MICRO FOCUS®

ALM

Software Version: 1.0

Quality Insight Installation and Administration Guide

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Quality Insight overview

In ALM 16.00, Global Search is included in Quality Insight. ALM Quality Insight enables you to do the following activities:

- Executive Dashboard enables you to create and manage KPI cards to measure the performance of your projects.
- Global Search is a search engine enabling you to query across several ALM modules. Global Search indexes items in the following modules: Defects, Requirements, Test Plan, Test Lab, and Analysis.

This guide describes how to install and configure ALM Quality Insight. After the search engine is enabled and the indexing process is completed, you can start searching your ALM project for specific information.

Scenario	Tasks that should be completed before using Quality Insight
If you installed Global Search before ALM 16.00 and want to continue using it after the upgrade.	1. "(For existing Global Search users) Install Quality Insight" on page 8. 2. "Configure Quality Insight" on page 30
If you did not install Global Search before and want to use Quality Insight in ALM 16.00.	1. "Install Quality Insight (Windows)" on page 11 or "Install Quality Insight (Linux)" on page 21. 2. "Configure Quality Insight" on page 30.

System requirements

This section describes the system requirements for installing ALM Quality Insight.

> **Note:** ALM Quality Insight must be installed on a dedicated machine, separate from the ALM server machine.

This section includes:

Hardware requirements

Operating System (Windows)	• Microsoft Windows Server 2012 R2 • Microsoft Windows Server 2016
Operating System (Linux)	Red Hat Enterprise Linux 6.5 (64-bit) or higher
CPU	Quad Core AMD64 processor or equivalent x86-compatible processor
Memory (RAM)	Recommended: 32 GB Supported: 16 GB
Free disk space	Ratio of 1:5 between the size of the ALM database and Quality Insight. For example, if your ALM database is 20 GB, then you need at least 100 GB of free disk space for Quality Insight. There is an option to change the location where Quality Insight data is stored, such as to a shared location. In this case, the above requirements would apply for the specified location where the data is saved.

Note: If you need to choose between faster CPUs or more cores, choose more cores. The extra concurrency that multiple cores offers will far outweigh a slightly faster clock speed.

Network requirements

To prevent network access to Quality Insight data, make sure that the Quality Insight machine is protected behind a firewall, and that only the ALM server and other trusted machines can access it.

Software requirements

Software	Java JDK 8

Permissions

Permissions (Windows)	Administrator
Permissions (Linux)	sudoer user

(For existing Global Search users) Install Quality Insight

In ALM 16.00, Global Search is included in Quality Insight. If you have installed Global Search before ALM 16.00, after the upgrade, you should uninstall Global Search and install Quality Insight to continue using Global Search. This section describes how to install and configure Quality Insight for existing Global Search users.

> **Note:** If you did not install Global Search before, see "Install Quality Insight (Windows)" on page 11 or "Install Quality Insight (Linux)" on page 21 for details.

Uninstall Global Search and install Quality Insight in Windows

We recommend you install Quality Insight in a different server than where Global Search is installed.

1. Uninstall Global Search.

2. (Only required if you install Quality Insight in the same server as Global Search) Clear the embedded JDK path in system environment variables.

   a. Remove the following variables:

      - JAVE_HOME
      - JDK_HOME
      - JRE_HOME

   b. Remove the embedded JDK path from the **Path** variable.

3. Install the JAVA JDK 8 environment.

4. Install Quality Insight. See "Install Quality Insight (Windows)" on page 11.

5. Change the server port of Quality Insight.

   After the installation, the server port of Quality Insight is 8080. If 8080 has already been occupied, you should change the server port of Quality Insight.

   a. Update the port number in the `alm-fetcher-service.properties` file, which is located in the `{installation path}\apache-tomcat-9.0.22\webapps\alm-fetcher-service\WEB-INF\classes` directory.

   ```
   <Server port="8005" shutdown="SHUTDOWN">
      <Service name="Catalina">
        <Connector port="8080" protocol="HTTP/1.1"
   ```

```
connectionTimeout="20000"
        redirectPort="8443" />
```

By default, the path is `C:\Program Files\MicroFocus\QualityInsight\apache-tomcat-9.0.22\webapps\alm-fetcher-service\WEB-INF\classes\alm-fetcher-service.properties`.

b. Update the port number in the `server.xml` file, which is located in the `{installation path}\apache-tomcat-9.0.22\conf` directory.

```
iris.server.url=http://localhost:8080
```

By default, the path is `C:\Program Files\MicroFocus\QualityInsight\apache-tomcat-9.0.22\conf\server.xml`.

Uninstall Global Search and install Quality Insight in Linux

We recommend you install Quality Insight in a different server than where Global Search is installed.

1. Uninstall Global Search.

2. Install Quality Insight. See .

3. Change the server port of Quality Insight.

   After the installation, the server port of Quality Insight is 8080. If 8080 has already been occupied, you should change the server port of Quality Insight.

   a. Update the port number in the `alm-fetcher-service.properties` file, which is located in the `{installation path}/apache-tomcat-9.0.22/webapps/alm-fetcher-service/WEB-INF/classes` directory.

```
<Server port="8005" shutdown="SHUTDOWN">
   <Service name="Catalina">
      <Connector port="8080" protocol="HTTP/1.1"
connectionTimeout="20000"
        redirectPort="8443" />
```

   By default, the path is `/var/opt/MicroFocus/QualityInsight/apache-tomcat-9.0.22/webapps/alm-fetcher-service/WEB-INF/classes/alm-fetcher-service.properties`.

b. Update the port number in the `server.xml` file, which is located in the `{installation path}/apache-tomcat-9.0.22/conf` directory.

```
iris.server.url=http://localhost:8080
```

By default, the path is `/var/opt/MicroFocus/QualityInsight/apache-tomcat-9.0.22/conf/server.xml`.

Change starting sync time of Quality Insight (for both Windows and Linux)

Only data whose last modified date is later the starting sync time of Quality Insight will be synchronized from the ALM server to the Quality Insight server and then be fetched by Quality Insight. By default, the starting sync time is 2020-01-01 00:00:00.

To change the stating sync time of Quality Insight:

1. Update `alm.fetch.initial.date` in the `alm-fetcher-service.properties` file, which is located in the `{installation path}\apache-tomcat-9.0.22\webapps\alm-fetcher-service\WEB-INF\classes` directory.

   The new date format should be the same as the default date: `YYYY-MM-DD HH:MM:SS`.

2. For Windows: Open Windows Services, and restart the MF Quality Insight service.

   For Linux: Stop and start the Quality Insight service by using the following command:

   `service <MF_QI> <start / stop>`

Install Quality Insight (Windows)

This section describes how to install and configure Quality Insight in Windows. If you have installed Global Search before ALM 16.00, after the upgrade, you should uninstall Global Search and then install Quality Insight. For details, see "(For existing Global Search users) Install Quality Insight" on page 8.

> **Note:** You can install Quality Insight on a virtual machine with 4GB memory.

This section includes:

Installation workflow

The installation process includes the following procedures (briefly described here):

1. **Create a dedicated ALM user for Quality Insight in ALM Site Administration**: Before you install Quality Insight, you must first create a dedicated ALM user. During the installation process, you will be required to fill in the user name name and password of the Quality Insight user that was defined in ALM Site Administration. For more details, see "Create a dedicated user for Quality Insight" below.

2. **Install Quality Insight**: Download and install Quality Insight. Follow the installation wizard instructions to complete the required configurations. You can change the default installation directory and indexed data location, as required. For more details, see "Install Quality Insight" on the next page.

3. **Enable Quality Insight in ALM Site Administration**: Before you can use Quality Insight, you must first enable Quality Insight in ALM Site Administration. You can enable Quality Insight on a particular project, or on multiple projects simultaneously. For more details, see "Enable Quality Insight in ALM Site Administration" on page 16.

4. **Monitor the indexing status**: Indexing a large project for the first time can take several hours. You may want to monitor the indexing progress. For more details, see "Monitor the indexing status" on page 17.

5. **Modify Quality Insight configurations**: After Quality Insight installation is complete, you can modify configuration settings, such as the indexed data location and ALM server URL. For more details, see "Modify Quality Insight configurations" on page 18.

6. **Change the user that runs the Quality Insight service**: By default, the Quality Insight service is run by the local system user. You can change the user that runs the Quality Insight service to a different Windows user. Make sure that the Windows user has permissions to run services, and permissions to access the specified data location. For more details, see "Change the user that runs the Quality Insight service" on page 19.

7. **Configure trust on the Quality Insight server**: This is required when Quality Insight connects to the ALM server through the HTTPS protocol. For more details, see "Configure trust on the Quality Insight server" on page 19.

Create a dedicated user for Quality Insight

Before you install Quality Insight, create a dedicated ALM user for Quality Insight.

To create a dedicated ALM user for Quality Insight:

1. Log in to ALM Site Administration (`http://<ALM server name>:<port number>/qcbin/SiteAdmin.jsp`).
2. Click the **Site Users** tab.
3. **Add the new user:**

    a. Click the **New User** button 📇. The New User dialog box opens.

    b. Type a **User Name** (maximum length 60 characters). A user name cannot include the following characters: **( ) @ \ / : * ? " ` < > | + = ; , %**

    c. Type additional user information: **Full Name**, **E-mail**, **Phone Number**, and a **Description**. The email information is important, since it enables users to receive project information directly to their mailboxes.

    d. Click **OK**. The new user is added to the Users list.

4. **Set the user password:**

    a. Select the user and click the **Password** button. The Set User Password dialog box opens.

    b. In the **New Password** box, type a new password (maximum length 20 characters).

    c. In the **Retype Password** box, retype the new password.

    d. Click **OK**.

By default, when the new user is created, the new user's permissions are set to "Viewer". This is what is required for Quality Insight for security reasons. So at this point, you do not need to change the settings. When required, the user groups and permissions can be modified in the ALM Project Customization window in the Groups and Permissions page. For more details, see "Assigning Users to Groups" in the *Micro Focus Application Lifecycle Management Administrator Guide*.

> **Note:** If SSO is enabled in your environment, create an API key for the dedicated Quality Insight ALM user. For details, see the the *Micro Focus Application Lifecycle Management Administrator Guide*.

Install Quality Insight

This section describes the steps required to install Quality Insight.

To install Quality Insight:

1. Download ALM Quality Insight.

2. Run the program. The InstallAnywhere wizard will guide you through the rest of the installation process.

   The Quality Insight Welcome page opens.

3. Click **Next** to continue. The Choose JDK/JRE Path page opens. Select the path where your JDK/JRE pacakge is stored.

4. Click **Next** to continue. The Installation Folder Selection page opens.

5. Click **Next** to proceed to install the files into the Program Files directory (recommended), or click **Choose** to install to a different directory.

The Configurations page opens.

> **Note:** If you have not created a dedicated Quality Insight user in ALM Site Administration, make sure that you do so, before continuing to the next step. For details, see "Create a dedicated user for Quality Insight" on page 12.

6. Fill in the fields, as described in the table below.

UI Element	Description
Data location	The location of the indexed data. Use the default location which is set to store the indexed data on the local Quality Insight machine, or change the location, as required. For example, to save the indexed data to a shared location, click **Choose** and enter the shared location in the **Data location** box. Changing the data location will prevent the indexed data from being deleted upon Quality Insight upgrade or uninstallation.
ALM server URL	Enter the URL of the ALM server > **Note:** If ALM is configured with SSL and the connection verification fails, check the ALM server URL and port, and proceed with the installation. After installation is completed, you will be able to add the required SSL certificate. For details, see "Configure trust on the Quality Insight server" on page 19.
Quality Insight user name	Type the name of the dedicated Quality Insight user, as defined in ALM Site Administration. > **Note:** You can use API key to connect to the ALM server.
Quality Insight password	Type the password of the dedicated Quality Insight user. > **Note:** You can use API key to connect to the ALM server.

UI Element	Description
Enable Server to Server Authentication	To add server to server authentication using a LWSSO token, select this option and add the **InitString**. The InitSring should be the same value as the defined for the COMMUNICATION_SECURITY_ PASSPHRASE parameter. **Tip:** You can modify this option after installing Quality Insight by changing the iris-service file in **<Quality Insight installation folder>\apache-tomcat-9.0.22\webapps\iris-service\WEB- INF\classes**.

7. Click **Next** to continue. The Pre-Installation Summary page opens. Review the details before continuing.

8. Click **Install** to proceed with the installation. The Installing Quality Insight page opens, showing the installation progress.

   The installation validation page opens, prompting you to wait while Quality Insight is being configured.

   If the installation completes successfully, the following message is displayed. Click **Done** to exit the installation wizard.

   If the installation completes with errors, check the installation log for details, and restart the computer to complete the installation.

Enable Quality Insight in ALM Site Administration

This section describes how to enable Quality Insight on a particular project, and on multiple projects in ALM Site Administration.

Before you can enable Quality Insight in ALM Site Administration, you must first do the following prerequisite steps.

Prerequisites

1. Create a dedicated Quality Insight user. For more details, see "Create a dedicated user for Quality Insight" on page 12.

2. Set viewer permissions for the dedicated Quality Insight user (this is required for security reasons). By default, upon new user creation, the user's permissions are set to "Viewer". View and modify user groups and permissions in the ALM Project Customization window in the Groups and Permissions page. For more details, see "Assigning Users to Groups" in the *Micro Focus Application Lifecycle Management Administrator Guide*.

3. Set the ALLOW_WEBUI_ACCESS site parameter in ALM Site Administration. In Site Administration, click the **Site Configuration** tab. Set the ALLOW_WEBUI_ACCESS parameter value to 'Y'.

4. Enable Quality Insight at a site level.

    a. In ALM Site Administration, select **Tools > Quality Insight**. The Quality Insight Settings dialog box opens.

    b. Select **Enable**.

    c. In **Quality Insight Server**, type the URL of the Quality Insight server. Click **Test** to verify the URL.

    d. In **User Name**, select the dedicated user name for Quality Insight from the drop-down list.

5. Download and install Quality Insight. For more details, see "Install Quality Insight" on page 13.

To enable Quality Insight on a project:

1. In ALM Site Administration, select the **Site Projects** tab.

2. In the Projects list, select a project.

3. In the right pane, select the **Project Details** tab.

    The project's details are displayed.

4. In the **Quality Insight** area, click the **Enable Quality Insight** button.

To enable Quality Insight on multiple projects:

1. In ALM Site Administration, in the **Site Users** tab, from the Users list in the left pane, select the relevant Quality Insight user, and in the right pane, select the **User Projects** tab. The Projects list for the selected user is displayed.

2. Click the **Select Projects** button. The ALM Projects list is displayed in a new pane to the right of the **User Projects** tab.

3. To select projects from the Projects list, expand the directory, and select the projects that you want to assign to the user.

4. Click the **Add current user to the selected projects** button ⬄. The selected projects are added to the User Projects list.

   After the user is added to all the selected projects, Quality Insight is enabled on these projects, and the indexing process starts.

   > **Note:** After enabling Quality Insight on a project or on multiple projects, an indexing process is started, and it can take a few hours to complete, depending on the amount of data. Once the process is done, the project data is ready to be searched. For details on how to monitor the status of the indexing process, see "Monitor the indexing status" below.

Monitor the indexing status

Indexing a large project for the first time can take several hours. Changing the data location after Quality Insight is installed will require a similar amount of time as initial indexing, since all the data will be re-indexed and the indexing process will start over. You may want to monitor the progress of the indexing process.

To monitor the status of the indexing process:

1. Send an HTTP GET request to the URL:

   ```
   http://<quality insight server>:<port>/alm-fetcher-
   service/api/health/
   ```

2. When the indexing process has finished, the status changes from "RUNNING" to "WAITING". This indicates that the indexing has finished and is waiting for the next time new data is pooled. Every few hours, the system will query if there is new data to index.

   > **Note:** When _nextRuntime has a value other than "-1", this indicates that the indexing process has completed and the project data is ready to be searched with
   >
   > Quality Insight. (If _nextRuntime is "-1", this indicates that the indexing has not yet started or is still in progress, and has not yet completed for the first time.)

Modify Quality Insight configurations

After Quality Insight is installed, you can modify configuration settings, such as data location or ALM server URL, as required.

For example, you may decide to store the data in a shared location, or in a folder outside the installation directory to prevent it from being deleted upon Quality Insight upgrade or uninstallation.

> **Note:** Changing configuration settings may cause some downtime until the Quality Insight service restarts. If you change the data location after Quality Insight is installed, all the data will be re-indexed. The indexing process will start over and will take a similar amount of time as when indexing the project for the first time.

To modify and update Quality Insight configurations:

1. From the Windows **Start** menu, select **All Programs > Micro Focus > Quality Insight - Update Configurations**.

   The Quality Insight - Configurations page opens.

2. Edit the required settings.

3. Click **Save**. The Quality Insight service restarts.
   You may have to wait a few moments for Quality Insight to be available. A message is displayed, indicating that the Quality Insight service is ready.

Change the user that runs the Quality Insight service

By default, the Quality Insight service is run by the local system user. You can change the user that runs the Quality Insight service to a different Windows user. Make sure that the Windows user has permissions to run services.

> **Note:** If you decide change the location where Quality Insight data is stored, such as to a shared location, make sure that the Windows user running the Quality Insight machine has permissions to access the specified location.

To change the Quality Insight service user:

1. On the machine where Quality Insight is running, press Win+R, and in the Run command box, type **services.msc** and press **Enter**. The **Services** window opens.

2. Stop both the **MF Quality Insight** and **MF Quality Insight ES** services.

3. Double-click each service. The Search Properties dialog box opens.

4. In the **Log On** tab, change the user for each service.

5. Start both services.

Configure trust on the Quality Insight server

After installing Quality Insight, you can configure trust on the Quality Insight server. This is required when Quality Insight connects to the ALM server through the HTTPS protocol.

To configure SSL in Quality Insight:

1. Prepare the keystore file with your certificate chain and place it in the relevant folder (for example, `<quality insight install path>\apache-tomcat-9.0.22\conf`). To learn more, see the Certificate Authority (CA) documentation.

2. Configure Apache Tomcat to use HTTPS:
   a. Navigate to `<quality insight install path>\apache-tomcat-9.0.22\conf` and open `server.xml`.
   b. Add:

   ```
   <Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol"
   maxThreads="150" SSLEnabled="true" scheme="https" secure="true"
   clientAuth="false" sslProtocol="TLS" keystoreFile="conf/keystore.jks"
   keystorePass="changeit"
   sslEnabledProtocols="TLSv1,TLSv1.1,TLSv1.2"/>
   ```

The following table describes the above properties:

Property	Description
port	The SSL port that will be used to connect from ALM
protocol	For protocol details, see Apache Tomcat documentation
keystoreFile	The path to your keystore
keystorePass	The password to your keystore
sslEnabledProtocols	The allowed SSL protocols

3. Add the primary, intermediate, and CA certificates used in ALM to the Quality Insight keystore. The default location is `<JDK install path>\jre\lib\security\cacerts`.

   "%JAVA_HOME%\bin\keytool" -import -trustcacerts -alias mydomain -file sertificate.crt -keystore "<JDK install path>\jre\lib\security\cacerts"

4. Restart Quality Insight and verify the installation:

   ```
   https://<quality_insight_server>:<PORT>/iris-service/
   ```

   A message is displayed, confirming that the configuration is correct.

5. Add the primary, intermediate, and CA certificates used in Quality Insight to the ALM keystore. The default location is `<JDK install path>\jre\lib\security\cacerts`.

   "%JAVA_HOME%\bin\keytool" -import -trustcacerts -alias mydomain -file sertificate.crt -keystore "<JDK install path>\jre\lib\security\cacerts"

6. Restart ALM and configure Quality Insight using SSL.

   For more details, see https://tomcat.apache.org/tomcat-8.0-doc/ssl-howto.html.

Install Quality Insight (Linux)

This section describes how to install and configure Quality Insight in Linux. If you have installed Global Search before ALM 16.00, after the upgrade, you should uninstall Global Search and then install Quality Insight. For details, see "(For existing Global Search users) Install Quality Insight" on page 8.

> **Note:** You can install Quality Insight on a virtual machine with 4GB memory.

This section includes:

Installation workflow

The installation process includes the following procedures (briefly described here):

1. **Create a dedicated ALM user for Quality Insight in ALM Site Administration**: Before you install Quality Insight, you must first create a dedicated ALM user. During the installation process, you will be required to fill in the user name and password of the Quality Insight user that was defined in ALM Site Administration. For more details, see "Create a dedicated user for Quality Insight" below.

2. **Install Quality Insight**: Download and install Quality Insight. Follow the installation wizard instructions to complete the required configurations. You can change the default installation directory and indexed data location, as required. For more details, see "Install Quality Insight" on the next page.

3. **Enable Quality Insight in ALM Site Administration**: Before you can use Quality Insight, you must first enable Quality Insight in ALM Site Administration. You can enable Quality Insight on a particular project, or on multiple projects simultaneously. For more details, see "Enable Quality Insight in ALM Site Administration" on page 26.

4. **Monitor the indexing status**: Indexing a large project for the first time can take several hours. You may want to monitor the indexing progress. For more details, see "Monitor the indexing status" on page 27.

5. **Configure trust on the Quality Insight server**: This is required when Quality Insight connects to the ALM server through the HTTPS protocol. For more details, see "Configure trust on the Quality Insight server" on page 28.

Create a dedicated user for Quality Insight

Before you install Quality Insight, create a dedicated ALM user for Quality Insight.

To create a dedicated ALM user for Quality Insight:

1. Log in to ALM Site Administration (`http://<ALM server name>:<port number>/qcbin/SiteAdmin.jsp`).
2. Click the **Site Users** tab.
3. **Add the new user:**

   a. Click the **New User** button. The New User dialog box opens.

   b. Type a **User Name** (maximum length 60 characters). A user name cannot include the following characters: **( ) @ \ / : * ? " ` < > | + = ; , %**

   c. Type additional user information: **Full Name**, **E-mail**, **Phone Number**, and a **Description**. The email information is important, since it enables users to receive project information directly to their mailboxes.

   d. Click **OK**. The new user is added to the Users list.

4. **Set the user password:**

a. Select the user and click the **Password** button. The Set User Password dialog box opens.

b. In the **New Password** box, type a new password (maximum length 20 characters).

c. In the **Retype Password** box, retype the new password.

d. Click **OK**.

By default, when the new user is created, the new user's permissions are set to "Viewer". This is what is required for Quality Insight for security reasons. So at this point, you do not need to change the settings. When required, the user groups and permissions can be modified in the ALM Project Customization window in the Groups and Permissions page. For more details, see "Assigning Users to Groups" in the *Micro Focus Application Lifecycle Management Administrator Guide*.

Note: If SSO is enabled in your environment, create an API key for the dedicated Quality Insight ALM user. For details, see the the *Micro Focus Application Lifecycle Management Administrator Guide*.

Install Quality Insight

This section describes the steps required to install Quality Insight.

Note: Only users with root user permissions can execute the Quality Insight installation. The installation can be run in console mode only.

To install Quality Insight:

1. Download ALM Quality Insight.

2. Log in to the Linux machine. Add a user (not a root user) with root user permissions:

   `"<created user name> ALL=(ALL) ALL"` to the sudoers file under **"root ALL=(ALL) ALL")**

3. Install Quality Insight using this user. Run the following `chmod` command to allow permissions for the installation files:

   ```
   su <created user name>
   sudo chmod a+x QualityInsight.bin
   sudo chown –R admin "your installation path" (for example: /var/opt)
   sudo chmod a+rwx "init.d folder path" (for example: /etc/init.d)
   ./QualityInsight.bin
   ```

4. Run the installer and follow the on-screen instructions. The wizard will guide you through the rest of the installation process.

5. Press **Enter** to continue.

6. Choose a destination folder for this installation. The default installation folder is:

   `/var/opt/MicroFocus/Quality Insight`.

7. Press **Enter** to continue.

   > **Note:** If you have not created a dedicated Quality Insight user in ALM Site Administration, make sure that you do so, before continuing to the next step. For details, see "Create a dedicated user for Quality Insight" on page 22.

8. Configure Quality Insight settings, as described in the table below.

Data location	The location of the indexed data. Use the default location which is set to store the indexed data on the local Quality Insight machine, or change the location, as required. For example, to save the indexed data to a shared location, click **Choose** and enter the shared location in the **Data location** box. Changing the data location will prevent the indexed data from being deleted upon Quality Insight upgrade or uninstallation.
ALM server URL	Enter the URL of the ALM server > **Note:** If ALM is configured with SSL and the connection verification fails, check the ALM server URL and port, and proceed with the installation. After installation is completed, you will be able to add the required SSL certificate. For details, see "Configure trust on the Quality Insight server" on page 28.
Quality Insight user name	Type the name of the dedicated Quality Insight user, as defined in ALM Site Administration. > **Note:** You can use API key to connect to the ALM server.
Quality Insight password	Type the password of the dedicated Quality Insight user. > **Note:** You can use API key to connect to the ALM server.

Enable Server to Server Authentication	To add server to server authentication using a LWSSO token, select this option and add the **InitString**. The InitSring should be the same value as the defined for the COMMUNICATION_SECURITY_ PASSPHRASE parameter. **Tip:** You can modify this option after installing Quality Insight by changing the iris-service file in **<Quality Insight installation folder>/apache-tomcat-9.0.22/webapps/iris-service/WEB- INF/classes**.

9. Press **Enter** to continue.

10. Review the pre-installation summary details before continuing.

11. Press **Enter** to proceed with the installation.

    The installation progress is displayed. You are prompted to wait while Quality Insight is being configured.

    If the installation completes successfully, the following message is displayed.

    Press **Enter** to exit the installer.

    If the installation completes with errors, check the installation log for details, and restart the computer to complete the installation.

    After the installation is completed successfully, Quality Insight should be up and running.

12. To start and stop the installed services, use the following command:

    ```
    service <MF_QI/MF_QI_ES> <start / stop >
    ```

Enable Quality Insight in ALM Site Administration

This section describes how to enable Quality Insight on a site level, on a particular project, and on multiple projects in ALM Site Administration.

Before you can enable Quality Insight in ALM Site Administration, you must first do the following prerequisite steps. (At this stage, it is assumed that you have already done these prerequisite steps in the previous procedures.)

Prerequisites

1. Create a dedicated Quality Insight user. For more details, see "Create a dedicated user for Quality Insight" on page 22.

2. Set viewer permissions for the dedicated Quality Insight user (this is required for security reasons). By default, upon new user creation, the user's permissions are set to "Viewer". View and modify user groups and permissions in the ALM Project Customization window in the Groups and Permissions page. For more details, see "Assigning Users to Groups" in the *Micro Focus Application Lifecycle Management Administrator Guide*.

3. Set the ALLOW_WEBUI_ACCESS site parameter in ALM Site Administration. In Site Administration, click the **Site Configuration** tab. Set the ALLOW_WEBUI_ACCESS parameter value to 'Y'.

4. Enable Quality Insight on a site level.

    a. In ALM Site Administration, select **Tools > Quality Insight**. The Quality Insight Settings dialog box opens.

    b. Select **Enable**.

    c. In **Quality Insight Server**, type the URL of the Quality Insight server. Click **Test** to verify the URL.

    d. In **User Name**, select the dedicated user name for Quality Insight from the dropdown list.

5. Download and install Quality Insight. For more details, see "Install Quality Insight" on page 23.

To enable Quality Insight on a project:

1. In ALM Site Administration, select the **Site Projects** tab.

2. In the Projects list, select a project.

3. In the right pane, select the **Project Details** tab.

    The project's details are displayed.

4. In the **Quality Insight** area, click the **Enable Quality Insight** button.

To enable Quality Insight on multiple projects:

1. In ALM Site Administration, in the **Site Users** tab, from the Users list in the left pane, select the relevant Quality Insight user, and in the right pane, select the **User Projects** tab. The Projects list for the selected user is displayed.

2. Click the **Select Projects** button. The ALM Projects list is displayed in a new pane to the right of the **User Projects** tab.

3. To select projects from the Projects list, expand the directory, and select the projects that you want to assign to the user.

4. Click the **Add current user to the selected projects** button ⮐. The selected projects are added to the User Projects list.

   After the user is added to all the selected projects, Quality Insight is enabled on these projects, and the indexing process starts.

> **Note:** After enabling Quality Insight on a project or on multiple projects, an indexing process is started, and it can take a few hours to complete, depending on the amount of data. Once the process is done, the project data is ready to be searched. For details on how to monitor the status of the indexing process, see "Monitor the indexing status" below.

Monitor the indexing status

Indexing a large project for the first time can take several hours. Changing the data location after Quality Insight is installed will require a similar amount of time as initial indexing, since all the data will be re-indexed and the indexing process will start over. You may want to monitor the progress of the indexing process.

To monitor the status of the indexing process:

1. Send an HTTP GET request to the URL:

   ```
   http://<quality insight server>:<port>/alm-fetcher-
   service/api/health/
   ```

2. When the indexing process has finished, the status changes from "RUNNING" to "WAITING". This indicates that the indexing has finished and is waiting for the next time new data is pooled. Every few hours, the system will query if there is new data to index.

   > **Note:** When _nextRuntime has a value other than "-1", this indicates that the indexing process has completed and the project data is ready to be searched with
   >
   > Quality Insight. (If _nextRuntime is "-1", this indicates that the indexing has not yet started or is still in progress, and has not yet completed for the first time.)

Configure trust on the Quality Insight server

After installing Quality Insight, you can configure trust on the Quality Insight server. This is required when Quality Insight connects to the ALM server through the HTTPS protocol.

To configure SSL in Quality Insight:

1. Prepare the keystore file with your certificate chain and place it in the relevant folder (for example, `<quality insight install path>/apache-tomcat-9.0.22/conf`). To learn more, see the Certificate Authority (CA) documentation.

2. Configure Apache Tomcat to use HTTPS:

   a. Navigate to `<quality insight install path>/apache-tomcat-9.0.22/conf` and open `server.xml`.

   b. Add:

      <Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol"

      maxThreads="150" SSLEnabled="true" scheme="https" secure="true"

      clientAuth="false" sslProtocol="TLS" keystoreFile="conf/keystore.jks"
      keystorePass="changeit"
      `sslEnabledProtocols="TLSv1,TLSv1.1,TLSv1.2"/>`

      The following table describes the above properties:

Property	Description
port	The SSL port that will be used to connect from ALM
protocol	For protocol details, see Apache Tomcat documentation
keystoreFile	The path to your keystore
keystorePass	The password to your keystore
sslEnabledProtocols	The allowed SSL protocols

3. Add the primary, intermediate, and CA certificates used in ALM to the Quality Insight keystore. The default location is `<JDK install path>/jre/lib/security/cacerts`.

   "%JAVA_HOME%/bin/keytool" -import -trustcacerts -alias mydomain -file sertificate.crt -keystore "<JDK install path>\jre\lib\security\cacerts"

4. Restart Quality Insight and verify the installation:

   `https://<quality insight server>:<PORT>/iris-service/`

   A message is displayed, confirming that the configuration is correct.

5. Add the primary, intermediate, and CA certificates used in Quality Insight to the ALM keystore. The default location is `<JDK install path>/jre/lib/security/cacerts`.

   "%JAVA_HOME%/bin/keytool" -import -trustcacerts -alias mydomain -file sertificate.crt -keystore "<JDK install path>/jre/lib/security/cacerts"

6. Restart ALM and configure Quality Insight using SSL.

For more details, see https://tomcat.apache.org/tomcat-8.0-doc/ssl-howto.html.

Configure Quality Insight

Configure Quality Insight after you install it.

Change starting sync time of Quality Insight (for both Windows and Linux)

Only data whose last modified date is later the starting sync time of Quality Insight will be synchronized from the ALM server to the Quality Insight server and then be fetched by Quality Insight. By default, the starting sync time is 2020-01-01 00:00:00.

To change the stating sync time of Quality Insight:

1. Update `alm.fetch.initial.date` in the `alm-fetcher-service.properties` file, which is located in the `{installation path}\apache-tomcat-9.0.22\webapps\alm-fetcher-service\WEB-INF\classes` directory.

   The new date format should be the same as the default date: `YYYY-MM-DD HH:MM:SS`.

2. For Windows: Open Windows Services, and restart the MF Quality Insight service.

   For Linux: Stop and start the Quality Insight service by using the following command:

   `service <MF_QI> <start / stop>`

Change server port of Quality Insight

After the installation, the server port of Quality Insight is 8080. If 8080 has already been occupied, you should change the server port of Quality Insight.

For Windows:

1. Update the port number in the `alm-fetcher-service.properties` file, which is located in the `{installation path}\apache-tomcat-9.0.22\webapps\alm-fetcher-service\WEB-INF\classes` directory.

   ```
   <Server port="8005" shutdown="SHUTDOWN">
      <Service name="Catalina">
        <Connector port="8080" protocol="HTTP/1.1"
   connectionTimeout="20000"
          redirectPort="8443" />
   ```

   By default, the path is `C:\Program Files\MicroFocus\QualityInsight\apache-tomcat-9.0.22\webapps\alm-fetcher-service\WEB-INF\classes\alm-fetcher-service.properties`.

2. Update the port number in the `server.xml` file, which is located in the `{installation path}\apache-tomcat-9.0.22\conf` directory.

```
iris.server.url=http://localhost:8080
```

By default, the path is `C:\Program Files\MicroFocus\QualityInsight\apache-tomcat-9.0.22\conf\server.xml`.

For Linux:

1. Update the port number in the `alm-fetcher-service.properties` file, which is located in the `{installation path}/apache-tomcat-9.0.22/webapps/alm-fetcher-service/WEB-INF/classes` directory.

```
<Server port="8005" shutdown="SHUTDOWN">
    <Service name="Catalina">
        <Connector port="8080" protocol="HTTP/1.1"
connectionTimeout="20000"
        redirectPort="8443" />
```

By default, the path is `/var/opt/MicroFocus/QualityInsight/apache-tomcat-9.0.22/webapps/alm-fetcher-service/WEB-INF/classes/alm-fetcher-service.properties`.

2. Update the port number in the `server.xml` file, which is located in the `{installation path}/apache-tomcat-9.0.22/conf` directory.

```
iris.server.url=http://localhost:8080
```

By default, the path is `/var/opt/MicroFocus/QualityInsight/apache-tomcat-9.0.22/conf/server.xml`.

Configure entity fields synched to Quality Insight

You can define which entity fields are synched from the ALM server to the Quality Insight server. By default, some requirement fields and all fields of other entity types are synched.

To define which entity fields are synched:

1. Open the `alm-fetcher-service-application-context.xml` file that is located in the `{installation path}\apache-tomcat-9.0.22\webapps\alm-fetcher-service\WEB-INF` directory.

2. Locate the `<util:list>` element for the entity type whose fields you want to specify.

> **Example:** If you want to specify fields for the defect entity type, locate the following element.
>
> ```
> <util:list id="defect-alm-fields" list-
> class="java.util.ArrayList" value-type="java.lang.String">
>
> </util:list>
> ```

3. In the target `<util:list>` element, add the names of the fields you want to sync to Quality Insight.

> **Note:** Entity field names are not necessarily the same as field labels. To obtain field names:
>
> a. Call the REST API: `GET/qcbin/rest/domains/{domain}/projects/{project}/customization/entities/{entity name}/fields`.
> b. The name of a field is the value of the **Name** attribute of the **Field** element.
>
>   For example, `<Field Label="Author" Name="owner" PhysicalName="RQ_REQ_AUTHOR">`. The field name for the **Author** field is **owner**.

> **Example:** If you want to sync the defect fields such as Actual Fix Time, Assigned To, Closing Date, and Detected By to Quality Insight, you should add the following values to the `<util:list>` element for the defect entity type.
>
> ```
> <util:list id="defect-alm-fields" list-
> class="java.util.ArrayList" value-type="java.lang.String">
>    <value>actual-fix-time</value>
>    <value>owner</value>
>    <value>closing-date</value>
>    <value>detected-by</value>
> </util:list>
> ```

4. Restart the MF Quality Insight service.

   For Windows: Open Windows Services, and restart the MF Quality Insight service.

   For Linux: Stop and start the Quality Insight service by using the following command:
   `service <MF_QI> <start / stop>`.
5. Re-index data by rebuilding dashboard cards. See the online help.

Set maximum number of KPI cards

You can define the maximum number of KPI cards each user can create in **Quality Insight** > **Executive Dashboard**. By default, a user can create up to 100 KPI cards.

To set the maximum number of KPI cards:

1. Open the `iris.properties` file that is located in the `{installation path}\apache-tomcat-9.0.22\webapps\iris-service\WEB-INF\classes` directory.

2. Update the value of the `iris-service.search.page-size.limit` parameter.
3. Restart the MF Quality Insight service.

   For Windows: Open Windows Services, and restart the MF Quality Insight service.

   For Linux: Stop and start the Quality Insight service by using the following command:

   `service <MF_QI> <start / stop>.`

Launch Quality Insight

You can launch Quality Insight upon ALM startup from the Application Lifecycle Management Options window, or from the ALM Desktop Client.

To launch Quality Insight from the Application Lifecycle Management Options window:

1. Open your Web browser and type your ALM URL:

   ```
   http://<ALM server name>[<:port number>]/qcbin
   ```
   The ALM Options window opens.

2. In the Application Lifecycle Management Options window, click the **Quality Insight (Global Search included)** link.

3. In the ALM login window, enter user name and password, click **Authenticate**, and click **Login**.

   The Quality Insight page opens. .

To launch Quality Insight from the ALM Desktop Client:

1. Open your Web browser and type your ALM URL:

   ```
   http://<ALM server name>[<:port number>]/qcbin
   ```
   The ALM Options window opens.

2. In the Application Lifecycle Management Options window, click the **ALM Desktop Client** link.

3. In the ALM Desktop Client, on the masthead, click **Global Search** 🔍.

> **Note:** Logging out of Application Lifecycle Management does not log you out of Quality Insight. To end the Quality Insight session, you need to logout manually by clicking the **Logout** button within Quality Insight itself.

Uninstall Quality Insight

This section describes how to uninstall Quality Insight. It also describes how to deactivate or delete the dedicated Quality Insight user in ALM Site Administration.

This section includes:

Uninstalling Quality Insight (Windows)

1. From the Windows **Start** menu, select **All Programs > Micro Focus > Quality Insight - Uninstall**. The Uninstall Quality Insight page opens.

2. Click **Uninstall**. The Uninstall Complete page opens. All the components that were installed during Quality Insight installation are removed. Files and folders created after Quality Insight was installed are not removed.

3. Click **Done** to exit the wizard.

4. Restart the computer to complete the uninstallation.

> **Note:** The uninstall process deletes all data stored in the default Quality Insight installation directory. Indexed data that is stored in a different location (outside the installation directory) will not be deleted as part of the uninstall process.

After uninstalling Quality Insight, deactivate or delete the dedicated Quality Insight user in ALM Site Administration.

To deactivate or delete the Quality Insight user in ALM Site Administration:

In the **Site Users** tab, in the Users list in the left pane, right-click the Quality Insight user and select **Deactivate** or **Delete**, and proceed with the relevant steps.

Uninstalling Quality Insight (Linux)

1. Navigate to the installation folder. The default folder is: `/var/opt/Micro Focus/Quality Insight/_Quality Insight_installation`.

2. Run the uninstaller. Enter the command:

   `./Uninstall Quality Insight`

3. Follow the instructions.

   All the components that were installed during Quality Insight installation are removed. Files and folders created after Quality Insight was installed are not removed.

4. Restart the computer to complete the uninstallation.

> **Note:** The uninstall process deletes all data stored in the default Quality Insight installation directory. Indexed data that is stored in a different location (outside the installation directory) will not be deleted as part of the uninstall process.

After uninstalling Quality Insight, deactivate or delete the dedicated Quality Insight user in ALM Site Administration.

To deactivate or delete the Quality Insight user in ALM Site Administration:

In the **Site Users** tab, in the Users list in the left pane, right-click the Quality Insight user and select **Deactivate** or **Delete**, and proceed with the relevant steps.

Send Us Feedback

Let us know how we can improve your experience with the Quality Insight Installation and Administration Guide.

Send your email to: docteam@microfocus.com