IBM® Tivoli® Software

Maximo extensions for Building Information Models

Install Guide

Document version 1.2.2

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1 Installation Instructions

1.1 Supported Version

This version of the Maximo Extensions for Building Information Modeling is ONLY intended for install on Maximo 7.5 with a minimum level of 7.5.0.5..For 7.6 user's, base COBie support is included in the Maximo 7.6.0.6 feature pack. 7.6 users should upgrade to that level instead of installing this package. Extended COBie support and Autodesk Forge viewer support is provided in a separate downloadable package

1.2 Before you start

Alert:	*When cutting and pasting from this document, Be sure to paste as unformatted text*

Alert:	*The BIM360 Viewer user REST and the Maximo integration Framework. To function it must be able 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.

1.3 Copy source

Copy the application, resource, and tools directories from the Maximo for building extensions source files into the Maximo install directory root. Note: This parches a single file, See below.

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

There is a patch that allows the import to link Job Plans that are not in the active state to Master PM records. The install typically builds the imported data in an "Imported" or draft state and then the imported data is later moved to active or ready states. The patch replaces the file

`FldMasterPMSeqJpnum.class`

It is valid through 7.5.0.11 and has not been tested with any newer versions. For verification, the size of the original file is: 3.441bytes

The install directory structure is as follows:

```
applications
   maximo
      businessobjects
         classes
            psdi
               app
                  bim
                        <Class list>
                     loader
                        <Class list>
                     Parser
                        cobie
                           <Class list>
                     product
                        virtual
                           <Class list>
                        <Class list>
                     project
                        virtual
                           <Class list>
                        <Class list>
                     Viewer
                        dataapi
                           <Class list>
                        lmv
                           <Class list>
                        virtual
                           <Class list>
                        <Class list>
                  masterpm
                     <patch>
      maximouiweb
        webmodule
            webclient
               components
                  bim
                     <JSP and HTML file list>
                  bimlmv
                     <JSP and HTML file list>
                  bimnavisworks
                     <JSP and HTML file list>
               images
                  bim
                     <Image list>
               javascript
                  <JS file list>
               skins
                  tivoli09
                     images
                        bim
                           <Image list>
                   Tivoli13
                     images
                        bim
                           <Image list>
```

```
            WEB-INF
               classes
                  psdi
                     webclient
                        beans
                           bim
                              <Class list>
                              viewer
                                 lmv
                                    <Class list>
                                 <Class list>
                           components
                              <Class list>
                           controls
                              <Class list>
                           servlet
                              <Class list>
         properties
            bim
               <CSV files>
            product
               <XML files>
            registry-extensions
               <XML files>
         lib
            <Apache POI jars>
resources
   presentations
      system
         <XML files>
      <XML files>
tools
   maximo
      en
         bim
            <dbc and msg files>
         bimlmv
            <dbc and msg files>
```

1.4 Database update

- Stop the Maximo application server
- Goto the directory

  `<Maximo_root>\tools\maximo`

- Run updatedb

1.5 Edit EAR Build Script

The EAR build script must be edited to include the .jar files that support reading Excel files

Goto the directory

`<Maximo_root>\deployment`

With a text editor open the file `buildmaximoear.xml`. Search for:

```
value="${maximo.propertiesjarfile}
```

Add the following .jars to the list

```
lib/poi-3.7-20101029.jar
lib/poi-ooxml-3.7-20101029.jar
lib/poi-ooxml-schemas-3.7-20101029.jar
lib/dom4j-1.6.1.jar
```

Alert:	*Many fixpacks overwrite this file. After a fixpack is installed it may be necessary to redo these edits, rebuild and redeploy the .EAR*

1.6 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
```

. 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
- If you are installing on a non-English system see Know Limitations

1.7 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

1.7.1 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

See **Error! Reference source not found. Error! Reference source not found.** for in structions on configuring system properties for the BIM360 viewer.

1.8 Auto Numbering

The product application uses Maximo auto numbering. This is required for the import to functions. By default, ProductIds start at 1001, and do not use a prefix. If you wish a different scheme, the auto numbering seed and prefix may be configured.

- Goto Administration->Organizations
- Select an organization
- Select Actions->Autonumber Setup->System Level
- Search for ProductId

1.9 Autodesk SSL Certificate

If the Autodesk Large Model 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. Select:

Security->SSL certificate and key management

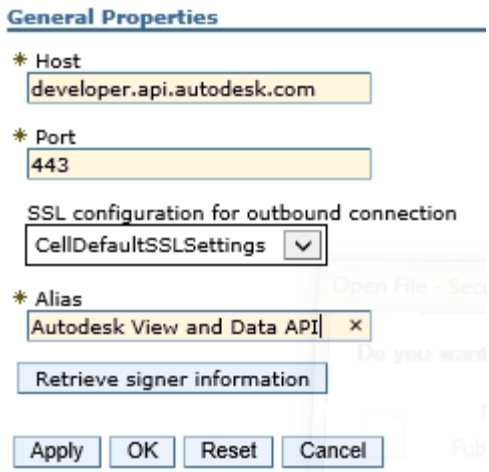
From “Related Items” Select Key stores and certificates

Select NodeDefaultTrustStore

From “Additional Properties” Select Signer certificates

Select “Retrieve from port”

Provide the following values:



And select “Retrieve signer information”

WebSphere should respond with:

Click OK, and the save the changes on the following screens.

1.10 Upgrade

This package supports upgrade from the 1.2.1 version of the extensions.

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