IBM® Software

Maximo Autodesk Forge Viewer Plug-in Install Guide

Document version 7.6.1.2

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1 Installation Instructions

1.1 Supported Version

This version of the Forge Viewer Plug-in is only intended for install on Maximo 7.6.0.10 or higher.

The Forge Viewer uses REST and the Maximo integration Framework. To function it must be able to authenticate to the Maximo REST API using the UI session context.

Tip	If your Maximo environment is virtualized, create a snapshot before starting the install.

1.2 Copy source

Copy the application resource, and tools directories from the ForgeViewerPlugin directory into the Maximo install directory root.

Tip	In a standard install on Windows, the Maximo install root directory is: `C:\ibm\SMP\maximo` For a Linux install, the .EAR file is typically built on a Windows system then deployed to the Linux server. In this case, the install directory is found on the Windows system used to build the .EAR file

The install directory structure is as follows:

```
applications
   maximo
      businessobjects
         classes
            psdi
               app
                  bim

                     Viewer
                        dataapi
                           <Class list>
                        lmv
                           <Class list>
      maximouiweb
        webmodule
            webclient
               components
                  bimlmv
                     <JSP and HTML file list>
               javascript
                  <JS file list>
               skins
                  tivoli09
                     images
                        bim
                           <Image list>
                   Tivoli13
                     images
                        bim
                           <Image list>
         WEB-INF
            classes
               psdi
                  webclient
                     beans
                        bim
                           viewer
                              lmv
                                 <Class list>
      properties
         product
            <bimlmv.xml>
resources
   presentations
      <XML files>
tools
   maximo
      en
         bimlmv
            <dbc and msg files>
```

1.3 Database update

- Stop the Maximo application server

- Goto the directory

  ```
  <Maximo_root>\tools\maximo
  ```

- Run updatedb

1.4 Rebuild and deploy EAR

You must rebuild the Maximo application. EAR file and redeploy it to the application server. The following instructions assume a standard install on IBM WebSphere

Goto the directory

```
<Maximo_root>\deployment
```

Run the command

```
Buildmaximoear or Buildmaximoearwas8
```

. On a standard install, you may ignore the warning:

```
"unable to locate tools.tar warning"
```

To deploy the new .EAR file

- Log into the WebShpere admin console
- On the left hand menu select Applications->Enterprise Applications
- Check Maximo in the table and select update
- Select the "Replace the entire application" radio button and the "Local file system" Radio button
- Select "Browser" to upload the new .EAR file. For a standard install without extensions, the .EAR file is in the directory:

  ```
  <Maximo_root>\deployment\default\maximo.ear
  ```

  Check the timestamp on the file to insure the ear was correctly built

- Click next through the wizard. For a standard install, you may accept all the defaults
- When the wizard completes the application update, select "save". Note: It may take several minutes for the server to restart

1.5 Configure System Properties

To configure system properties:

- Goto->System Configuration->Platform Configuration->System Properties
- Click the twisty to display the filter
- Enter bim in the property name filter field and press enter
- When you have updated properties as described below, check the box to the left of the properties you have edited to select them and select live refresh from the toolbar

1.5.1 Forge service Key and Secret

The Autodesk Forge Viewer is a cloud based WebGL application to use it you must have an account with Autodesk and credentials for the Autodesk Forge service. The version of

the viewer provided for 3rd party integration is different from that used by BIM360 accounts and requires separate credentials. You may sign up for a trail here:

https://developer.autodesk.com/

Once you acquire your Key and Secret from Autodesk they must be installed into Maximo. To do so, set the following System Properties:

'bim.viewer.LMV.key'

'bim.viewer.LMV.secret'

1.5.2 Working Directory

You may override the default values specified for the working directories in the Maximo system properties. They are:

- bim.import.dir => c:/bim/import
- bim.model.dir => c:/bim/models
- bim.import.docdir => c:/bim/docs

Insure that these directories exist

1.6 Autodesk SSL Certificate and TLS protocol

If the Autodesk Forge Viewer is used, the app server must make an SSL connection to the Autodesk cloud services. The service uses a VeriSign signed certificate. By default, the VeriSign root certificate is not in the WebSphere trust store so the AutoDesk certificate is not trusted and the connections fails. The certificate can be imported from the WebSphere admin console.

1. Log in to the WebSphere Application Server Integrated Solutions Console.
2. Select **Security** > **SSL certificate and key management**, and under **Related Items**, click **SSL configurations**.
3. Select the default SSL settings link and under **Additional Properties**, update the **Quality of protection (QoP) settings**.
   a. To update the protocol, select TLSv1.2.
   b. For the Cipher suite groups, select **Strong** and then click **Update selected ciphers**.
   c. Click **OK** and save directly to the master configuration.
4. Click the **SSL certificate and key management** link and then **Manage FIPS**. *(***note - FIPS steps are only required if FIPS is being utilized)*
5. In the Manage FIPS window, click **Enable SP800-131** and then select **Strict**.
6. Click OK. If you see the following non-compliant certificate error, complete these steps:
   a. Under **Related Items**, click **Convert certificates**.
   b. Ensure that the Algorithm setting is **Strict**.
   c. For the New certificate key size, select **2048 bits**.
   d. Click **OK** and save directly to the master configuration.
7. Go to *WAS_Profile_Dir*/properties and edit the ssl.client.props file.
   a. Search for com.ibm.security.useFIPS and change the property to true.
   b. Search for com.ibm.websphere.security.FIPSLevel and if the line does not exist add it, and then set the property to SP800-131.
   c. Search for com.ibm.ssl.protocol and change the property to TLSv1.2.
8. Security->SSL certificate and key management
9. From “Related Items” Select Key stores and certificates
10. Select NodeDefaultTrustStore
11. From “Additional Properties” Select Signer certificates
12. Select “Retrieve from port”
13. Provide the following values:

And select “Retrieve signer information” WebSphere should respond with:

14. Click OK, and the save the changes on the following screens.
15. Exit WebSphere and restart the application server.

1.6.1 Selecting the Active Viewer

Multiple viewer plug-ins may be installed in a single Maximo instance. However, only one viewer may be active at a time. The active viewer is selected vie the system property:

```
bim.viewer.active
```

Valid values are:

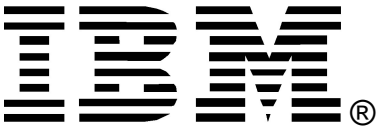
lmv – To select the Forge Viewer

navisworks – To select the NavisWorks viewer (Depreciated n 7.6.0.7, separate install)

vendor – To deactivate all viewers

Additional values may be defined by 3rd party viewers

The Forge viewer install sets the value to “***lmv***”



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