

IBM® Tivoli® Software

Maximo extensions for Building Information Models

Install Guide

Document version 1.2.2

Technical contact: Doug Wood [doug.wood@us.ibm](mailto:doug.wood@us.ibm).com

Marketing Contact Kawon Park [[kpark@us.ibm.com](mailto:kpark@us.ibm.com)](mailto:kwoodbur@us.ibm.com)



The Maxim extensions for Building Information Modeling (BIM) is released as trial software and distributed on the IBM Service Management (ISM) Library. An existing Maximo Asset Management 7.5 or 7.6 license and installation is required. Trial software is not supported by the IBM Maximo support program; however, support is available directly from the IBM Maximo development team for as long as the software is available for download on the ISM Library. Check the ISM Library for the most recent version as well as continued availability. Only an English version is distributed during the trial. Your feedback is important because the software is being evaluated for possible integration with other Maximo products. Send all support questions and feedback to: [maxbim@ca.ibm.com](mailto:maxbim@ca.ibm.com)



**© Copyright International Business Machines Corporation 2011.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

[List of Figures **Error! Bookmark not defined.**](#_Toc462134196)

[1 Installation Instructions 4](#_Toc462134197)

[1.1 Copy source 4](#_Toc462134198)

[1.2 Database update 6](#_Toc462134199)

[1.3 Install Message Catalog **Error! Bookmark not defined.**](#_Toc462134200)

[1.4 Edit EAR Build Script 6](#_Toc462134201)

[1.5 Rebuild and deploy EAR 7](#_Toc462134202)

[1.6 Configure System Properties 7](#_Toc462134203)

[1.6.1 Working Directory 8](#_Toc462134204)

[1.7 Auto Numbering 8](#_Toc462134205)

[1.8 Configure Company Sets **Error! Bookmark not defined.**](#_Toc462134206)

[1.9 Autodesk SSL Certificate 8](#_Toc462134207)

[1.10 Upgrade 9](#_Toc462134208)

[2 Appendix **Error! Bookmark not defined.**](#_Toc462134209)

# Installation Instructions

## 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

## Before you start

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

1. *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. |

## 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>

## Database update

* Stop the Maximo application server
* Goto the directory

<Maximo\_root>\tools\maximo

* Run updatedb

## 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

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

## 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

## 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

### 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 instructions on configuring system properties for the BIM360 viewer.

## 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

## 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

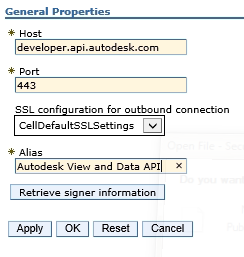
From “Related Items” Select Key stores and certificates

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.

## Upgrade

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

 ®

© Copyright IBM Corporation 2011

IBM United States of America

Produced in the United States of America

US Government Users Restricted Rights - Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing  
IBM Corporation  
North Castle Drive  
Armonk, NY 10504-1785   
U.S.A.

**The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:**

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PAPER “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes may be made periodically to the information herein; these changes may be incorporated in subsequent versions of the paper. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this paper at any time without notice.

Any references in this document to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing

IBM Corporation

4205 South Miami Boulevard

Research Triangle Park, NC 27709 U.S.A.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information is for planning purposes only. The information herein is subject to change before the products described become available.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

**Trademarks**

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the web at "Copyright and trademark information" at <http://www.ibm.com/legal/copytrade.shtml>.

Autodesk, the Autodesk logo, BIM360, NavisWorks, Revit, are registered trademarks or trademarks of Autodesk, Inc., and/or its subsidiaries and/or affiliates in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders. Autodesk reserves the right to alter product and services offerings, and specifications and pricing at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document. © [2016] Autodesk, Inc. All rights reserved.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

**Notices**

Apache POI

Copyright 2009 The Apache Software Foundation

This product includes software developed by The Apache Software Foundation (<http://www.apache.org/>).

This product contains the DOM4J library (<http://www.dom4j.org>). Copyright 2001-2005 (C) MetaStuff, Ltd. All Rights Reserved.

This product contains parts that were originally based on software from BEA. Copyright (c) 2000-2003, BEA Systems, <http://www.bea.com/>.

This product contains W3C XML Schema documents. Copyright 2001-2003 (c) World Wide Web Consortium (Massachusetts Institute of Technology, European

Research Consortium for Informatics and Mathematics, Keio University)

This product contains the Piccolo XML Parser for Java (http://piccolo.sourceforge.net/). Copyright 2002 Yuval Oren.