



## Manage Project Homework: MPH Server User Guide

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# 1 Introduction

## 1.1 Purpose

This installation guide describes the steps that will allow the system administrator to start the server module of Manage Project Homework

The intended audience of this document includes the system administrator as well as the prospective developers and maintainers of the tool.

## 1.2 Scope

The software system to be produced is a projects management tool which will be referred to as Manage Project Homework (MPH) throughout this document.

MPH will allow professors to publish a project description and to define the set of the corresponding deliverables. It will allow students to join project teams and submit deliverables by uploading them into the system.

The professor will also be able to evaluate the project deliverables assigning a score to them and leaving to the system the computation of the final score based on the average of the individual scores. MPH will also provide some information sharing functionalities among different teams.

## 1.3 Definitions, acronyms, and abbreviations

**MPH:** Manage Project Homework, the software system to be produced.

**Team:** a set of 1, 2 or 3 students who work together on the same project.

**Admin:** the system administrator

**Deliverable:** the model of a tangible object produced as a result of a specific phase of the project.

**Artifact:** the effectively tangible object associated to a deliverable.

**Deadline:** the date by which the artifact associated to a deliverable must be delivered.

**RASD:** Requirements Analysis and Specification Document

**DD:** Design Document

**DBMS:** DataBase Management System

**GUI:** Graphical User Interface

**JEE:** Java Enterprise Edition

## 1.4 References

- Description of the project: <http://corsi.metid.polimi.it>
- MPH Requirements Analysis and Specification Document
- MPH Design Document
- <http://dev.mysql.com/doc/>
- <http://dev.mysql.com/doc/workbench/>
- <http://www.jboss.org/jbossas>

## 2 Getting Help and Giving Feedback

### 2.1 Do you need help?

If you experience difficulty with a procedure described in this documentation, please feel free to send an email to [axxo@hotmail.it](mailto:axxo@hotmail.it). Don't forget to include in the email all the data needed to get support, like a list of action performed, the log of the server module and screenshot that shows the error.

### 2.2 We Need Feedback!

If you find a typographical error in this manual, or if you have thought of a way to make this manual better, we would love to hear from you! Please submit an email to [axxo@hotmail.it](mailto:axxo@hotmail.it). If you have a suggestion for improving the documentation, try to be as specific as possible when describing it. If you have found an error, please include the section number and some of the surrounding text so we can find it easily.

## 3 Pre-Installation

### 3.1 Obtaining required tools and third-part software

To install the server module of the MPH software, are required the following files:

- **Java SE Runtime Environment 6** available for download at the following link: <http://www.oracle.com/.../index.html>
- **MySQL Community Server 5.5.20**, available for download at the following link: <http://dev.mysql.com/downloads/mysql/>
- **MySQL Workbench 5.2.37**, available for download at the following link: <http://www.mysql.com/downloads/workbench/>

- **JBOSS Application Server 6.1.0 Final**, available for download at the following link: <http://download.jboss.org/.../jboss-as-distribution-6.1.0.Final.zip>.
- The "**MPH-Server-Installer.jar**" file provided in the same directory of this document.

## 3.2 Installing required tools and third-part software

To install the MPH server module, you need to install and configure some required external tools. You need to install, in this order:

- Java SE Runtime Environment 6
- MySQL Community Server 5.5.20
- MySQL Workbench 5.2.37
- JBoss Application Server 6.1.0 Final

BE SURE TO HAVE FULL ADMINISTRATION PERMISSIONS on the host where you will install MPH Server, otherwise you may have some problems during the install or setup of software.

### 3.2.1 Installing Java SE Runtime Environment 6

In order to install Java SE Runtime Environment 6, please refer to the official oracle guide at [http://java.com/en/.../index\\_installing.xml](http://java.com/en/.../index_installing.xml).

### 3.2.2 Installing MySQL Community Server and MySQL Workbench 5.2.37

In order to install MySQL Community Server 5.5.20, please refer to the official guide at <http://dev.mysql.com/.../installing.html>.

By default, MySQL Community Server has no password for the "root" user (the user used by MPH). If requested, choose for the "root" user the password "", that is no password. You don't need additional custom configuration. If you have already installed MySQL and you want to use your installed version, verify that the user "root" is created in the database with global permission on the whole database, and that there is no password for that user. If you're unsure about what password the user "root" have, reset it following this guide at <http://dev.mysql.com/.../resetting-permissions.html>. If you want to change this guidelines and use your own user and password, AFTER installing MPH Server module (instructions are given in the section 4 of this document) edit the **mysql-ds.xml** file as wanted following the guide at [http://docs.jboss.org/...e\\_configuration\\_schema](http://docs.jboss.org/...e_configuration_schema) editing the password username and password attributes (the file is located in the *server/default/deploy* directory of you JBoss installation).

When you finished install the server, you need to install the MySQL Workbench tool.

To accomplish this, refer to the official guide at <http://dev.mysql.com/.../wb-installing.html>.

### 3.2.3 Starting MySQL Community Server 5.5.20

In order to start the MySQL server, please start MySQL Workbench tool. Then create a new "*administrator server instance*" following <http://dev.mysql.com/.../wb-server-administration-new-server-instance.html> specifying "localhost" as *Host Machine* and changing the setting the server settings like the ones set up when installing the mysql server (typically you need only to set the correct username and password for the user). Then you need to let the server handle files bigger than 1 megabytes. To do so, you need to open the administrator server instance just created, click on the *Option File* entry under *Configuration* section like like shown in this webpage, then select the *Networking* tab, then click on "max\_allowed\_packet" check box and write the value "11M" without quotes. After this, click on the *Startup / Shutdown* entry under the *Management* section, then click *Start Server* like shown in <http://dev.mysql.com/.../wb-manage-server-startup-tab.html>.

### 3.2.4 Setting up the MySQL Community Server 5.5.20

In order to let MPH work properly, you need to create a new schema within the mysql server, called "mph". Before create a new schema, you have to create a new database connection. To create a new database connection , follow follow <http://dev.mysql.com/...development.html> remembering that the mysql server started at "127.0.0.1:3306" with the user and password selected at installation time. Once you have created a database connection for the database,can create a new schema this from the command line or, more preferably ,using the MySQL Workbench following <http://dev.mysql.com/.....rowser.html>.

### 3.2.5 Installing JBOSS Application Server 6.1.0 Final

To install JBOSS Application Server, simply extract the downloaded archive into a directory WITHOUT SPACES. It is very important that the path pointing the JBOSS directory doesn't contain spaces: otherwise, JBOSS won't start.

## 4 Installation

### 4.1 MPH Server installation

To install MPH server module, you need to register the MPH server application to the JBOSS Application Server. To do this, run the *MPH-Server-Installer.bat* if you are on Windows, or the *MPH-Server-Installer.sh* if you are on OSX / Linux. Make sure to have full execution rights on these files. Then choose the path where is located the "bin" directory of the JBOSS Application Server

by clicking the *Browse* button. Then click the *Install* button. Now you have installed correctly the MPH Server.

## 5 Using MPH Server

### 5.1 Starting the server

To start the MPH server module, you need to open the *bin* directory of your JBOSS installation directory, then execute the *run.bat* file if you are on windows or the *run.sh* file if you are on OSX / Linux.

From now on, the server will accept incoming connections, and students and professors could log in into the MPH system.

### 5.2 Stopping the server

To stop the MPH server module, you need to open the *bin* directory of your JBOSS installation directory in a terminal window, then execute the command *shutdown.bat -S* if you are on windows or the command *./shutdown.sh -S* if you are on OSX / Linux.

From now on, the server will stop incoming connections, and students and professors cannot log in into the MPH system no more.

### 5.3 Inserting or editing data

To insert or edit data within the database, the system administrator needs to insert/edit some table's rows or attributes. To do so, he/she can use the command line, or use the MySQL Workbench tool: using the latter is very recommended, since is more intuitive but still powerful (you can still add sql statements from MySQL Workbench). To learn how to modify data with MySQL Workbench, you can follow <http://dev.mysql.com/.../wb-sql-editor.html>.

VERY IMPORTANT: to know how to modify in a safe way the MPH database, please refer to the Database section of the Design Document.

Note that each professor cannot register itself into the software, nor create a new course. For this reason, are presented now in a detailed way the two main actions that a system administrator must follow in order to insert a new professor and a new course. Other entity or relationship editing is quite obvious, and then are listed here: please refer to the Database section of the Design Document for further information or feel free to send an email to the [axxo@hotmail.it](mailto:axxo@hotmail.it).

#### 5.3.1 Inserting a new professor or student

The system administrator can add a new professor or student simply inserting a new row in the table *Professor* or in the table *Student*. It is remarkable that the *Password* attribute is the MD5 hash of the real password, for security reason. Then the system administrator should then use a MD5 hash generator like <http://www.md5.cz/> free online MD5 hash tool to obtain the hash of the

real password and store that hash in the *Password* attribute. Note that the MD5 hash must contain ONLY LOWERCASE letters.

For example, let's add a new professor "raaxxo" with password "test", date of birth "2012-01-01", email "raaxxo@raaxxo.com", called "Bob Raaxxo" and with telephone number "123456".

First of all obtain the MD5 hash of the string "test" (without quotations). Once got the hash (that is 098f6bcd4621d373cade4e832627b4f6) you can insert a new professor using this SQL statement<sup>1</sup>:

```
INSERT INTO mph.Professor (Username,Birthday,
    Email,FirstName,LastName>Password,
    TelephoneNumber) VALUES ("raaxxo", "
    2012-01-01", "raaxxo@raaxxo.com", "Bob", "
    Raaxxo", "098f6bcd4621d373cade4e832627b4f6"
    , "123456");
```

If you want to insert a new Student, simply change

```
mph.Professor
```

in

```
mph.Student
```

at the begin of the statement.

### 5.3.2 Inserting a new course

The system administrator can add a new course simply inserting two new rows to the schema: one in the table *Course* and one in the table *Professor\_Course*. A course can be added only after the professor that hold the Course was created. For example, if you want to add a new course held by professor "raaxxo", you can use this SQL statement<sup>2</sup>:

```
INSERT INTO mph.Course (Uid, Description, Name
    , Professor) VALUES ( 1, "CourseDescription
    ", "CourseName", "raaxxo");

INSERT INTO mph.Professor_Course (
    Professor_Username, coursesHolded_Uid)
VALUES ("raaxxo", 1);
```

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<sup>1</sup>if you are experiencing problems about quotations when inserting this SQL statements, try to rewrite this statement from scratch instead of copy and paste it

<sup>2</sup>if you are experiencing problems about quotations when inserting this SQL statements, try to rewrite this statement from scratch instead of copy and paste it



### 5.3.3 Inserting a new project

The system administrator can add a new course simply inserting a new row in the table *Project*. A project can be added only after the course that holds it was created.

### 5.3.4 Inserting a new deliverable

The system administrator can add a new deliverable simply inserting two new rows to the schema: one in the table *Deliverable* and one in the table *Project\_Deliverable*. A deliverable can be added only after the project that it belongs to was created.

### 5.3.5 Inserting a new team

The system administrator can add a new team simply inserting two new rows to the schema: one in the table *Team* and one in the table *Project\_Team*. A deliverable can be added only after the project that it belongs to was created.

### 5.3.6 Inserting a new team membership request

The system administrator can add a new team membership request simply inserting a row in the table *StudentRequestMembership*. A membership request can be added only after the student and the team were created.

### 5.3.7 Enrolling a student to a team

The system administrator can enroll a student to a team simply inserting one new row in the table *StudentBelongsTeam*. A student can be enrolled in a team only after the team was created.

### 5.3.8 Inserting a new artifact

The system administrator can add a new artifact to a team simply inserting two three rows to the schema: one in the table *Artifact*, one in the table *Deliverable\_Artifact* and one in the table *Team\_Artifact*. An artifact can be added only after the deliverable and the team that it belongs to was created.