the Web Intelligence document's cuid for which you wish to replace the UNV with UNX, UNX with UNX, or UNV with BEx. A user can also choose documents from Repository Explorer through Value Help or by mapping an output of one task to another. CSV format: id or cuid
*UniverseMapping	CSV	Mapping Universes (UNV, UNX, BEx) based on id or cuid. A user can also map the universes through the Universe Mapping screen in Value Help. CSV format (for UNV-UNX): unv_cuid, unx_cuid or unv_id, unx_id CSV format (for UNX-UNX): src_cuid,dest_cuid,type CSV format (for UNV-BEx): src_cuid,dest_cuid,type,technical_name
Document Action	String	To change source without saving the document, assign the value: 'Test' To change source and save the document, assign the value: 'Change'

Output Parameters

Name	Type	Description
Success	CSV	Documents for which the source is successfully changed. CSV format: id, cuid

Name	Type	Description
Failure	CSV	Documents for which the source failed to change. CSV format: id, cuid
All	CSV	List of input documents. CSV format: id, cuid

Restriction

- Only the .UNV built on .BEx query can be replaced by another .BEx query.
- BEx queries with prompts are not supported.
- Mapping only happens if universe objects have similar type and closest name with BEx query objects.
- Universe objects created with labels are not mapped.

8.2.4 Add/Remove User and User Group

Parameters for Add/Remove User and User Group

Input Parameters

Name	Type	Description

*Data	CSV	User specific information.
		See the sample CSV data below. For more information on CSV data, see the topic *To add users or user group in bulk* in the *Business Intelligence Platform Administrator Guide*.
		`command,group,user,fullname,password,mail,profileName,profileValue`
		`Add,MyGroup,MyUser1,MyFullName,Password1,My1@example.com,ProfileName,ProfileValue`

Note

You can also create a CSV file without a CSV header and use it as an input to your scenario.

→ Tip

You can use consecutive commas to skip an input field.

8.2.5 Get Properties

Parameters for Get Properties

Input Parameters

Name	Type	Description
*InfoObject	CSV	CSV values for InfoObjects. The prefix 'si_' should not be specified for using the properties. CSV format: id or cuid
*Property	CSV	CSV values of properties. The prefix 'si_' should not be specified for using the properties. For a user's InfoObjects, the supported property is 'property;data'.

Output Parameters

Name	Type	Description
Success	CSV	List of InfoObjects for which the property value was successfully searched or assigned. CSV format: id or <searched property>
Failure	CSV	List of InfoObjects for which the property value could not be successfully searched or assigned. CSV format: id, cuid
All	CSV	List of all processed InfoObjects. CSV format: id, cuid

8.2.6 Set Properties

Parameters for Set Properties

Input Parameters

Name	Type	Description
*InfoObject	CSV	CSV values for InfoObjects. The prefix 'si_' should not be specified for using the properties. CSV format: id or cuid
*Property	CSV	CSV values of properties. For a user's InfoObjects, the supported property is 'property;data'.

Output Parameters

Name	Type	Description
Success	CSV	List of InfoObjects for which the property value was successfully fetched or set. CSV format: id or <searched property>
Failure	CSV	List of InfoObjects for which the property value could not be successfully fetched or set. CSV format: id, cuid
All	CSV	List of all processed InfoObjects. CSV format: id, cuid

8.2.7 Read Worklist

Parameters for Read Worklist

Input Parameters

Name	Type	Description
*File	CSV	CSV file with the required data for reading. A user can also choose a CSV file from Repository Explorer through Value Help. CSV format: <Header1>, <Header2>, ..<HeaderN> **Note** To know more about the Data Formats and Delimiters in CSV, refer to Working with CSV Data [page 38].

Output Parameters

Name	Type	Description
Values	CSV	The list of values read from the input file which are returned in comma separated format.

8.2.8 Save Output

Parameters for Save Output Task

Input Parameters

Name	Type	Description
*Parameter	CSV	Map the output obtained from the previous task.

Name	Type	Description
*File name	String	Specify the file name to save the output.
*Choose destination folder	String	Select the folder to which the file must be saved.
*Save options	String	To overwrite a file that exists with the same name, choose the value: *Overwrite*. To rename a file that exists with the same name with suffix _1, _2,..., choose the value: *Rename*.

> **Note**
>
> **Output Parameter:**
>
> Output obtained is a file in CMS. Hence, no parameter is available for consumption.

8.2.9 Logout

Parameters for Logout Task

Input Parameter

Name	Type	Description
SessionToken	String	Session token (generated because of the logon)

8.3 About Custom Task Template

You can use the standard task templates in the Automation Framework to design workflow templates and execute scenarios. If the standard templates are not enough to fulfill your needs, then you can develop your own task template and plugin to Automation Framework without restarting the service.

You can create your own custom task template using the custom task template SDK that provides an API for the developers to develop new task templates. For more information on developing custom task templates, refer to How to create custom task template in BI Automation Framework.

8.4 About Standard Workflow Templates

Standard workflow templates are provided in-built (out-of-the-box) with the Automation Framework. When creating scenarios, you can use these workflow templates.

Standard Workflow Templates Available in the Automation Framework

Template Name	Description
Logon	Establishes a session with the target BI platform server.
Refresh Documents	Refreshes the specified list of Web Intelligence documents.
Change Document Ownership	Queries for owner of the document and assigns the same owner to a different document.
Change User License Type	Queries for users list based on user-specific conditions and changes the license type.
Change Web Intelligence Source & Verify the Documents	Changes the mapping of source universe from .unv to .unx, .unx to .unx, or .unv to .bex and validates the documents for Web Intelligence documents in bulk.
Add/Remove Users	Allows an administrator to add or remove users and groups.
Logout	Ends the task session with the target BI platform server.

8.5 Managing Workflow Templates

You can create, edit, and delete custom workflow templates from the Automation Framework.

8.5.1 Creating Custom Workflow Templates

You create custom workflow templates by using standard or custom task templates.

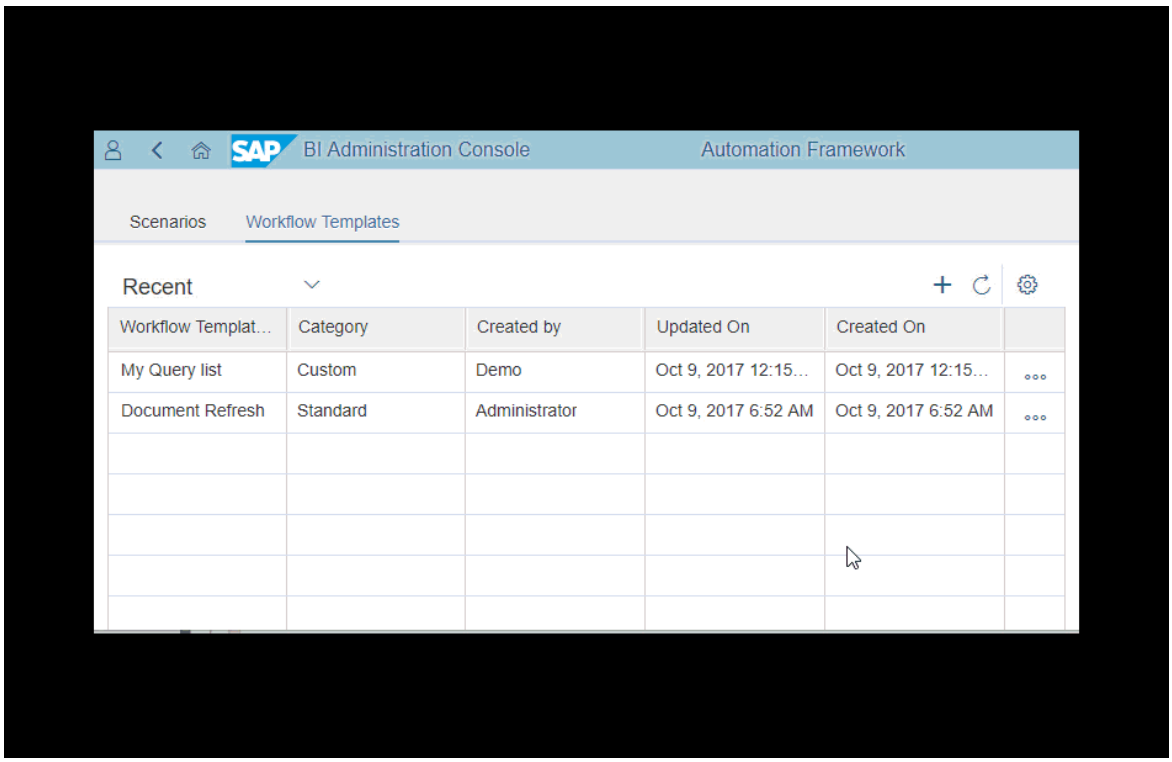
1. On the Home page, choose *Automation Framework*.
2. On the *Automation Framework* page, choose the *Workflow Templates* tab.
3. Choose the + (*Add*) icon on the top right of the *Workflow Templates*.
4. In the *Create Workflow Template* canvas, choose the > (*Expand*) icon appearing before the *Standard* and *Custom* categories of task templates in the left panel.
5. Drag and drop the required task templates to the canvas on the right side of the page.
6. Rename your dropped task template within the canvas.
7. (Optional) Choose the (*Link*) icon that appears between two task templates and select the required value for conditional parameters in the list which appears.

Here, you can also insert the required `<Time Delay>` (in seconds).

8. Choose *Save*.
9. In the *Save Workflow Template* dialog, enter a name (mandatory) for your workflow template, and add a description if required.
10. Choose *Save* in the *Save Workflow Template* dialog.

    The new workflow template starts listing in the *Workflow Templates* view of the Automation Framework as shown below:

> **Note**
>
> Any modifications to the existing workflow templates has no impact on the existing scenarios.



8.5.2 Editing Custom Workflow Templates

You edit custom workflow templates in the Automation Framework.

1. In the *Workflow Templates* tab of the Automation Framework, choose ⋯ (*More*) and select *Edit*.
2. In the *Edit Workflow Template* screen, make the required edits to the workflow template by adding/removing the task templates or by modifying the conditional parameters between task templates.
3. Choose *Save As*.
4. In the *Save Workflow Template* dialog, modify the name of the workflow template as required.
5. Select *Save*.

The modifications to the workflow template are saved and you return to the Home page of the Automation Framework.

8.5.3 Deleting Custom Workflow Templates

You delete custom workflow templates in the Automation Framework.

1. In the *Workflow Templates* tab of the Automation Framework, choose (*More*) and select *Delete*.
2. Choose *Delete* in the warning that appears.

   The deleted workflow template is no longer listed in the *Workflow Templates* tab of the Automation Framework.

8.6 Managing Scenarios and Viewing Results

Scenarios are created by connecting workflow templates. You manage scenarios and view results in the Automation Framework.

8.6.1 Creating Scenarios

This topic explains how you can create scenarios in the Automation Framework.

1. On the Home page of the BI Administration Console, choose *Automation Framework*.

   The available scenarios are listed on the page which appears.
2. Choose the + (*Add*) icon that appears at top right of the *Scenarios* view.
3. On the *Create Scenario* page, choose the > (*Expand*) icon appearing before the *Standard* and *Custom* categories of task templates in the left panel.

   > **Note**
   >
   > You can check the task's description by hovering your mouse over the task template's name.
4. Drag and drop the required workflow templates to the canvas on the right side of the page.
5. (Optional) Choose the (*Link*) icon that appears between two task templates and select the required value for conditional parameters in the list which appears.

   Here, you can also insert the required `<Time Delay>` (in seconds).
6. Click on a workflow template in the canvas.

   An input panel appears on the right side of the canvas.
7. In the input panel on the right, choose > (*Expand*) to view the input parameter fields for each task template and make the required value selections in the fields.

> **⚠ Caution**
>
> 1. If you enter an invalid value for any parameter of a workflow template, the scenario will not be saved.
> 2. Ensure that any of the input values that you specify for template parameters does not include your personal data and adheres to the General Data Protection Regulation (GDPR) guidelines. For more information on GDPR, refer to the *Business Intelligence Platform Administrator's Guide* published on the BI Platform page of the SAP Help portal.

> **ⓘ Note**
>
> You can get more information about the parameters by referring to the Parameter Info. For more information on Parameter Info, refer to About Parameter Info [page 39].

8. Choose *Save*.

> **→ Remember**
>
> It is mandatory to specify inputs for each task template in a scenario.

9. In the *Save Scenario* dialog box, provide necessary information in the *Save Scenario* and *Notify by E-mail* tabs.
   a. In the *Save Scenario* tab, enter a name (mandatory) for your scenario, add a description, and select a location, where the scenario will be saved.
   b. In the *Notify by E-mail* tab, select the toggle button to switch on.
   The options, as shown in the image below, are

   displayed.
   c. Select one or more options. Your selection is the criteria to trigger an email notification.
   d. You can either *Use Default Setting* or switch it off using the toggle button. These default settings are defined in CMC. See *Business Intelligence Administrator Guide* to learn how to define default settings for email destinations.
   e. If you deselect *Use Default Setting* then, enter *From, To*, *CC* (optional), and *BCC* (optional) e-mail address, *Subject*, and *Message*. You can also add the placeholders to each field.
10. Choose *Save* or *Save & Run*.

    The new scenario is listed in the *Scenarios* view of the *Automation Framework* and based on the criteria selected in *Notify by E-mail* tab, the email will be triggered.

8.6.1.1 Providing Input Parameters

While creating workflow templates in *Automation Framework*, you can add input values during design time and run time. This means that you can add the input values while creating and executing a scenario. There are two ways to add input values to a *Scenario*:

1. Value Help

2. Mapping output of a task as an input of another task

Value Help

You can choose an object like document and worklist from the repository explorer with the *Value Help*. For example, in a scenario to refresh the document, you can choose a document by selecting the *Value Help* icon in the *Documents* field.

Mapping output of a task as an input of another task

You can provide the output of the first task as the input for the second task while executing a scenario. You have to type @ in an input field to see the list of values obtained from the first task.

- The format of an input value is **@<WorkflowTemplate>.<TaskTemplate>.<OutputParameter>**.
- The list of input values shows only the compatible values obtained from the first task. If the input field accepts CSV as the data type for example, the input values from the previous task that are in CSV format are displayed.

> **Note**
>
> The input parameters support CSV file as an input. For more information, refer to Working with CSV Data [page 38].

8.6.1.2 Working with CSV Data

Most of the standard task templates support input parameter values in CSV format. For example, the *Document Refresh* task template supports CSV format for the input field *Documents*. This means that you can select a CSV file comprising of data in the format **name, cuid, and status** as an input for *Documents*.

> **Note**
>
> If the task input field accepts **cuid**, and you select a CSV file that contains other parameters including **cuid**, the input field then consumes only the **cuid** column values from the CSV file. For an example, refer to the CSV data below:
>
> name, cuid, status;
>
> Charting, AW4AVT1AUhVAogA6P7OQv9c, success;
>
> SalesReport, BW3AVT1AUhVAogA743QCDsD, success;
>
> In this example, the input field consumes AW4AVT1AUhVAogA6P7OQv9c and BW3AVT1AUhVAogA743QCDsD, and ignores the other values.

Column and Row Delimiter

The supported column delimiter is **,**. The row delimiter is **;**. A column and a row delimiter in an input field separates the data in column and row format. For an example, refer to the CSV data below:

name, cuid, status;

Charting, AW4AVT1AUhVAogA6P7OQv9c, success;

SalesReport, BW3AVT1AUhVAogA743QCDsD, success;

Here, the comma signifies that **name, cuid, and status** are columns, while semi-colon signifies the end of the row.

> ⓘ Note
>
> If a CSV file is an input for *Read Worklist* task template, the column delimiter is then **,**. The row delimiter is **;** or a new line.

> ⚠ Caution
>
> A value in the CSV data should not contain a comma or a semi-colon.

8.6.1.3 About Parameter Info

You can see the Parameter Info after you expand and select any parameter in the input panel of a scenario. For example, in the task template Refresh Documents, there is an input field Documents. When you select the Document Input Field, the Parameter Info is displayed.

The Parameter Info comprises of two sections:

1. Input Parameter
2. Output Parameter

Input Parameter

Input Parameter explains the type of input required for the selected field. It is specific to the input field within the task template.

Output Parameters

Output Parameters explains about the different outputs obtained from the task. It is specific to the whole task and not only for any one input field.

8.6.2 Editing Scenarios

You edit scenarios in the Automation Framework.

1. In the *Scenarios* tab of the Automation Framework, choose ⋯ (*More*) and select *Edit*.

   The "Edit Scenario" screen appears.
2. In the *Edit Scenario* screen, make the required edits to the scenario by adding/removing the workflow templates or by modifying the input parameter values of the templates.
3. Choose *Save*.

   The "Save Scenario" dialog appears.
4. In the *Save Scenario* dialog, modify the name of the scenario as required and choose *Save*.

   The modifications to the scenario are saved and you return to the Home page of the Automation Framework.

8.6.3 Deleting Scenarios

You delete scenarios in the Automation Framework.

1. In the *Scenarios* tab of the Automation Framework, choose ⋯ (*More*) and select *Delete*.
2. Choose *Delete* in the warning that appears.

   The deleted scenario is no longer listed in the *Scenarios* tab of the Automation Framework.

8.6.4 Running Scenarios and Viewing Results

You run scenarios on BI data and view results in the Automation Framework.

1. In the *Scenarios* view of the Automation Framework, choose ⋯ (*More*) and select *Run*.

   The scenario (tile or listed item) starts displaying the new status as Running or Pending. After the execution has completed, the status is updated to display the relevant value (`<Success/Partial Success/Failed/Pending/Error/Running with Error>`).

2. To view the results of the scenario (while it is running or after it has successfully run), choose ⋯ (*More*) and select *View Results*.

   > ⓘ Note
   >
   > You can select the View History option to check the results of a scenario's previous executions.

3. On the *Results Page*, expand the results to view the execution and completion details of each workflow template and task template in the scenario. Once you have viewed the results, you can return to the main screen using the < (*Back*) button.

> **Note**
>
> You can select the Export option to save the scenario results in PDF format.

> **Note**
>
> 1. You can set a maximum time for a task to respond to an agent by adding the time (in seconds) against the key value task_time_out in the wfmanager_conf.properties file. By default, the key value task_time_out is set to 86400, that is, one day.
>
> 2. The task_time_out is set for all the agents in the Automation Framework.

8.6.5 Stopping Scenarios

You can stop a scenario while the execution of the task is still in progress.

Prerequisites:

You can proceed with the steps below only if a scenario is in Running or Pending state.

- In the Scenarios view, select *More* of the scenario.
- Choose Stop.

> **Note**
>
> The Stop option doesn't stop the scenario immediately. After you select the Stop option, the current task, that is being executed, is first completed and then the scenario is stopped. This means that only the pending tasks in the scenario will not be executed.

8.7 Understanding the States of Task Templates, Workflow Templates and Scenarios

Possible Artifact (Task Template/Workflow Template/Scenario) States with Descriptions

State	Description
Created (C)	When an artifact is created but not yet executed (run) even once.
Pending (P)	When an artifact is triggered for execution and is waiting in queue for its execution.
Running (R)	When an artifact is being executed.

State	Description
Success (S)	When all the processed items are successfully executed. For example, the processed documents are refreshed successfully after the Refresh Document task. **Note** If even one workflow template in a scenario is not successful in execution, the overall scenario does not attain the state of 'Success'.
Partial Success (PS)	When only a few processed items are executed successfully. For example, when a few documents fail to refresh after the Document Refresh task, the state changes to Partial Success.
Failure (F)	When all the items are not executed successfully.
Error (E)	When an artifact encounters an error or exceptions during execution.
Running With Error (RE)	When an artifact encounters an error on the server, but continues to execute.
Not Executed	When a task template or workflow template in a scenario does not execute due to conditional parameter settings. For example, if the administrator chooses to set the condition of `<On Success>` between two workflow templates, due to which the flow of execution does not reach the next workflow template if the previous workflow template has failed. In such a case, the next and subsequent workflow templates remain in the `<Not Executed>` state.

Note

Here are the legends for the tables:

- TTS: Task Template Status
- WFTS: Workflow Template Status
- SS: Scenario Status

Status Matrix: Task Templates' Status and Resultant Workflow Template Status

TTS1	TTS2	TTS3	TTS4	TTS5	WFTS
S	S	S	E	NE	E (Error)
S	S	S	PS	NE	PS (Partial Success)
S	S	PS	F	NE	F (Failure)
S	PS	F	R	NE	R (Running)
S	E	NE	NE	NE	E (Error)
S	E	RE	NE	NE	RE (Running With Error)

The below matrix explain how the status of each workflow template impacts the overall status of the scenario.

Status Matrix: Workflow Templates' Status and Resultant Scenario Status

WFTS1	WFTS2	WFTS3	WFTS4	WFTS5	SS
S	S	S	E	NE	E (Error)
S	S	S	PS	NE	PS (Partial Success)
S	S	PS	F	NE	F (Failure)
S	PS	F	R	NE	R (Running)
S	E	NE	NE	NE	E (Error)
S	E	RE	NE	NE	RE (Running With Error)

8.8 End-to-End Process Flow of the Automation Framework

See a visual representation.

9 Checking Log Files

This topic explains how you can check the log files of ActiveMQ Broker, Automation Framework, and an agent.

ActiveMQ Broker

You can check the log files of Active MQ Broker at `<INSTALLDIR>\AdminConsole\MessagingQueueBroker\log`.

You can custom configure ActiveMQ Broker path to user path by setting:

handler.FILE.fileName=${artemis.instance}/log/artemis.log in `<INSTALLDIR>\AdminConsole\MessagingQueueBroker\etc\logging.properties`.

Automation Framework

For Automation Framework, you should choose the trace level in the *AutomationFramework_Trace.ini* file at `<INSTALLDIR>\AdminConsole\Automation Framework`. Trace files can also be configured using **_Trace.ini** file by setting the following environment variables:

- `BO_TRACE_CONFIGDIR`, to set the folder name of configuration files for logs, for example: `C:\BOTraces\config`
- `BO_TRACE_CONFIGFILE`, to set the name of the configuration file, for example `BO_trace.ini`
- `BO_TRACE_LOGDIR`, to set the folder name for logs, for example: `C:\BOTraces`

> **Note**
>
> The `INI` file name is case-sensitive.

Create the `BO_trace.ini` configuration file as follows:

```
sap_log_level = log_info;
sap_trace_level = trace_debug;
```

You can check logs by default in `<INSTALLDIR>\SAP BusinessObjects Enterprise XI 4.0\logging`.

Agent

For an agent, you should choose the trace level in the *Agent_Trace.ini* file at `<Agent_INSTALLDIR>\AdminConsole\Agent`. The trace files for agent is in the same folder. Trace files can also be configured using **_Trace.ini** file by setting the following environment variables:

- `BO_TRACE_CONFIGDIR`, to set the folder name of configuration files for logs, for example: `C:\BOTraces\config`
- `BO_TRACE_CONFIGFILE`, to set the name of the configuration file, for example `BO_trace.ini`
- `BO_TRACE_LOGDIR`, to set the folder name for logs, for example: `C:\BOTraces`

> **Note**
>
> The `INI` file name is case-sensitive.

Create the `BO_trace.ini` configuration file as follows:

```
sap_log_level = log_info;
sap_trace_level = trace_debug;
```

You can check logs by default in `<INSTALLDIR>\SAP BusinessObjects Enterprise XI 4.0\logging`.

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