Documentation

of version 1.0

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CHANGELOG

Date	Description	Author
'2009-10-25	Fresh start for 0.8 version	Léon van Berlo
'2009-12-21	Updated screenshots	Léon van Berlo
'2010-03-05	Changed version to 0.8.1	Léon van Berlo
'2010-09-12	Update to 1.0 because 1.0RC1 is released	Léon van Berlo
'2011-02-03	Small update for 1.0 stable	Léon van Berlo
	More updates will follow the next couple of months!	

WARNING / Notice:

As the developers of the open source BIMserver we are very happy to develop this wonderful product for you and give it away for free. Until now we did not spend a lot of time on documenting it (on the one hand because it is no fun, on the other hand because software should be intuitive).

However....

In the Netherlands a 'BIMserver documentation' project started recently. This project will deliver documentation for this software. For now the only documentation is this document and the data on wiki.bimserver.org

Keep track of the website for updates.

TABLE OF CONTENTS

1 Introduction....7
1.1 Don't read this....7
1.2 First....7
2 Updating....9
2.1 From 0.1 9
2.2 from 0.8....9
2.3 from 0.8.1....9
3 Installation....11
3.1 standalone version....11
3.1.1 Requirements....11
3.1.2 Starting....11
3.1.3 Testing the installation....12
3.2 WAR file....14
3.2.1 Requirements....14
3.2.2 Starting....14
3.2.3 Testing the installation....15
3.3 Installation-issues 15
4 Philosophy and key principles 17
5 Getting started....19
5.1 Changing password....19
5.2 Starting a project....20
5.3 Creating SUB-projects....21
5.4 Authorize other users on your project....23
6 Uploading IFC....27
6.1 Initial upload by 'architect'....27
6.2 Merging concept and revisions....29
6.3 Download and/or Checkout....29
7 Early warning system / model consistency 31
8 Clash detection....33
8.1 Introduction....33
8.2 Selecting revisions of (sub-)projects....33
8.3 Ignore....33
8.4 Margin....33
8.5 Automatically run clash detection....33
9 Querying a model....35
9.1 Introduction....35
9.2 Simple queries....35
9.3 Advanced queries....35
9.4 Sharing advanced queries with the community 35
10 Some Features....37
10.1 Model browser....37
10.2 Tagging a revision/model....37
10.3 Branching (to sandbox)....37
10.4 Update alert (RSS)....37
10.5 Difference finder (beta)....37
11 Advanced features....39

11.1 Using XML-Link and IFC-Link....39
11.2 Online viewer (O3D)....39
11.3 Using the Google Earth network link....39
11.4 How to use ChangeSets....39
12 Configuring your server....41
12.1 Adding or deleting download formats....41
12.2 Configuring the registration settings....41
12.3 Configuring the database location....41
12.4 Configuring the SMTP-server....41
12.5 Configuring e-mail templates....41
12.6 Changing the logo....41
12.7 Configuring Query settings (ignore file)....41
13 Extending your server....43
14 Architecture....45
15 Advanced use....49
15.1 Using SOAP (and the client)....49
15.2 Use 'changesets' in SOAP....49
15.3 Using your BIMserver as a product catalog....49
16 What doesn't work....51
16.1 Report a bug....51
17 Help....53

1 INTRODUCTION

This is the introduction.

1.1 DON'T READ THIS

Ok, do read this, but also read the (more up to date) wiki on http://wiki.bimserver.org

1.2 FIRST

Find introduction about the open source BIMserver on www.bimserver.org

2 UPDATING

2.1 FROM 0.1

Updating is impossible. Contact support@bimserver.org

2.2 FROM 0.8

Updating is impossible. Contact support@bimserver.org

2.3 FROM 0.8.1

Updating is impossible. Contact support@bimserver.org

3 INSTALLATION

There are two possibilities to install the bimserver: stand alone (with a build-in Jetty server) or deploy the WAR file (for example on a tomcat server).

This chapter will describe both options.

3.1 STANDALONE VERSION

3.1.1 REQUIREMENTS

Download and install the latest **Java version 6** on http://java.com/

Download the latest **JAR file** on http://download.bimserver.org/

3.1.2 STARTING

Open the JAR file in a Java virtual machine (for most PC's the means that you just double click on it).

At some point in this process, you might be warned with a firewall message. Of course you should choose 'do not block'.

You get a small window called 'BIM Server Starter'.

When your computer has a lot of RAM memory (internal memory) you might want to change the memory settings for a better performance. We recommend a heap size of 1600m and a stack size of 1024k.

Choose your options (if you don't know what to do, don't change them) and click start.

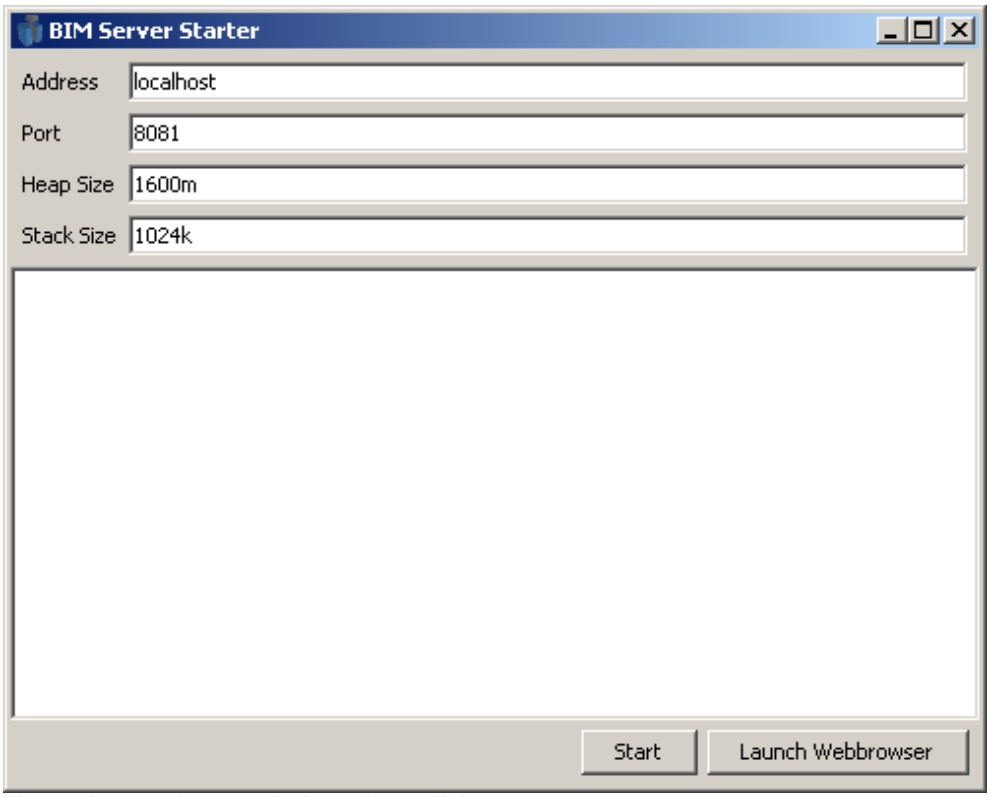


Illustration 1: The stand-alone (JAR file) starter

The server will start the deployment and during this you will see some messages. There will be a database-directory deployed. At the end you will see '*org.bimserver.Server - Server started succesfully*'. You are now running your own bimserver!

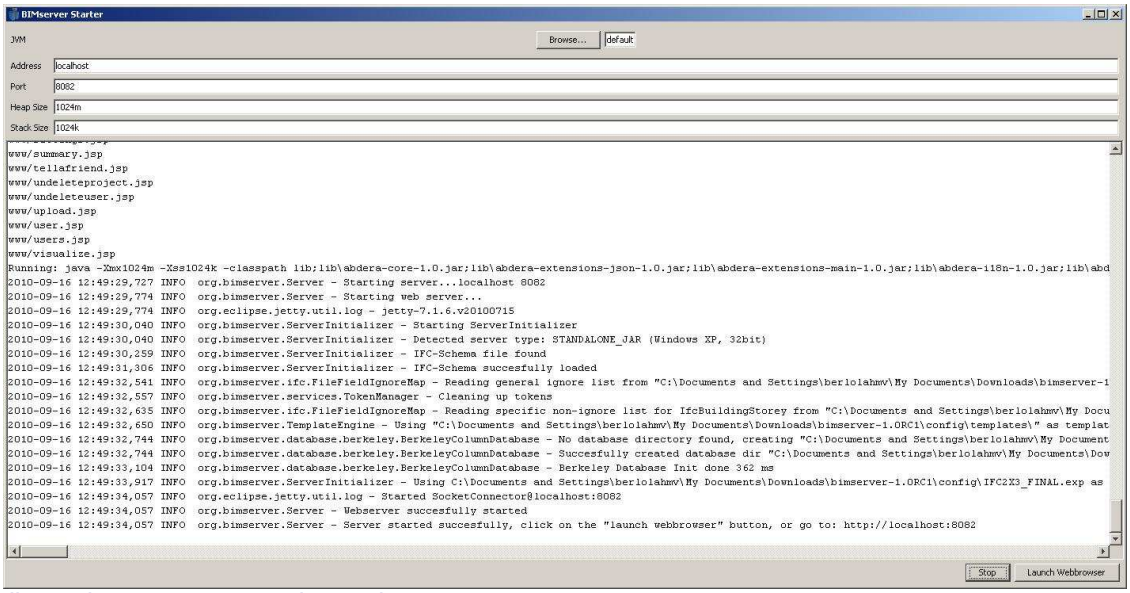


Illustration 2: your server is running!

3.1.3 TESTING THE INSTALLATION

Click on the 'Launch Webbrowser' button (next to the 'Start' button that is now showing 'Stop'). You will get the loginscreen. You can login as the administrator using admin/admin as the username/password.

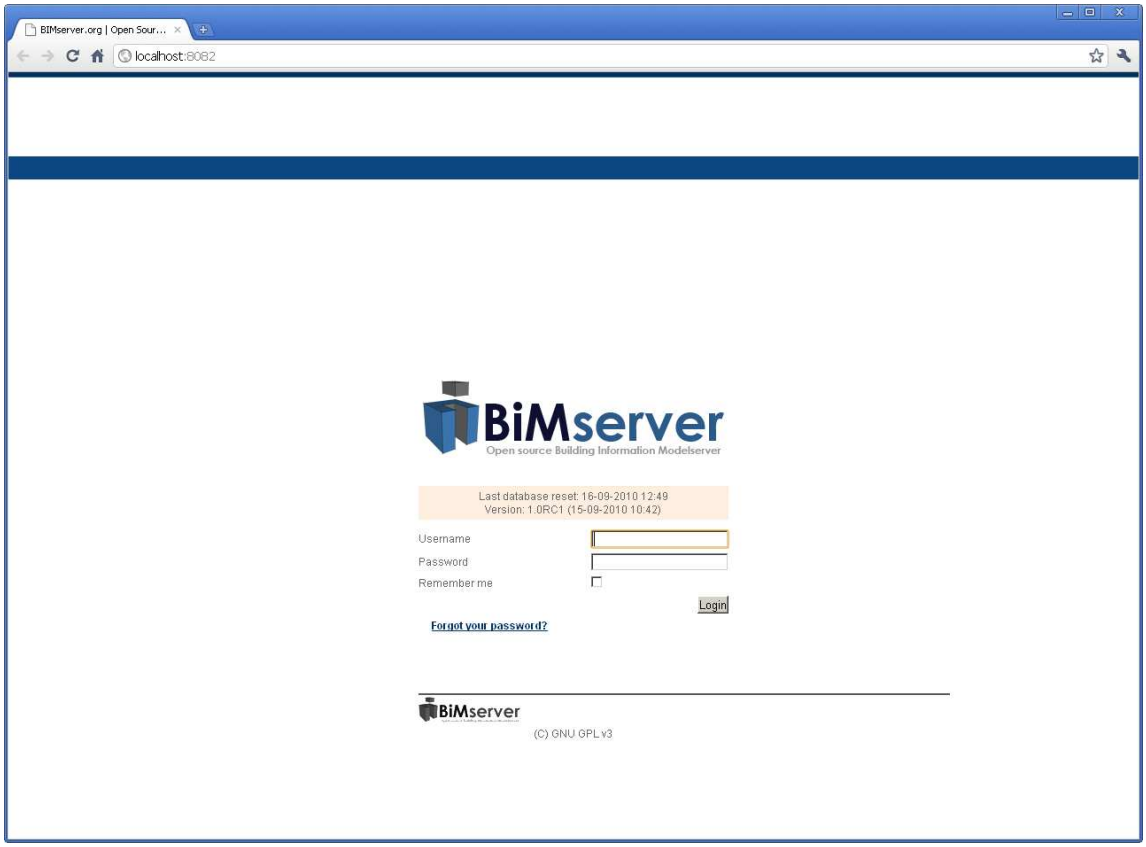


Illustration 3: The login screen

You are now logged into your own BIMserver. It will look something like this:

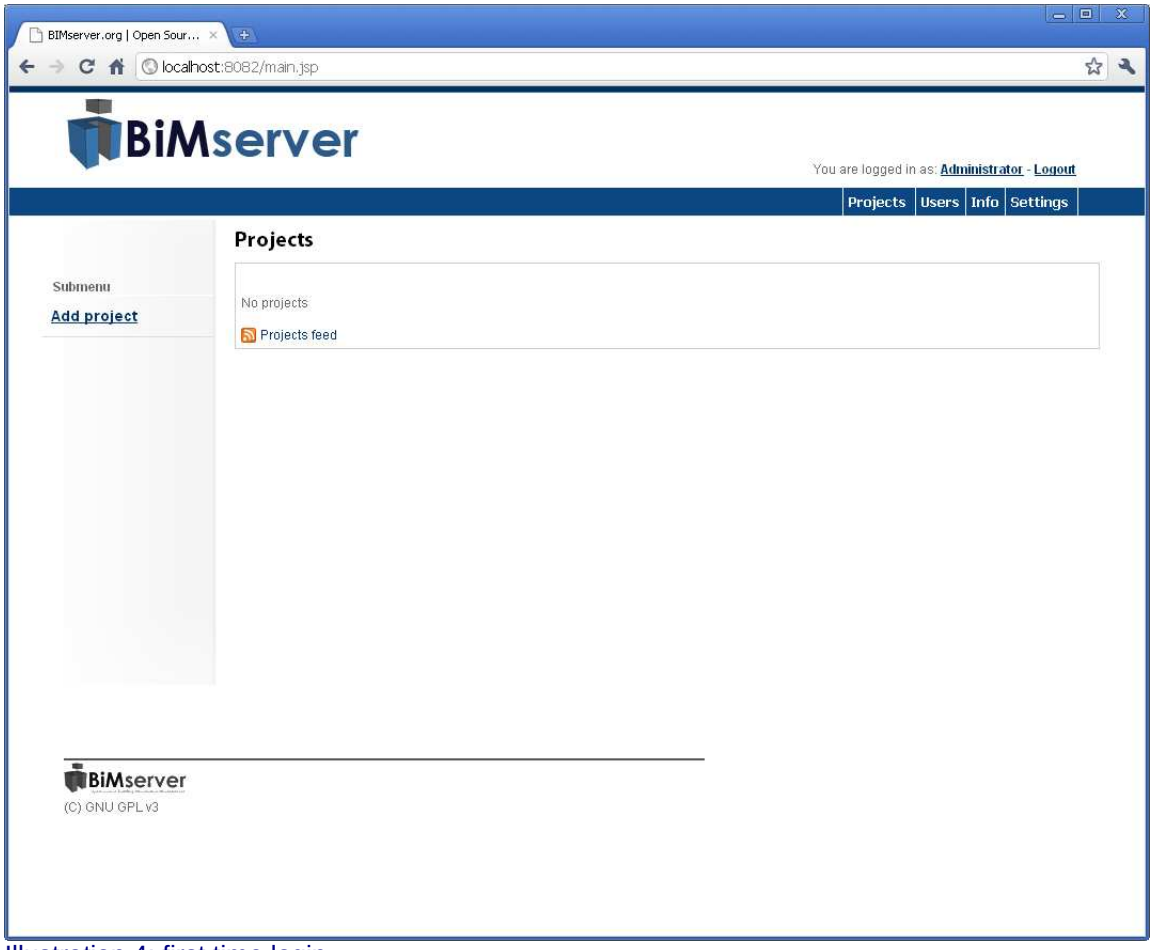


Illustration 4: first time login

After your first login, make sure to change the default password into something else!

3.2 WAR FILE

3.2.1 REQUIREMENTS

Download and install the latest **Java version 6** on http://java.com/

Download and install the latest **Tomcat** on http://tomcat.apache.org/

Download the latest BIMserver **WAR file** on http://download.bimserver.org/

3.2.2 STARTING

Make sure your tomcat JVM has enough memory to run BIMserver. We recommend a heap size of 1600m and a stack size of 1024k.

Deploy the WAR file in tomcat (if you don't know howto, read the tomcat instructions).

The starting of the bimserver takes about 20 seconds. There will be a directory deployed called 'database'.

3.2.3 TESTING THE INSTALLATION

Open your favorite webbrowser and go to http://localhost:8080/bimserver-0.8/

Attention: when you run tomcat on a different port you should go to the other port. When you deploy a different filename (like *bimserver-x.xxx)* you should also use a different URL depending on the filename you deployed.

You will get the loginscreen. The loginscreen looks like Illustration 3. You can login as the administrator using admin/admin as the username/password.

You are now logged into your own BIMserver. It will look something like Illustration 4.

After your first login, make sure to change the default password into something else!

3.3 INSTALLATION-ISSUES

My standalone server won't start (testing the installation doesn't give results). What's wrong?

When you are using windows (try ubuntu and/or) make sure the firewall isn't blocking the bimserver software and the port you run the software.

I get some strange errors when I try this new version. How about that?

You should delete the database of the old version, before deploying (starting) the new one.

There are some other strange errors... What's this all about?

Make sure you have enough memory available for your JVM. We recommend a minimum (!) heap size of 1600m and a stack size of 1024k.

4 PHILOSOPHY AND KEY PRINCIPLES

Yes, we have thought things through.....

5 GETTING STARTED

Now that you are running your own BIMserver, you can get start using it. In this chapter we will guide you through the first steps of using it.

5.1 CHANGING PASSWORD

First of all, you should change the administrator password to something not so default.

After login you should click on 'Administrator' in the top right corner of the screen. You will get the userdetails for the 'Administrator'-user. It will look like Illustration 5.

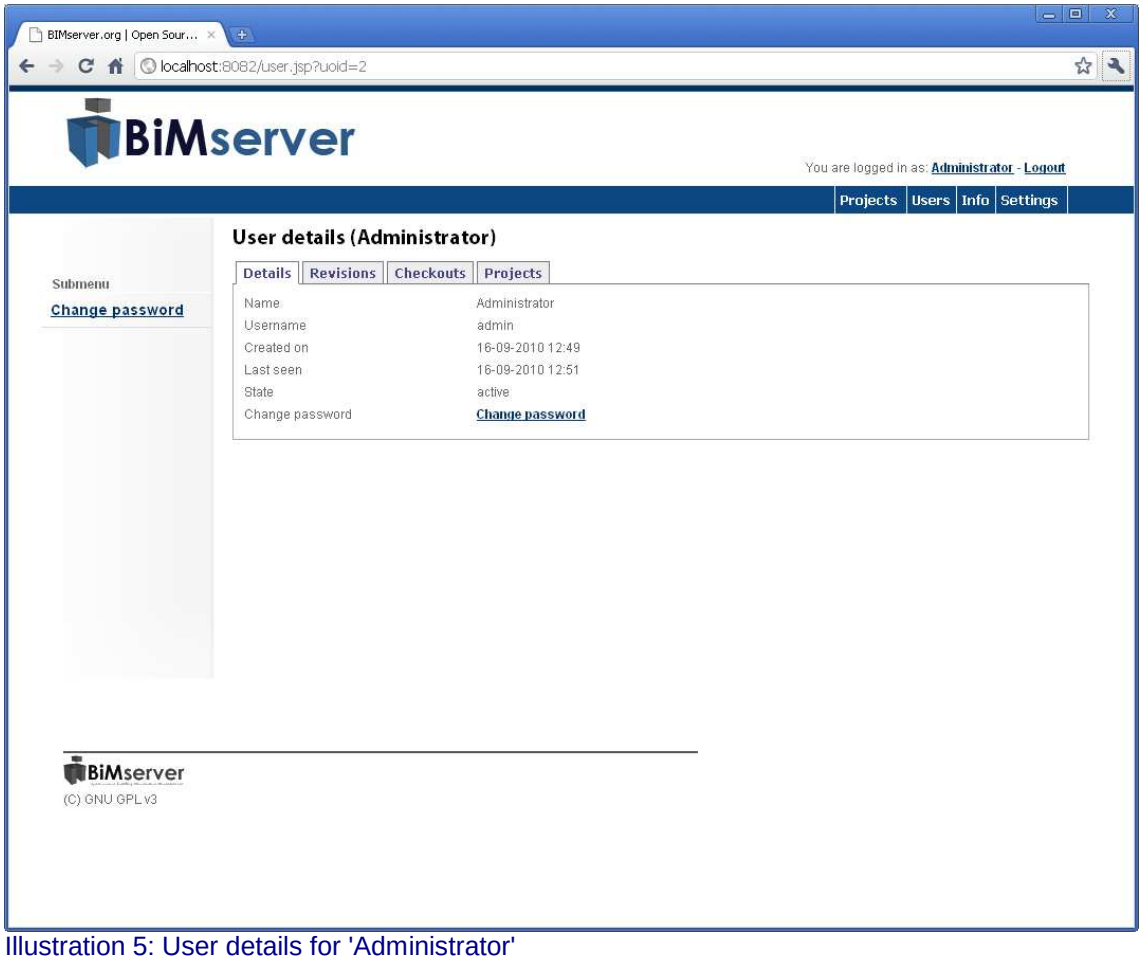


Illustration 5: User details for 'Administrator'

Now click on 'Change password' and you will get another screen with 3 boxes. Fill in the old password ('admin') and your own chosen new password twice (to make sure you don't mistype) .

After this you will return to the Userdetails page again, and you will see a message "Password succesfully changed"

After doing this, click on the BIMserver logo on the topleft and you will return to the main page (looking like Illustration 4).

5.2 STARTING A PROJECT

As you can see, there are no projects in your BIMserver so far. You can start a new project by clicking 'Add project'. After clicking this you will be asked a project name. Give your project a name (for example 'first use').

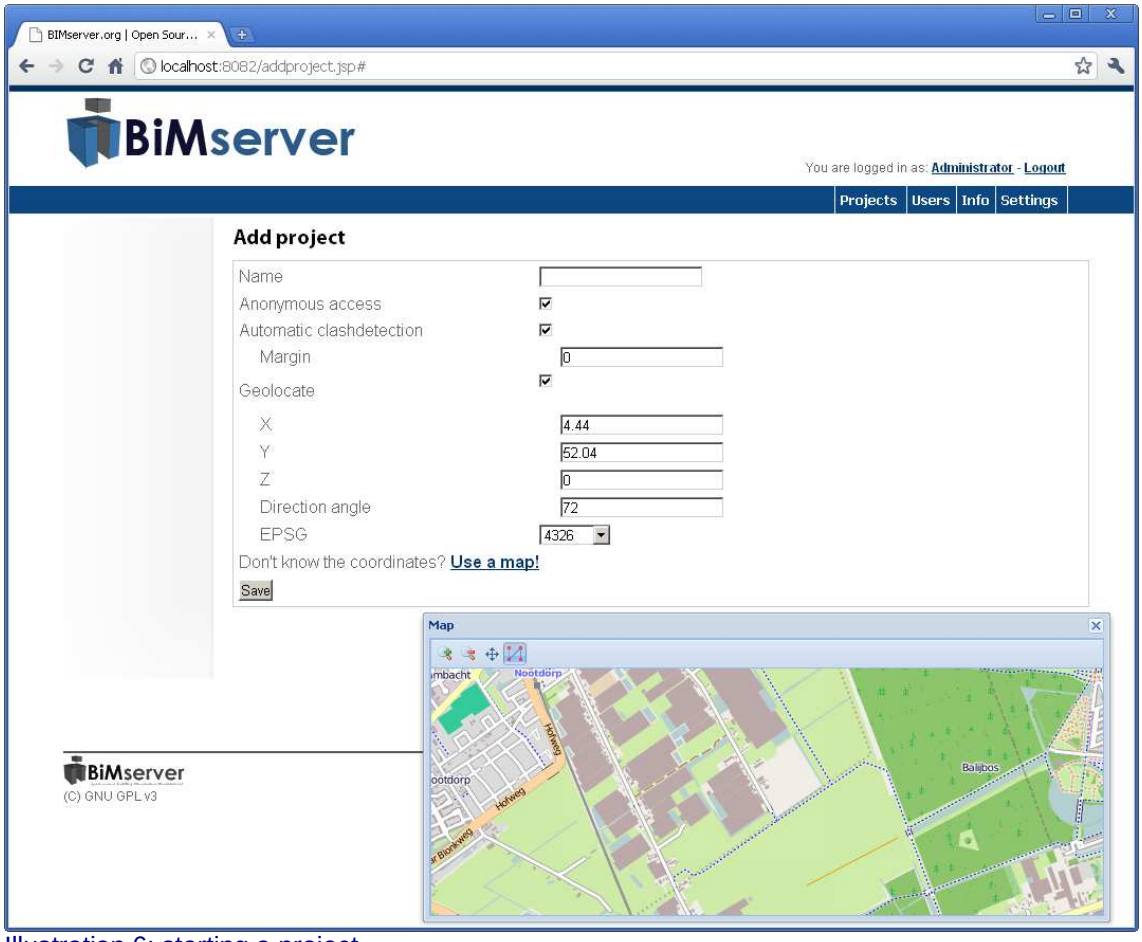


Illustration 6: starting a project

Furthermore you can give your project 'anonymous access' and 'geolocate'.

When you check 'anonymous access' you give anonymous users the ability to view (parts of) your model. This can be handy to give people the Google-Earth-networklink for example to view the latest status of your project on Google Earth (without having to login). Advanced users can use the BIMserver as an object library by giving anonymous access.

When you click on 'Geolocate' some x,y,z fields appear. To geolocate your project, fill in in the x,y,z fields. These numbers are the real world placement coordinates of the building you are modeling. But just forget about them for a moment.

Click 'Save' to send your data.

The project is now being created in the database. After this is done you will get a screen that looks like Illustration 7.

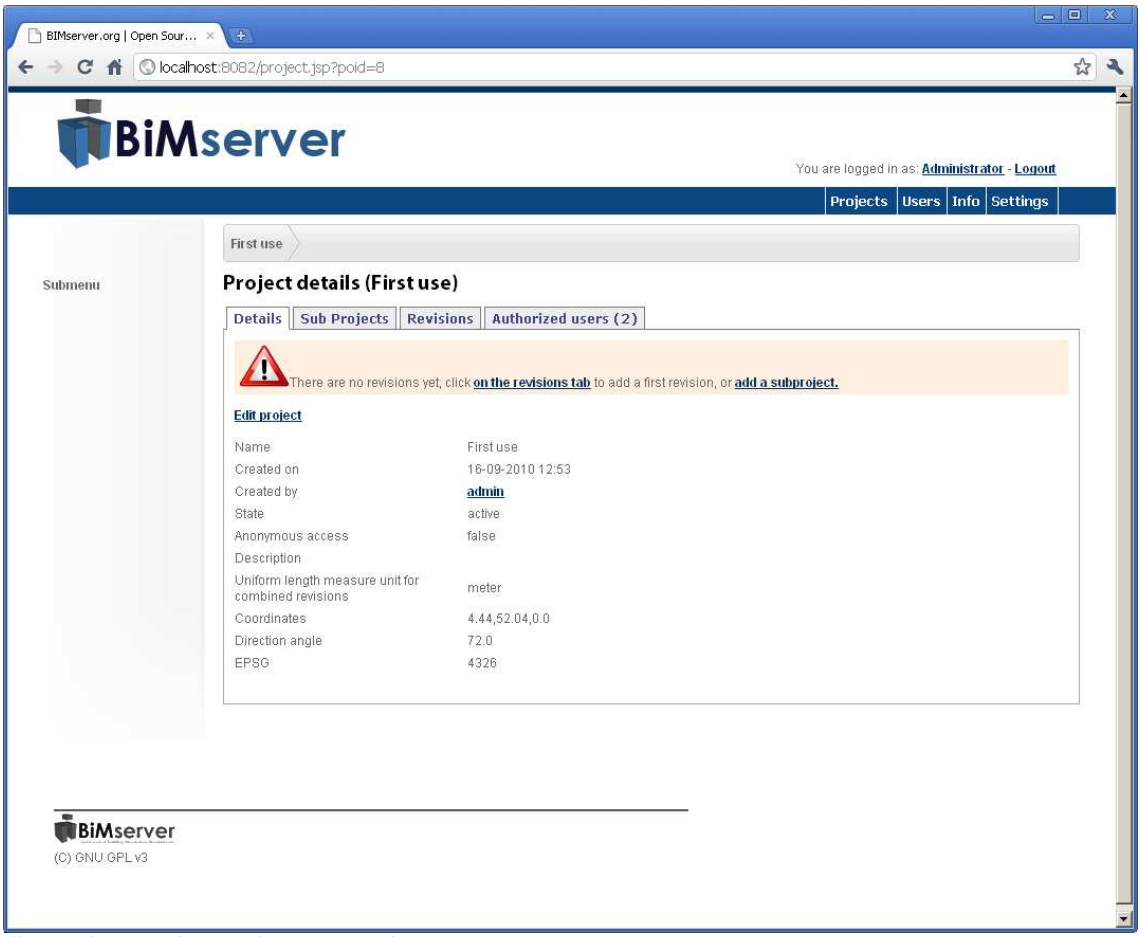


Illustration 7: First project created

Your can see the name, the date and time it was created, the user that created it, it's status (active), whether your project has anonymous access and a description.

To change this data, click on 'Edit project'.

This screen has six tabs. You can explore the tabs by clicking on them. When you click on 'Revisions' you will see that there are no revision, same goes for 'Checkouts'. In the tab 'Authorized users' you can find the list of users that have authorization on this project. For now this is only one (the Administrator).

5.3 CREATING SUB-PROJECTS

Your project is still empty. You can upload a first model, but it's probably more smart to start making subprojects.

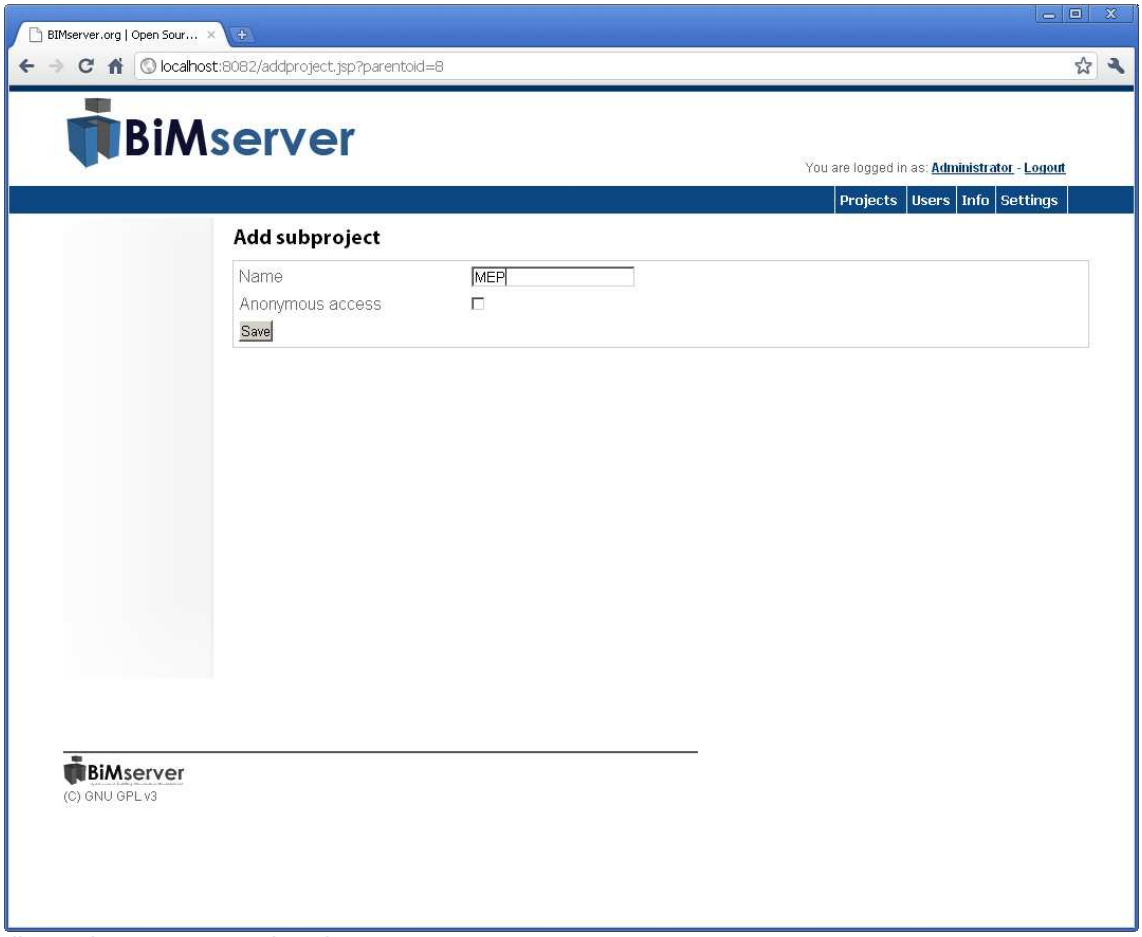


Illustration 8: create subproject

By creating subprojects you can make use of the concept of 'automatic merging'. For this demo we create subprojects for the architect, the MEP and the construction model. You can also make sub-subprojects and keep on splitting a project. Pick your own substructure as you wish (split into storeys for example). You can give users access rights to just one subproject. Users that have access to a sub-project automatically have 'read only' rights to the rest of the projecttree.

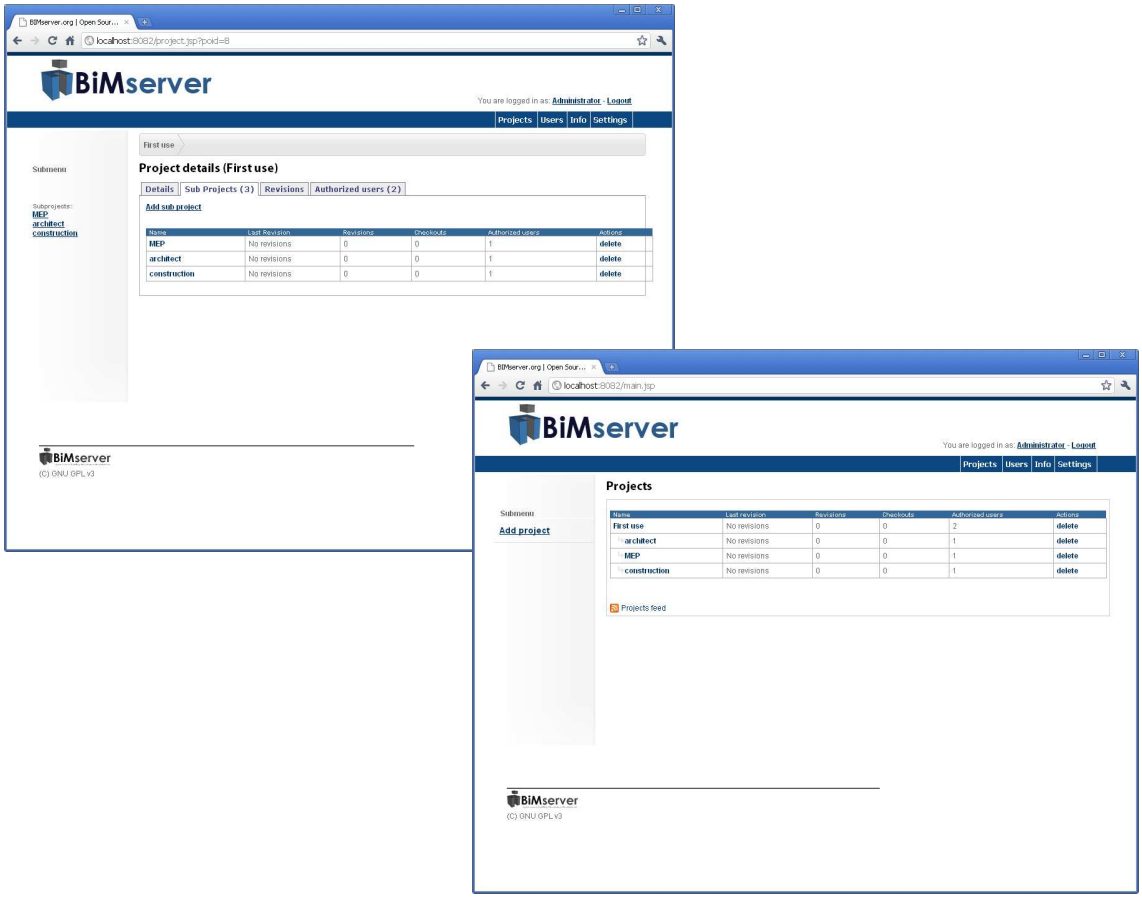


Illustration 9: Created subprojects

5.4 AUTHORIZE OTHER USERS ON YOUR PROJECT

To authorize other users on your project you first need to create a new user. This can be done as administrator under 'users'.

Click 'add user' in the submenu on the left and you will get a screen that looks like Illustration 10.

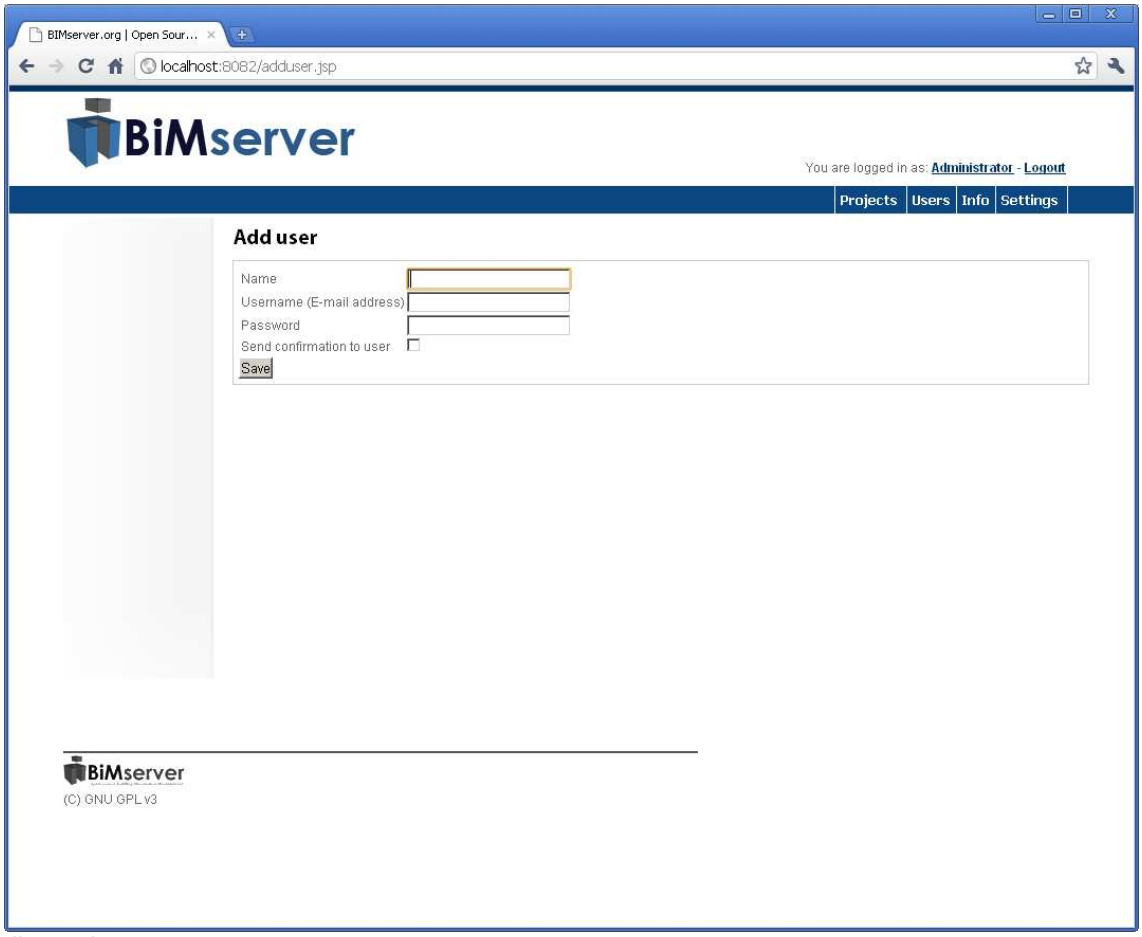


Illustration 10: Create a new user

After creating the user, you see the userdetails. In the tab 'projects' from the (new) user you can link this user to specific (sub)projects.

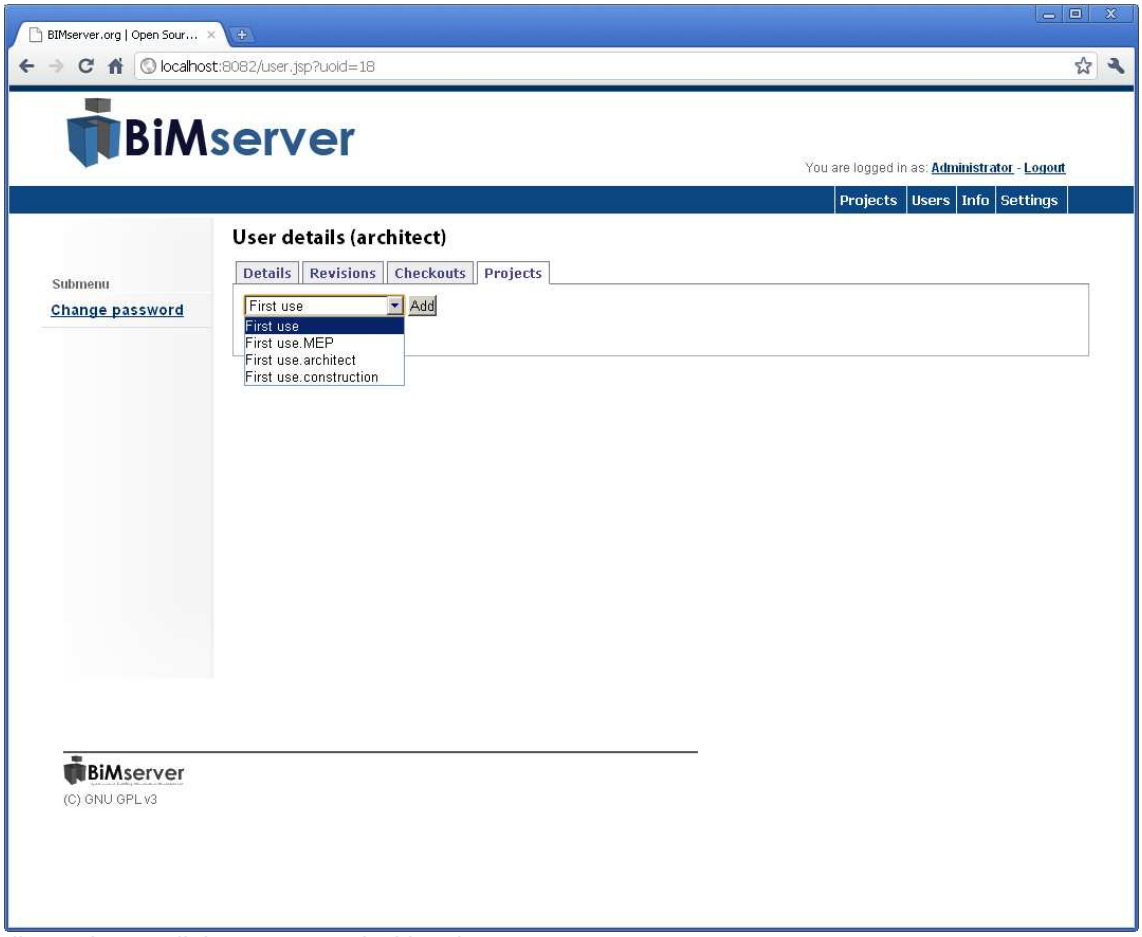


Illustration 11: link a user to a (sub)project

In this example we link the user 'architect' to the subproject 'architect'. From now on the architect user has rights to change and upload new models to his/her own subproject. He can also download every other model in the projecttree.

As administrator you can create users for all the projectmembers of your project.

6 UPLOADING IFC

Your project structure is still empty. Someone has to upload a model first. The most common way to do this is to upload an IFC file.

This example will discuss the upload of several models in the sub-projects by different users.

Very important: The BIMserver software only allows users with a valid e-mail address to upload IFC data to the server.

To follow the instructions below, you need to be logged in as a user, nót as 'admin'.

6.1 INITIAL UPLOAD BY 'ARCHITECT'

First the user 'architect' will upload a model. The architect logs into the bimserver system and sees the structure (that looks somewhat like Illustration 12).

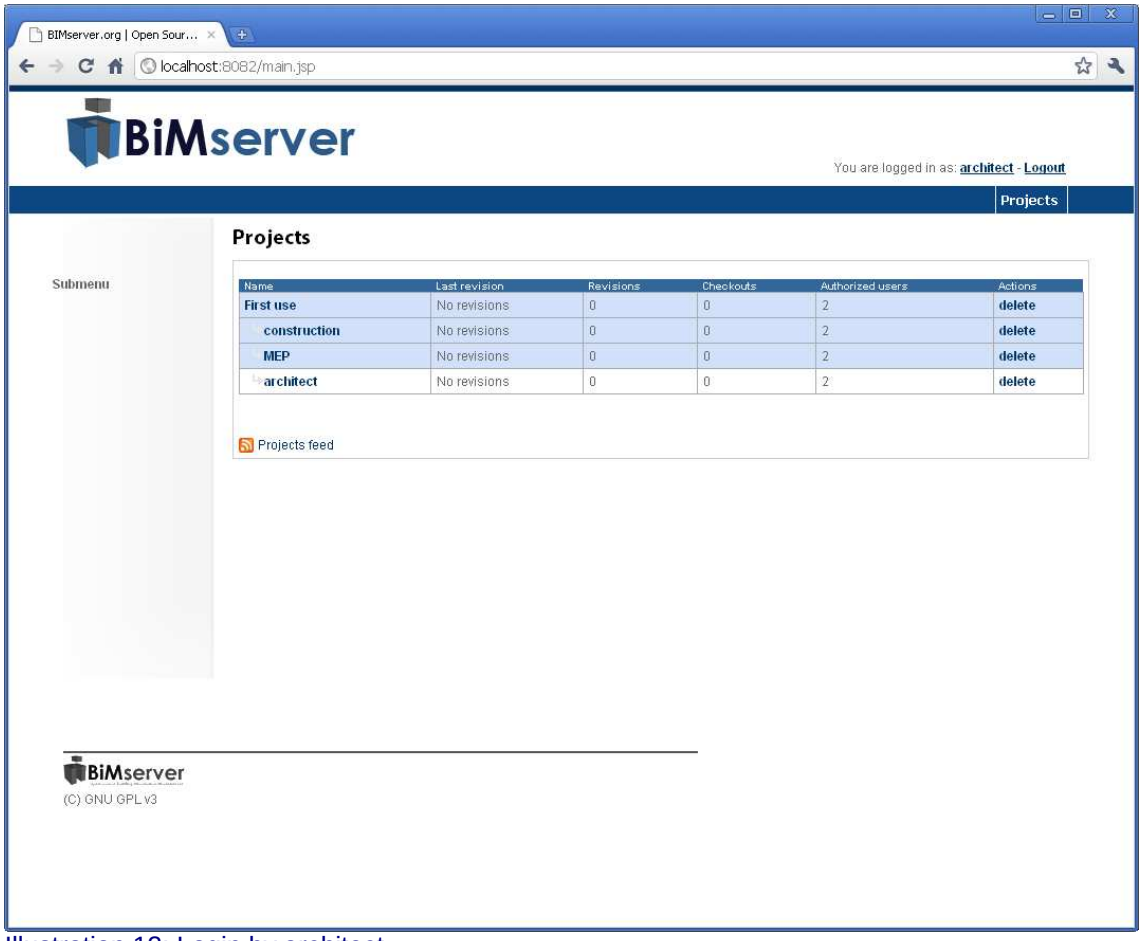


Illustration 12: Login by architect

The architect now sees the projectstructure. In this structure the 'read only' projects are colored with a strange kind of blue. The project that the architect has full access to has a 'normal' white color. To upload a model, the architect clicks on the projectname (in this case also 'architect).

Uploading IFC

Now he/she will see the subproject information. Tabs are shown for projectdetails, Subprojects, revisions and authorised users. Click the 'revisions' tab. It should look somewhat like Illustration 13. In this tab all the revisions for the subproject are shown. In this first case, no revisions are available yet, but there is a possibility to upload a IFC model.

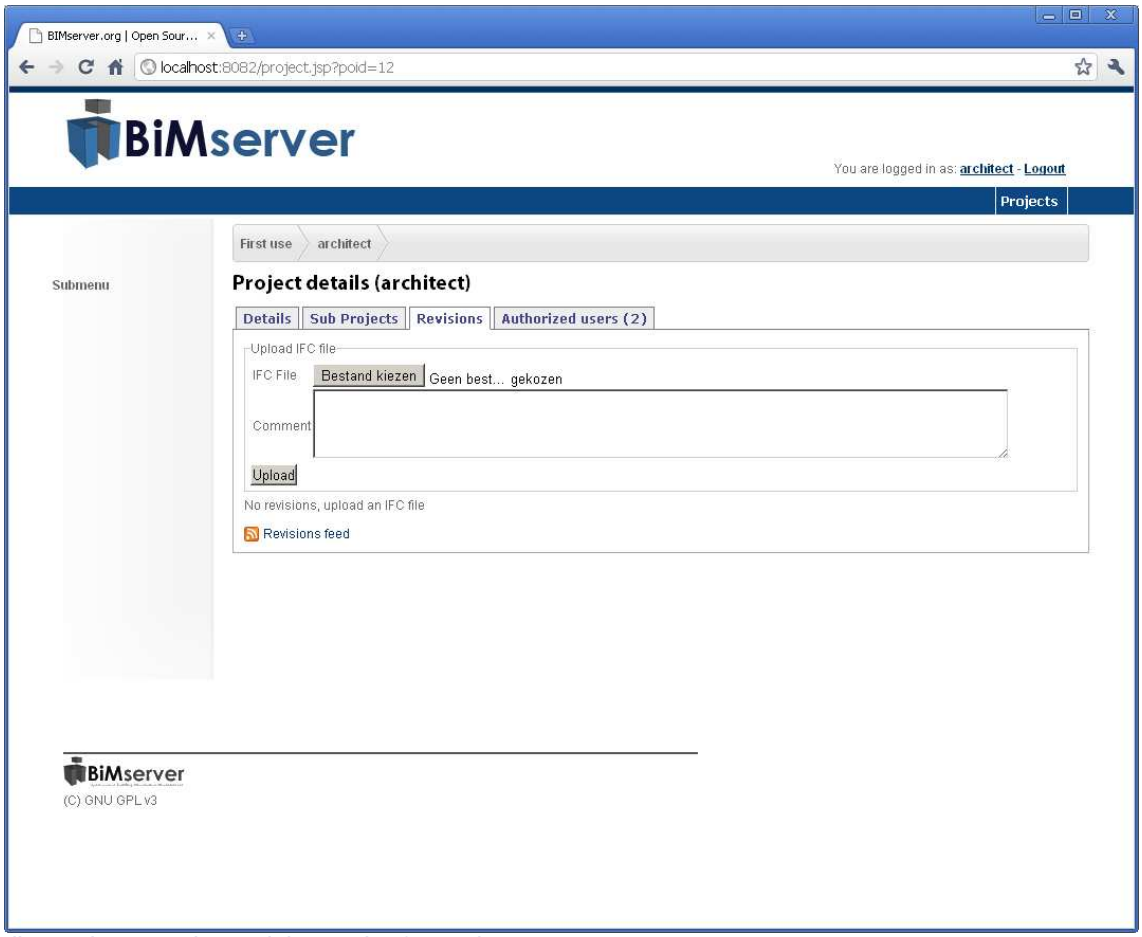


Illustration 13: The revisions tab of a project.

Click on 'Choose File' after the 'IFC File' attribute. Now find a STEP file of an IFC model (normally recognizable by the .ifc extension). It is also possible to upload a ZIP file with a IFC file inside (or a .ifczip which actually is the same). Optionally you may fill in a comment in the 'Comment'-field.

If you don't have IFC files you can download some on www.ifcwiki.org or on download.bimserver.org.

After this, click on 'Upload'. This may take a while, and your browser will give the notice that it is 'working' or 'in progress'.

After this is done your BIMserver will return a screen that looks like Illustration 14.

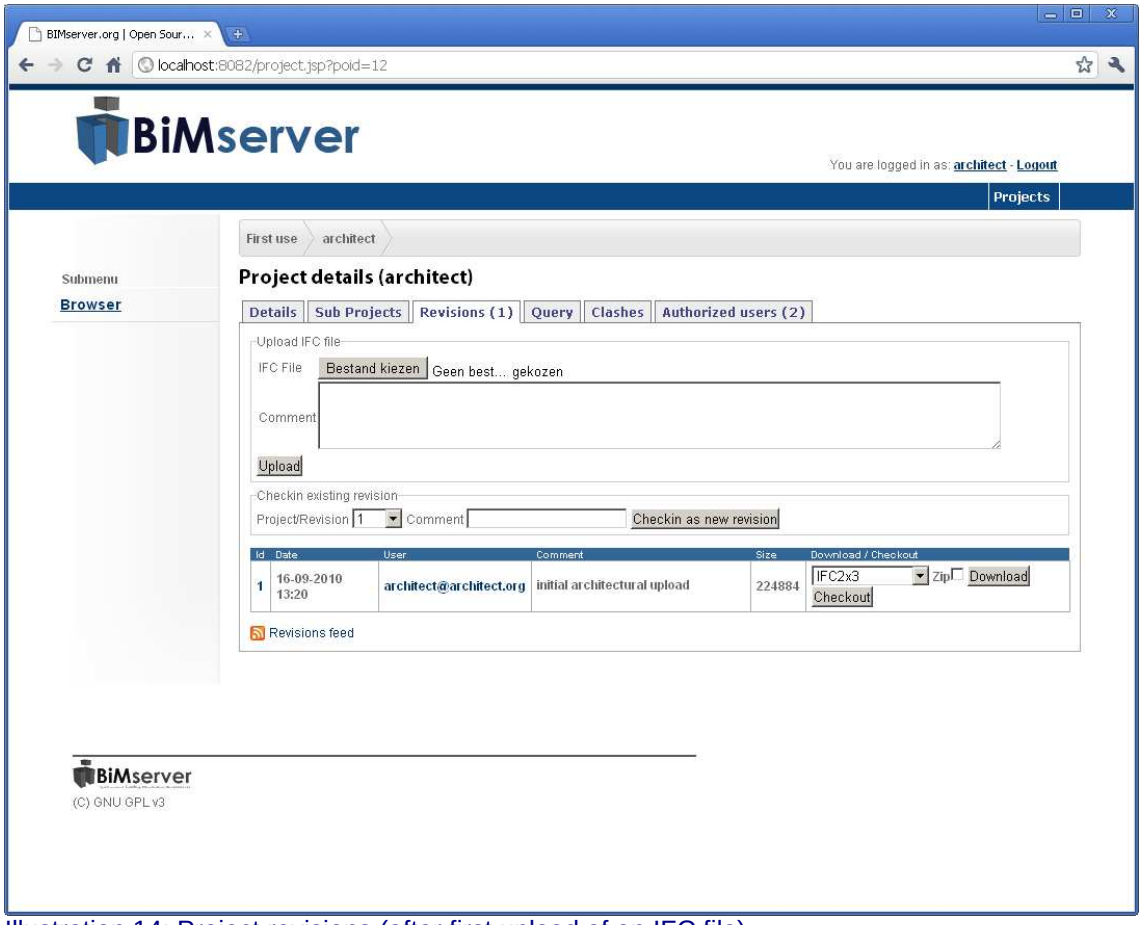


Illustration 14: Project revisions (after first upload of an IFC file)

This screen shows you the revisions (which is only one for the moment) of the project. You see the revision ID, the date and time of the creation, the user that created it, the comment, the size (in Kb) and possibilities to download and checkout the revision.

Your first model is now in the database of your BIMserver!

6.2 MERGING CONCEPT AND REVISIONS

You will notice that the main project (in this example called 'Firstuse') also has a first revision.

6.3 DOWNLOAD AND/OR CHECKOUT

You can now 'download' or 'checkout' your model in the format of your choice (IFC, or ifcXML for example).

7 EARLY WARNING SYSTEM / MODEL CONSISTENCY

Explain something about this over here.....

8 CLASH DETECTION

8.1 INTRODUCTION

One of the most valued features....

8.2 SELECTING REVISIONS OF (SUB-)PROJECTS

This is cool....

8.3 IGNORE

This is cool....

8.4 MARGIN

Abcd...

8.5 AUTOMATICALLY RUN CLASH DETECTION

This is cool....

9 QUERYING A MODEL

9.1 INTRODUCTION

asdf...

9.2 SIMPLE QUERIES

asdf...

9.3 ADVANCED QUERIES

asdf...

9.4 SHARING ADVANCED QUERIES WITH THE COMMUNITY

asdf...

10 SOME FEATURES

10.1 MODEL BROWSER

Asdf...

10.2 TAGGING A REVISION/MODEL

Asdf...

10.3 BRANCHING (TO SANDBOX)

Asdf...

10.4 UPDATE ALERT (RSS)

Asdf...

10.5 DIFFERENCE FINDER (BETA)

Asdf...

11 ADVANCED FEATURES

11.1 USING XML-LINK AND IFC-LINK

This is cool....

11.2 ONLINE VIEWER (O3D)

Cool stuff here....

11.3 USING THE GOOGLE EARTH NETWORK LINK

This is cool....

11.4 HOW TO USE CHANGESETS

This is difficult....

12 CONFIGURING YOUR SERVER

12.1 ADDING OR DELETING DOWNLOAD FORMATS

This can be done by....

12.2 CONFIGURING THE REGISTRATION SETTINGS

This can be done by....

12.3 CONFIGURING THE DATABASE LOCATION

This can be done by....

12.4 CONFIGURING THE SMTP-SERVER

This can be done by....

12.5 CONFIGURING E-MAIL TEMPLATES

This can be done by....

12.6 CHANGING THE LOGO

Asdf..

12.7 CONFIGURING QUERY SETTINGS (IGNORE FILE)

This can be done by...

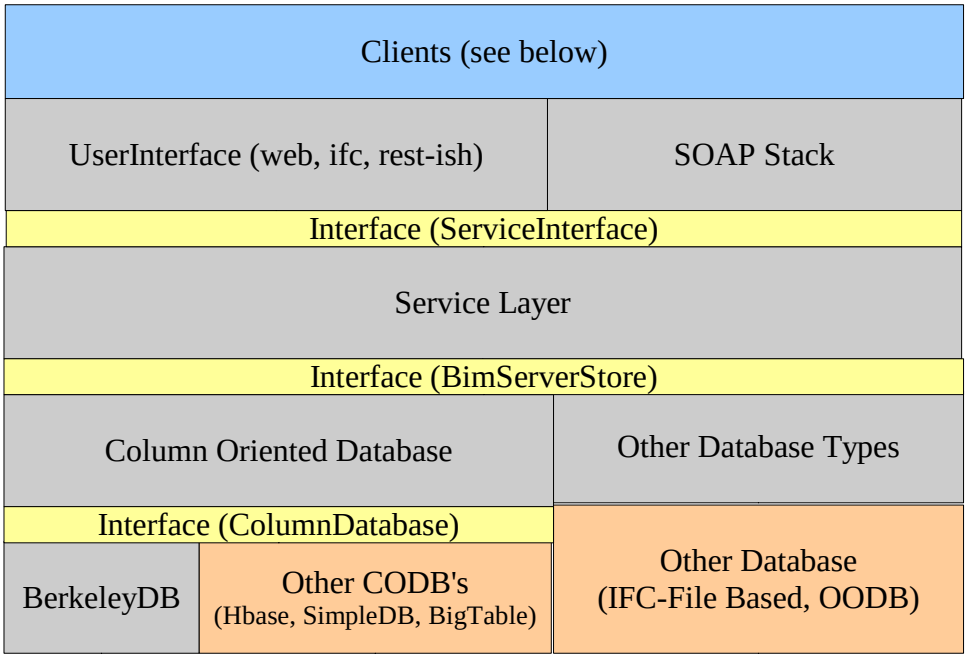
13 EXTENDING YOUR SERVER

With DMS systems like alfresco; SOAP; change sets; BIM software interfaces; et cetera.....

14 ARCHITECTURE

This chapter will describe the global architecture..

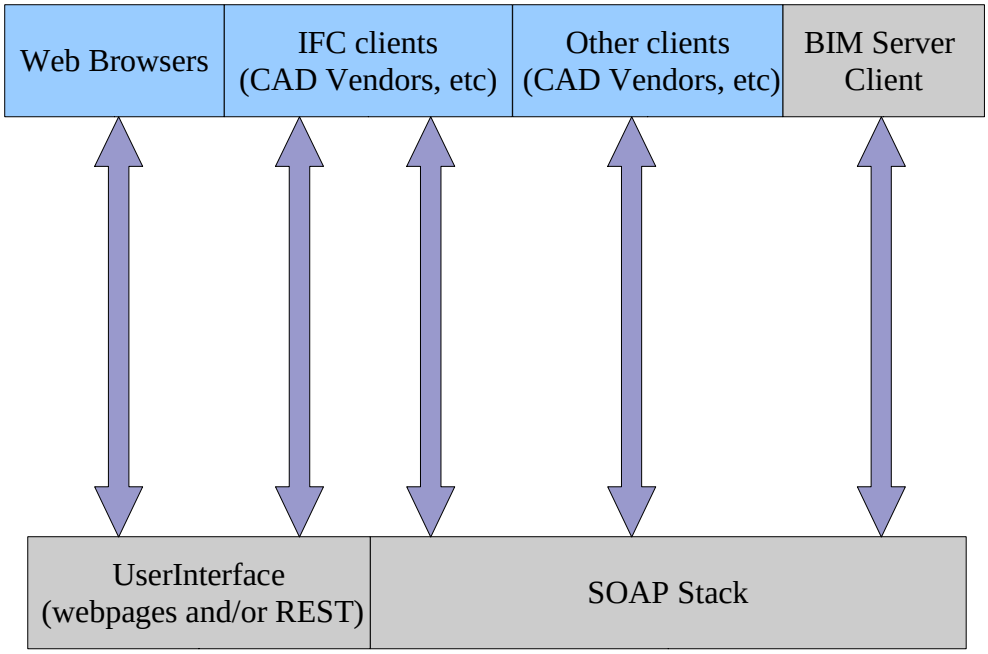
The global architecture looks something like this:



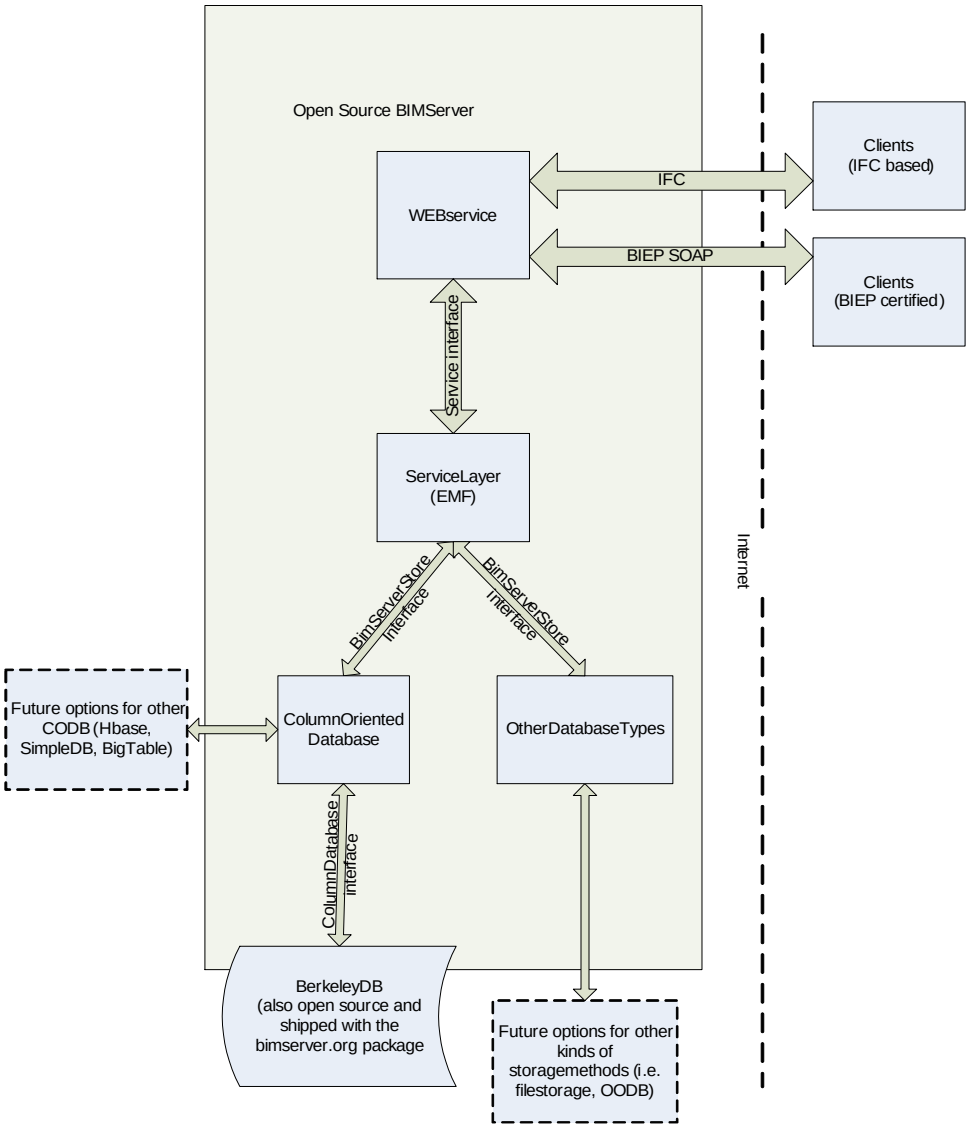
Has yet to be made	Clients
Part of BIMServer.org	Programmatic Interfaces

Architecture

There are some different clients to interface with the bimserver:



A different view on the architecture (but basically the same):


Open Source BIMServer
WEBservice
IFC
BIEP SOAP
Clients
(IFC based)
Clients
(BIEP certified)
Service interface
ServiceLayer
(EMF)
BimServerStore
Interface
BimServerStore
Interface
Internet
Future options for other
CODB (Hbase,
SimpleDB, BigTable)
ColumnOriented
Database
OtherDatabaseTypes
ColumnDatabase
interface
BerkeleyDB
(also open source and
shipped with the
bimserver.org package
Future options for other
kinds of
storagemethods (i.e.
filestorage, OODB)

15 ADVANCED USE

Extra stuff for advanced users.

15.1 USING SOAP (AND THE CLIENT)

Besides the Web-user interface, the BIMserver software also has a SOAP interface. You can explore this SOAP interface by using the special client.

Download the client from http://download.bimserver.org/

It will be a .jar file.

15.2 USE 'CHANGESETS' IN SOAP

Cool stuff....

15.3 USING YOUR BIMSERVER AS A PRODUCT CATALOG

This is cool....

16 WHAT DOESN'T WORK

The stuff that doesn't work is listed on the bugtracker at http://dev.bimserver.org

16.1 REPORT A BUG

Report a (new) bug on the issuelist at http://dev.bimserver.org (you need a Google account).

17 HELP

Yes, you can help us!

Program, report bugs, do feature requests, write documentation (please!) or just sponsor or donate to us.

Contact us on howcanihelp@bimserver.org