BIM Server

Installation Document

Version 1.0

Table of Contents

Revision History

Date	Version	Description	Author
31.08.2018	1.0	Windows BIM Server installation	Subash Janarthanan

1. Introduction

This document is provided to serve as a template for contractors when they create installation instructions for a software delivery that is to be installed on the Publications Office technical infrastructure, and to provide guidelines on the general rules governing the contents. The contractor is free to use their own documentation template.

2. Purpose of the document

2.1 Purpose

The purpose of this document is to provide the installation instructions for installing BIM Server software infrastructure, and to provide guidelines on the general rules governing the contents. The contractor is free to use their own documentation template.

2.2 Scope

This document is intended for the Publications Office software development contractors and their team, in order to comply with general admitted rules from both parties, concerning the use of correct, well formed, up to date, relevant and clear install documents.

It will not cover detailed aspects such as the acceptance or validation procedures, nor the technical environment. Should you need further and complete information about these topics, please refer to the reference documents, mentioned in this document.

3. Installation manual

3.1 Pre-requisites

3.1.1 Operating System

- Windows 7
- Windows 8 and
- Windows 10

3.1.2 Database

The database engine of the BIMserver is BerkeleyDB and has a setting for the amount of heap memory it can use for caching.

3.1.3 Software

- Eclipse IDE (For code base server starter)
- Java 8 (or higher) for running the stand alone BIM Server.
- Tomcat 8 or higher, Jetty 8 or higher for deployment of WAR files

3.1.4 Memory

The amount of required heap memory depends on what plugins you install, the size of your models and the amount of concurrent users of BIMserver. A rule of thumb is that you need about 15 times the size of the largest (unzipped) IFC file you want to be able to upload, times the maximum number of concurrent users

3.1.5 JRE/JDK

You can download a JRE or JDK here (Java 1.8 or above). Make sure you install a 64bit JRE/JDK if you have a 64bit system. The main advantage will be that you are going to be able to reserve more than 1300MB of memory, which you probably will want to.

For advanced queries you will need to use a JDK, for all other features a JRE will suffice.

3.1.6 WAR

A Servlet Specification 3.0 or higher based Container with WebSocket support (Tomcat 8 or higher, Jetty 8 or higher)

3.2 Installation Procedure

Stand-alone BIMserver (JAR):

1. Make sure you have the latest version of Java (1.8 or higher version)
2. Visit the BIM Server GitHub page for downloading the latest BIM Server jar (https://github.com/opensourceBIM/BIMserver/releases)
3. Once you reach the above link download the JAR file named "**bimserverjar-1.5.101.jar**" highlighted as shown in the below **figure 1.1.**

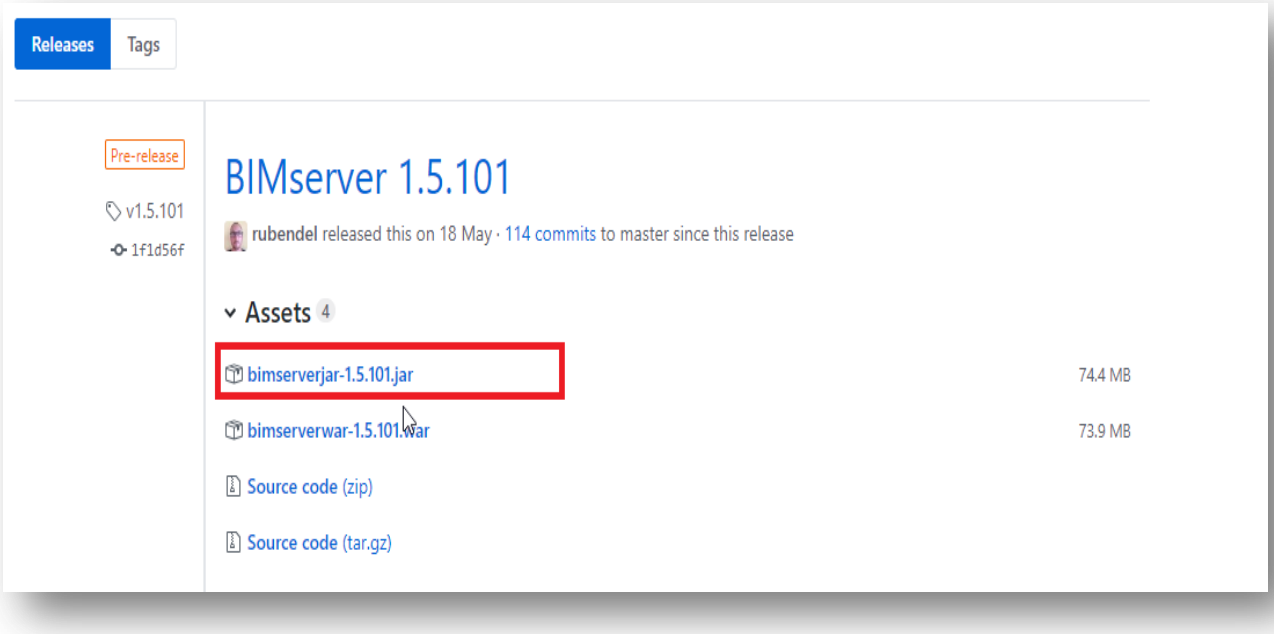

Figure 1.1

Once the file has been downloaded double click on the jar file and it should pop up the **BIMserver Starter window** as shown in the below figure 1.2.

Inputs in the BIMServer Starter window:

- JVM → Always make "**default**" if you have installed the Java version 1.8 or above. If you have lower versions then point to the location for the specific JVM version.
- Home directory → Location of the home directory, this is where the database, log files etc... are stored. If you have ran a previous version of BIMserver on the same home directory, the database cannot always be migrated successfully.
- Address → The address the server will be binding on, if you want the BIMserver to be available on other machines than your own, you will have to change this to a real IP address or a hostname pointing to the right IP address
- Port → The port must be free, and the firewall must be configured to allow listening on this port
- Max Heap Size → The amount of heap memory appointed to the instance JVM of the BIMserver, more heap means larger models can be stored/retrieved. The amount of heap is limited by the amount of memory available on your machine, but be sure to always save a few hundred of MB's to your OS and other applications. On 32-bit Windows computers, the limit is around 1500MB. A Typical BIMserver will need at least 2GB
- Stack Size → The amount of stack size available for every thread, you are probably not ever going to need more than 512KB. With a stack size that is too low, you will be getting StackOverflowError messages
- Force IPv4 → On some operating systems binding will happen automatically on the IPv6 address of a machine, even if the user is not using IPv6. With this option you can override to use IPv4, only use this option if you have problems with this specific issue
- Use proxy server → You can check this option if you need to use a proxy server for outgoing connections
- Wait for BIMserver to expand all the files and configure itself and until the phrase "Server started successfully" appears.
- Click the Stop button to stop the BIMserver.

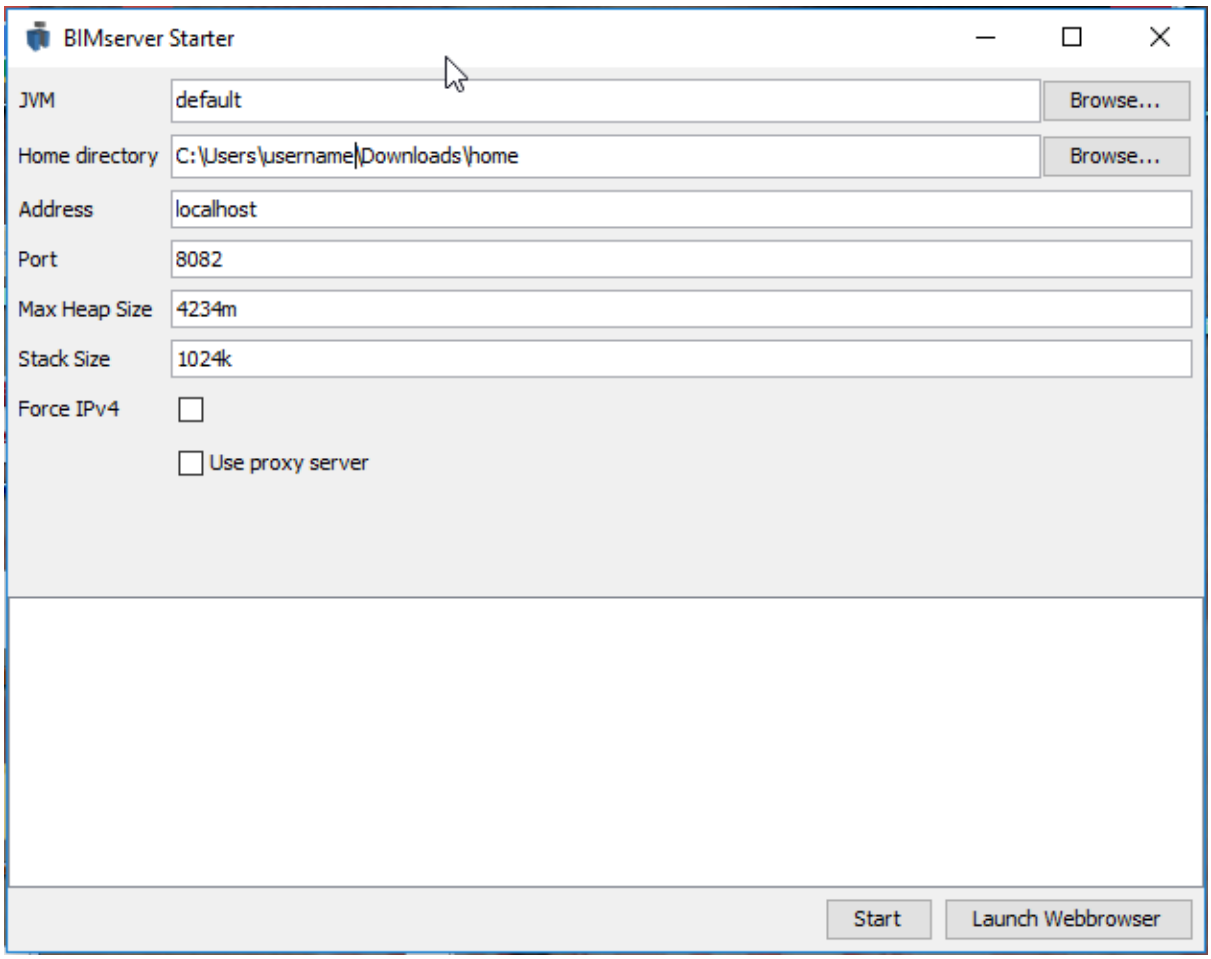
BIMserver Starter
JVM
default
Browse...
Home directory
C:\Users\username\Downloads\home
Browse...
Address
localhost
Port
8082
Max Heap Size
4234m
Stack Size
1024k
Force IPv4
Use proxy server
Start
Launch Webbrowser

Figure 1.2

- Click the Start button to start BIMserver. You will be getting a message "**Server started successfully"** once the BIMserver has started, click Launch Browser. If the above steps are followed correctly, you should have BIMserver launched successfully on a browser. If failed, restart BIMserver with another port number, e.g. http://localhost:8082
- The first time BIMserver is launched, you will need to set up the administration login like shown in the below figure 1.3
- Provide the **Site Address** with port number like for example **http://localhost:8082**
- Provide a custom server name like **"My_BIM_Server".**
- Provide a custom server description and choose custom icon to the server if you would like to add one. Click Next button.

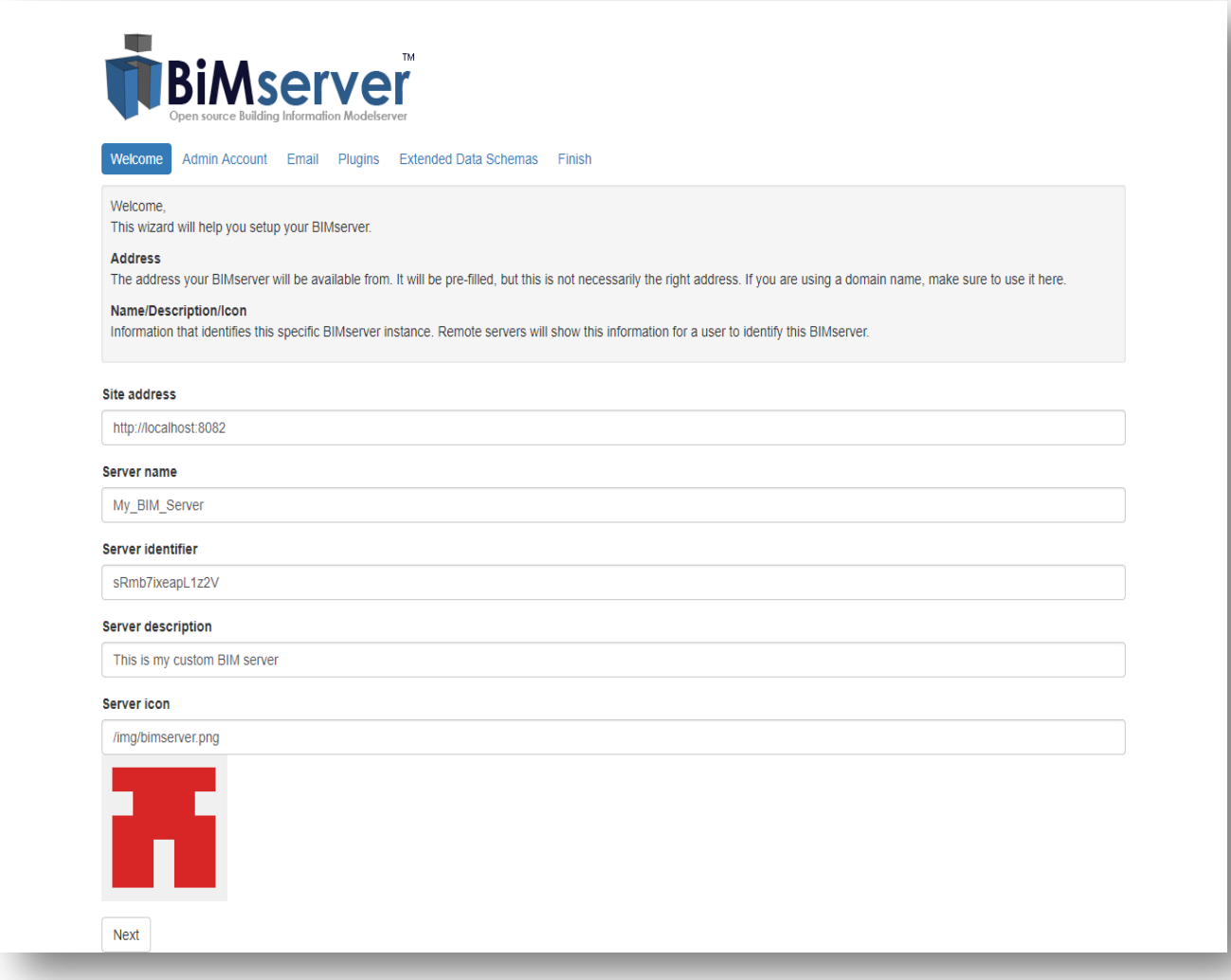

Figure 1.3

In Admin Account page, provide the name of the Administrator account and email followed by password like shown in the below **figure 1.4**. Remember this account information since it will be useful later for creating Admin users as well as other users.

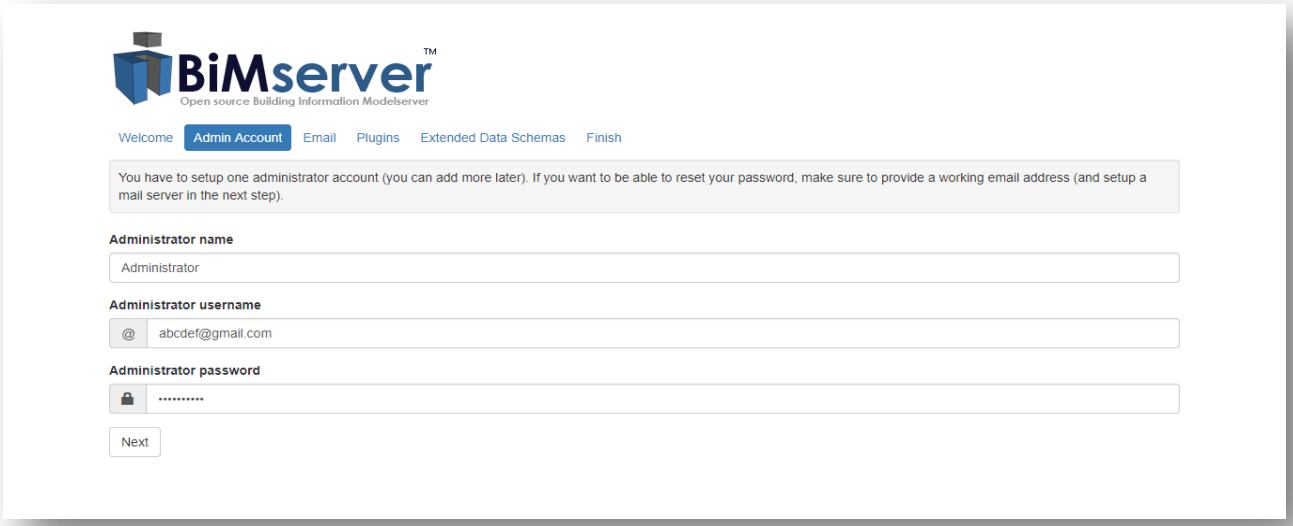

Figure 1.4

If you want to set up an email server please check and provide the details with an existing company email server **(or)** leave it unchecked and Click on Next page.

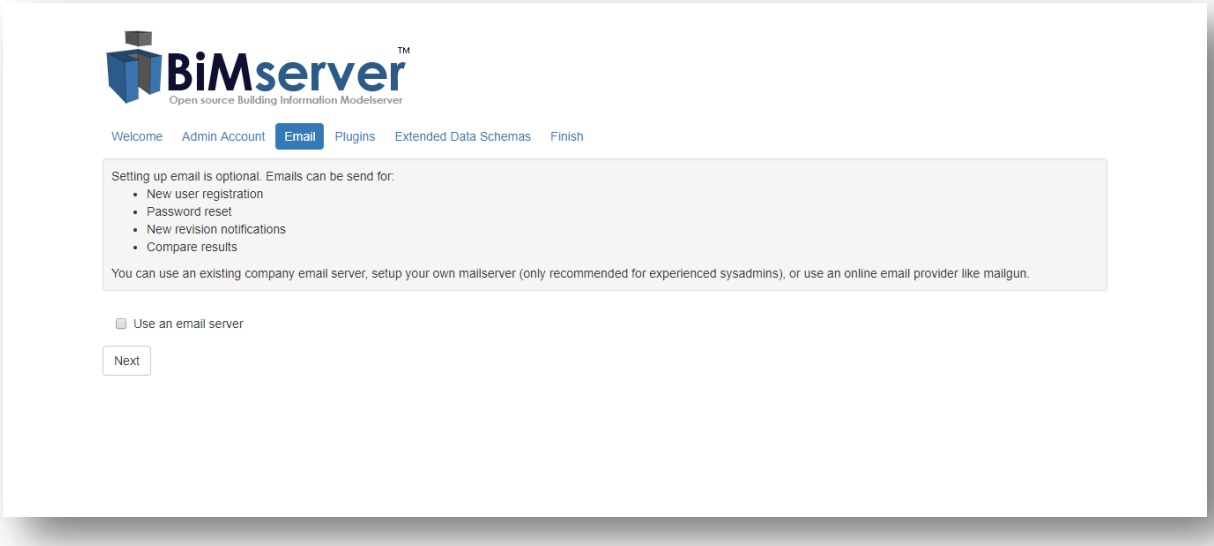

Figure 1.5

- Select all the plugins that are required for your server. If you do not have an internet connection then you can download the JAR file for the respective plugins and install them later but it is not recommended.
- Do select all the recommended plugins as shown in the below **figure 1.6** and click Next.

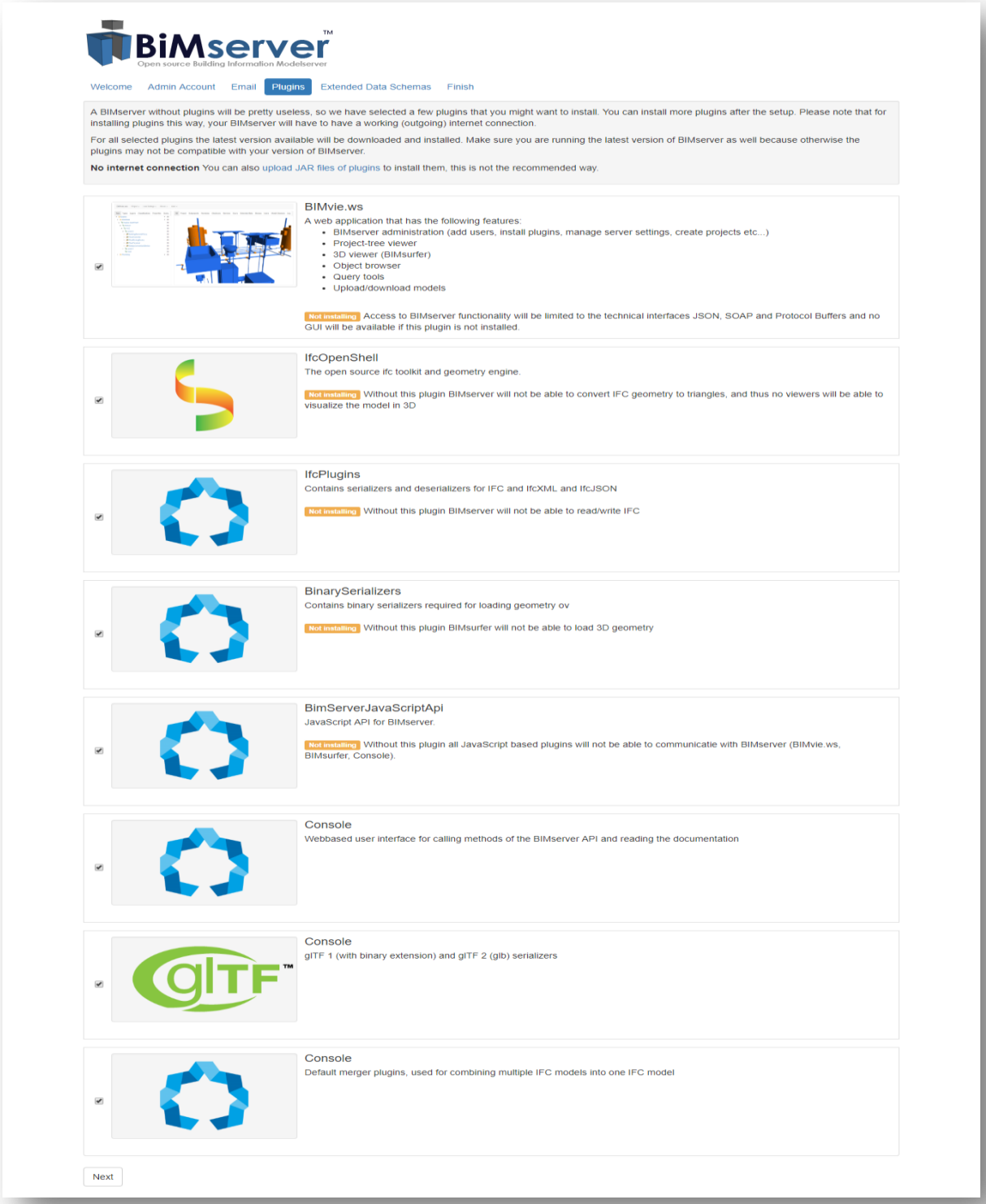

Figure 1.6

Do check the “**Install all extended data schemas**” like shown in the below **figure 1.7** and click Next.

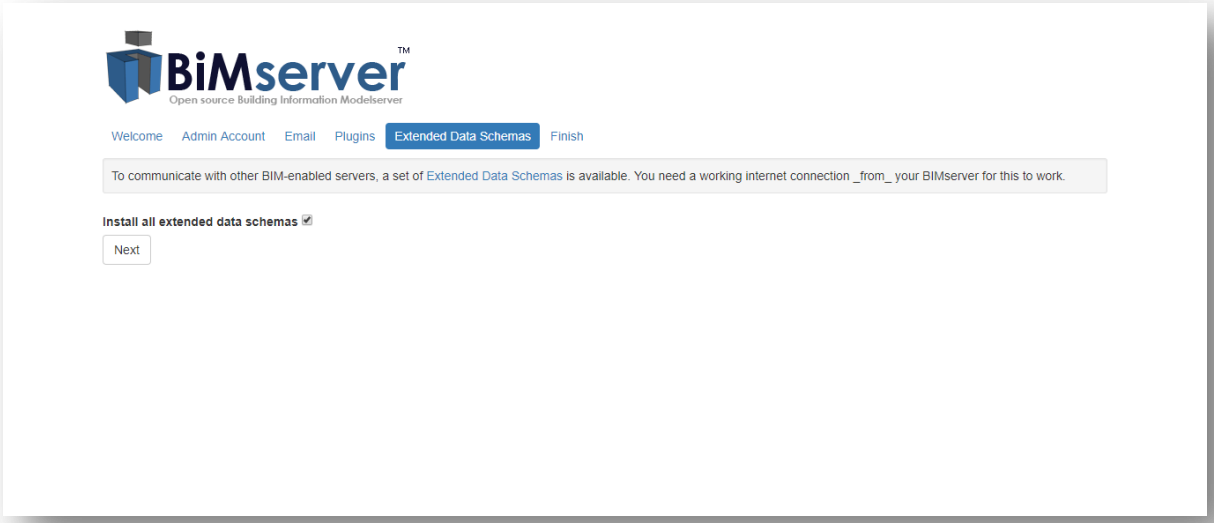

Figure 1.7

Once you have provided all the previous page information click on **“Setup”** button to start installing the plugins and other components required like shown in the below **figure 1.8 and 1.9**

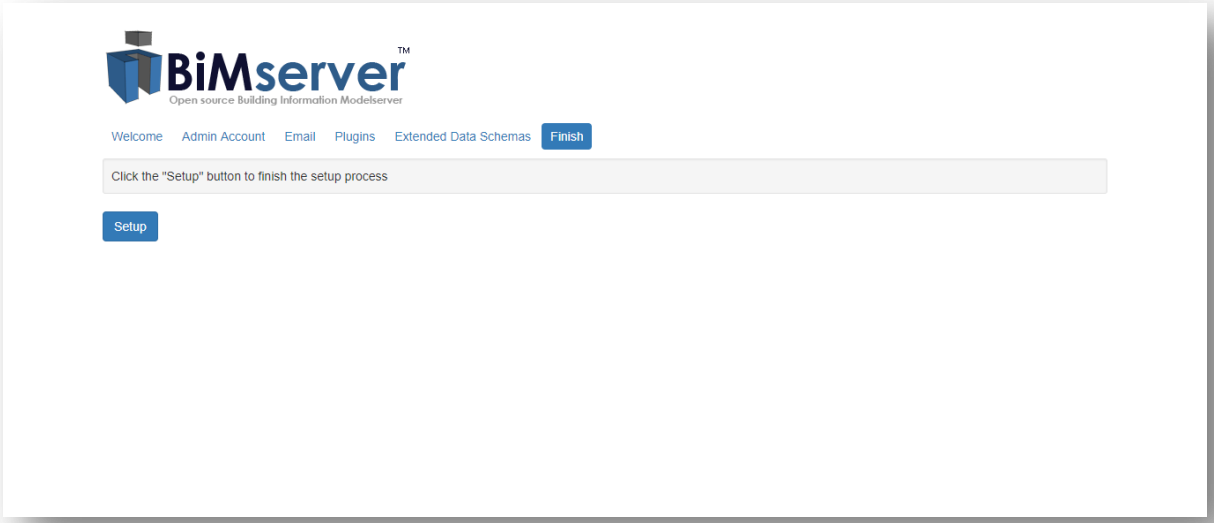

Figure 1.8

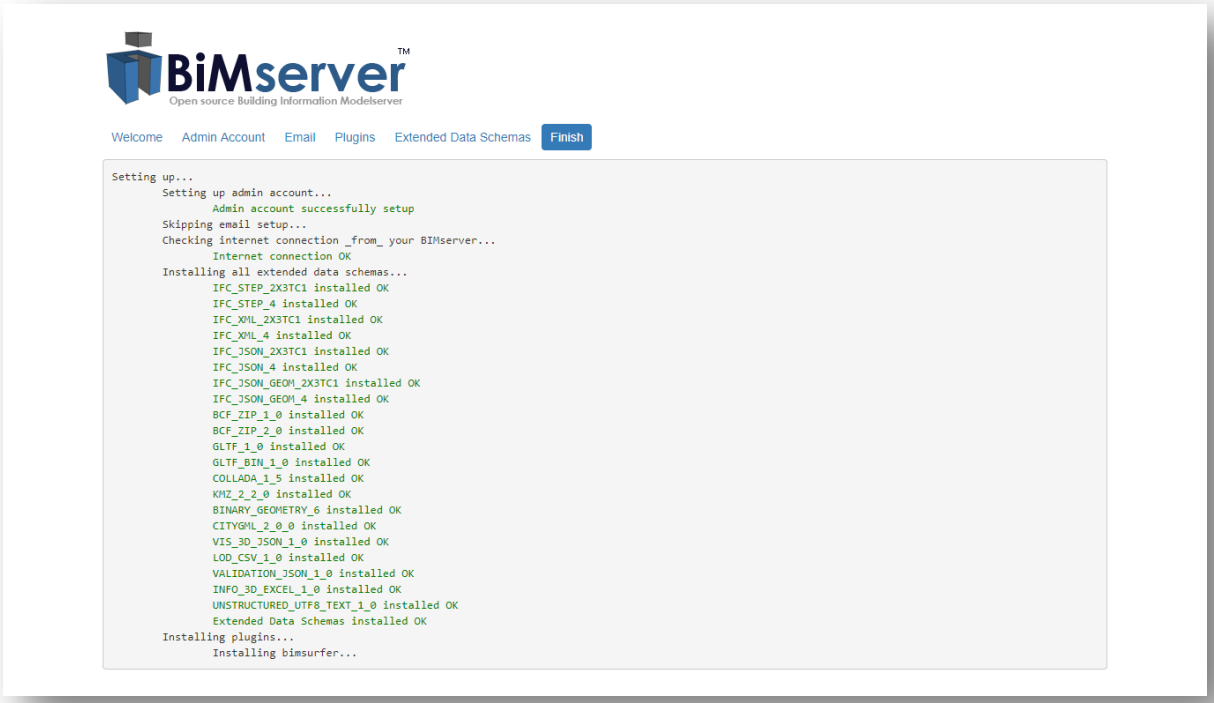
BiMserver™
Open source Building Information Modelserver
Welcome
Admin Account
Email
Plugins
Extended Data Schemas
Finish
Setting up...
Setting up admin account...
Admin account successfully setup
Skipping email setup...
Checking internet connection _from_ your BIMserver...
Internet connection OK
Installing all extended data schemas...
IFC_STEP_2X3TC1 installed OK
IFC_STEP_4 installed OK
IFC_XML_2X3TC1 installed OK
IFC_XML_4 installed OK
IFC_JSON_2X3TC1 installed OK
IFC_JSON_4 installed OK
IFC_JSON_GEOM_2X3TC1 installed OK
IFC_JSON_GEOM_4 installed OK
BCF_ZIP_1_0 installed OK
BCF_ZIP_2_0 installed OK
GLTF_1_0 installed OK
GLTF_BIN_1_0 installed OK
COLLADA_1_5 installed OK
KMZ_2_2_0 installed OK
BINARY_GEOMETRY_6 installed OK
CITYGML_2_0_0 installed OK
VIS_3D_JSON_1_0 installed OK
LOD_CSV_1_0 installed OK
VALIDATION_JSON_1_0 installed OK
INFO_3D_EXCEL_1_0 installed OK
UNSTRUCTURED_UTF8_TEXT_1_0 installed OK
Extended Data Schemas installed OK
Installing plugins...
Installing bimsurfer...

Figure 1.9

3.3 Post Installation

Once all the plugins were downloaded and installed restart the page http://localhost:8082/ and you should be able to view **Server Info** and **web modules** like shown in the below **figure 2.0**

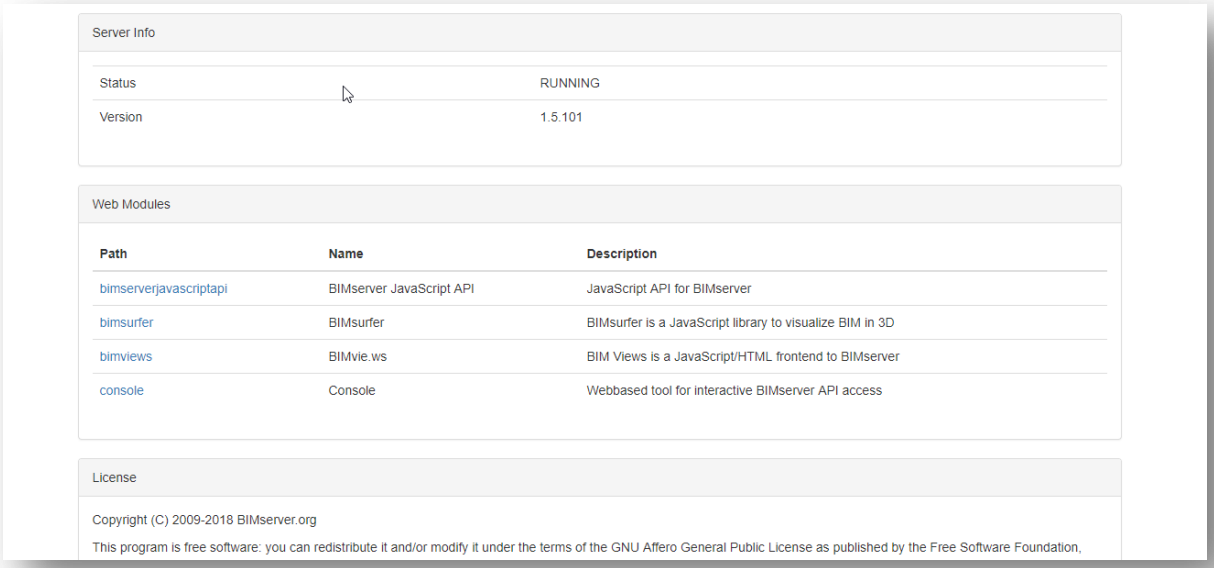

Figure 2.0

Click on "**bimviews**" Web Module and it should be asking for login credentials like shown in the below **figure 2.1.** Provide your login credentials and click "**Login**" where it will take you to the viewer where you can load custom 3D files.

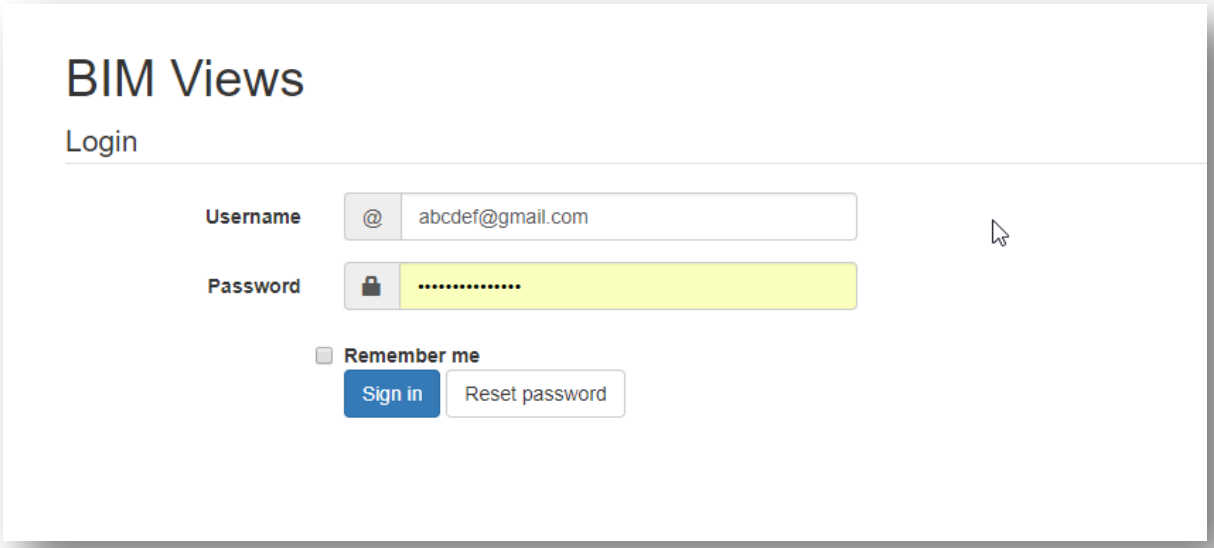

Figure 2.1

4. Additional Information

4.1 Abbreviations

BIM	Building Information Modeling
IDE	Integrated Development Environment
JDK	Java Development Kit
JRE	Java Runtime Environment
JAR	Java ARchive
WAR	Web Archive
JVM	Java Virtual Machine
IPv4	Internet Protocol version 4

References:

https://github.com/opensourceBIM/BIMserver/releases/tag/v1.5.101

https://github.com/opensourceBIM/BIMserver/wiki/JAR-Starter