



## Olympos

Chronos Web Tools

*Installation guide 0.9.9.5*

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## Document History

### Document Location

This is a snapshot of an on-line document. Paper copies are valid only on the day they are printed. Refer to the author if you are in any doubt about the currency of this document.

The source of the document will be found in the Subversion repository on Source Forge.

[https://olympos.svn.sourceforge.net/svnroot/olympos/trunk/olympos/chronos/scr/applications/requirements/Chronos\\_Web\\_Modeller\\_Installation.pdf](https://olympos.svn.sourceforge.net/svnroot/olympos/trunk/olympos/chronos/scr/applications/requirements/Chronos_Web_Modeller_Installation.pdf)

### Revision History

Date of this revision: 18/02/11	Date of next revision <i>TBD</i>
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Revision Number	Revision Date	Summary of Changes
(#)	(-)	(Describe change)
0.1	18/12/08	created
0.2	03/02/09	Update installation steps
0.8.1	04/02/09	Update for 0.8.1
0.9	04/30/09	Update for 0.9
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0.9.7.1		Review
0.9.8.4	01/11/10	Review
0.9.9	05/03/10	Added cron job section
0.9.9.2	06/16/10	Added pdo settings
0.9.9.2	07/05/10	UMI setting added
0.9.9.5	02/18/11	Added PHP config 'upload_max_filesize'



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## 1. Abstract

This file helps to configure and install the **Chronos Web Tools**, including the **Chronos Web Modeller** and the **Chronos web Browser**. It is addressed to system administrators only. If you are an user start with the CWM online help.

You can download the most recent CWT version from: <http://sourceforge.net/projects/olympus/>

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## 2. License

The **code** of the CWT and the accompanying materials are made available under the terms of the Eclipse Public License v1.0 which accompanies this distribution, and is available at <http://www.eclipse.org/legal/epl-v10.html>.

The **concept** of Chronos is made available under the Creative Common license.

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- \* to Share — to copy, distribute and transmit the work
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## 3. Requirements

Please consider the following list of requirements before installing the Chronos Web Modeler

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### 3.1 Server hardware

Minimal configuration (development)

<b>CPU</b>	1x2,5 GHz
<b>RAM</b>	1 GB
<b>HD</b>	1 x 500 GB
<b>RAID Level</b>	0

Suggested (productive)

<b>CPU</b>	4 x 2,5 GHz
<b>RAM</b>	8 GB
<b>HD</b>	2 x 1000 GB
<b>RAID Level</b>	5

---

### 3.2 Server Software stack

The development was tested under Windows XP SP2, Linux Ubuntu Server 64 and Linux Debian (Etch 4.0 Kernelname: 2.6.18-6-686-bigmem). Other Linux distributions (like e.g SUSE or Redhat) should also work, but have not been tested .

The server requires the following components:

- Apache (2.2.11) [Linux]
- Apache (2.2.10) [Windows]
- MySQL (5.0.00)
- PHP (5.2.8) (with JSON library active)
- Java 1.6
- phpMyAdmin (3.1.1) [Linux]
- phpMyAdmin (3.1.0) [Windows]
- unzip
- OpenOffice version 2.4 until 3.0

XAMPP for Linux or Windows, includes most of them.

Download and install XAMPP for Linux or Windows from  
<http://www.apachefriends.org/en/xampp.html>

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### 3.3 CWM Application Libraries

The CWM application uses the libraries depicted below:

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### 3.4 Client

The client need to be able to run a supported browser.

#### 3.4.1 Hardware

Minimal :

Key	Value
<b>CPU</b>	Celeron 900 MHz Class
<b>RAM</b>	752 MB
<b>Monitor</b>	15"

Suggested:

Key	Value
<b>CPU</b>	CORE2 2 GHz class
<b>RAM</b>	2 GB
<b>Monitor</b>	21"

#### 3.4.2 Software

The client runs in following browsers with activated JavaScript:

- Firefox 3 or better (*Preferred*)
- Google Chrome 3 or better

Not (yet) supported:

- Opera
- IE 8

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# Installation

The installation of the CWM needs following steps:

1. Install the LAMP or WAMP stack.
2. Configure PHP.
3. Install phpMyAdmin.
4. Create the CWM database.
5. Install Java.
6. Install OpenOffice
7. Deploy the CWM package.
8. Configure the application.

This document is oriented to a productive installation under Linux.

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## 3.5 Install the LAMP or WAMP stack

Follows the specific installation instruction of your Operating System or distribution.

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## 3.6 Configure PHP

1. find the position of your php.ini
2. edit php.ini as following:

```
;;;;;;;;;;  
; Data Handling ;  
;;;;;;;;;;  
variables_order = "GPCSE"
```

```
;;;;;;;;;;  
; Resource Limits ;  
;;;;;;;;;;  
max_execution_time = 7200  
max_input_time = 7200  
memory_limit = 1024M
```

```
;;;;;;;;;;  
; File Uploads ;  
;;;;;;;;;;  
upload_max_filesize = 20M
```



```

;;;;;;;;;;
; Fopen wrappers ;
;;;;;;;;;;
default_socket_timeout = 300

;;;;;;;;;;
; Module Settings ;
;;;;;;;;;;
[Pdo_mysql]
pdo_mysql.default_socket = /opt/lampp/var/mysql/mysql.sock

[Session]
session.gc_maxlifetime = 7200

```

---

### 3.7 Install phpMyAdmin

Phpmyadmin is a supported package in many Linux distribution.

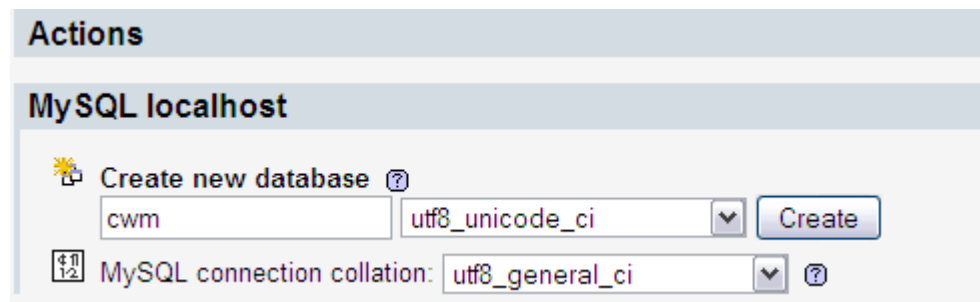
Under Ubuntu you can install it by using the following command:

```
sudo apt-get install phpmyadmin
```

---

### 3.8 Create the CWM database

- Only in case of a new installation
- Open PHPMyAdmin by browsing to <http://localhost/xampp/>
- Create a Database name "cwm":
- 



The screenshot shows the 'Actions' menu in phpMyAdmin. Under 'MySQL localhost', the 'Create new database' option is selected. The database name is 'cwm' and the collation is 'utf8\_unicode\_ci'. Below it, the 'MySQL connection collation' is set to 'utf8\_general\_ci'.

- Create an user with name "cwm" for the new created "cwm" database
- set the password to "cwm" all lowercase for this user

[Databases](#)
[SQL](#)
[Status](#)
[Variables](#)
[Charsets](#)
[Engines](#)
[Privileges](#)
[Processes](#)
[Export](#)

[Import](#)

### User overview

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [\[Show all\]](#)

	User	Host	Password	Global privileges <sup>1</sup>	Grant	
<input type="checkbox"/>	Any	%	--	USAGE	No	
<input type="checkbox"/>	Any	localhost	No	USAGE	No	
<input type="checkbox"/>	pma	localhost	No	RELOAD, SHUTDOWN, PROCESS	No	
<input type="checkbox"/>	root	127.0.0.1	No	ALL PRIVILEGES	Yes	
<input type="checkbox"/>	root	localhost	No	ALL PRIVILEGES	Yes	

☐ Check All / ☐ Uncheck All

[Add a new User](#)

### Add a new User

**Login Information**

User name:

Host:

Password:

Re-type:

Generate Password:

**Database for user**

☐ None  
☒ Create database with same name and grant all privileges  
☐ Grant all privileges on wildcard name (username\\_% )

### 3.9 Fill the database

Only in case of a new installation:

- execute on the created CWM database the provided `cwm.sql.gz`. This will install the default users and roles as well as the standard models.

Server: localhost Database: cwm

Structure SQL Search Query Export Import Operations

Privileges Drop

### Import

**File to import**

Location of the text file   (Max: 2,048 KiB)

Character set of the file:

Imported file compression will be automatically detected from: None, gzip, bzip2, zip

**Partial import**

☒ Allow interrupt of import in case script detects it is close to time limit. This might be good way to import large files, however it can break transactions.

Number of records(queries) to skip from start

**Format of imported file**

☒ SQL

**Options**

SQL compatibility mode

Illustration 1:

### 3.10 Install Java

- Check if the correct java version is installed: type in a console "java -version"
- If 1.6 is not available, install java 1.6 or better

### 3.11 Install OpenOffice

Install the package

**openoffice.org**

the version number must be 2.0.4 until 3.0<sup>1</sup>.

- Type in a bash shell:  
`soffice -headless -accept="socket,host=localhost,port=8100;urp;" -nofirststartwizard`

<sup>1</sup> The actual 0.9.9.2 release don't support

Note: if you receive the error "X11 error: Can't open display:" when running the above command, then you may need to install the "headless" OpenOffice.org package from your Linux distribution. On Ubuntu/Debian, this package is called **openoffice.org-headless**.

---

### 3.12 Test the access to the Metamodel

To be able to export the CWM need to dynamically read the Metamodel that in this version is under:

<http://cwm.nikostotz.de/chronos.profile.uml>

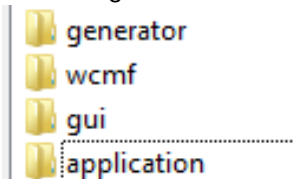
check that your server or firewall can access to this file by typing

```
wget http://cwm.nikostotz.de/chronos.profile.uml
```

---

### 3.13 Deploy the CWM package

- The CWT are provided as single zip file.
  - ◆ **NOTE Optional in case of Upgrade only**  
remove the `server.ini` file from `cwm/application/include` before unzip the file to avoid overwrite your actual configuration.
- Unzip the package (e.g. `cwm.zip`) in the apache http directory e.g. `/var/www` directory
- following structure is created:



---

### 3.14 Ensure write access for web server user

Make sure the user running the web server (`www-data` on Debian / Ubuntu) has write access to the following directories:

- `cwm/application/log`
- `cwm/application/statistics`
- `cwm/application/searchIndex`
- `cwm/application/include/views/smarty/templates_c`
- `cwm/application/include/views/smarty/cache`

---

### 3.15 Configure the application

Only in case of a new installation:

- Browse to `cwm\application\include`
- Open with an editor the `server.ini` file

- Edit the section [database] with your DB information

```
[database]
dbType = mysql
dbHostName = localhost
dbName = cwm
dbUserName = cwm
dbPassword = cwm
```

---

### 3.16 Configure the standard Model language

in the same file

**application/include/server.ini**

configure your default language for the backend model. Use the 2 letter international code (en for English, de for German, it for Italian, ....)

```
[i18n]
defaultLanguage = de
```

now browse to

**gui/js/uwm/Config.js :**

to configure the front end model language.

```
...
/**
 * The default modelling.
 *
 * @type String
 */
uwm.Config.defaultLanguage = 'de';
```

---

### 3.17 Configure the generator

Only in case of a new installation:

- on the same file `server.ini` modify the [generator] section to point to the position of your `ChronosGenerator.jar`.

```
...
[generator]
executable = /var/www/cwm/generator/ChronosGenerator.jar
```

---

### 3.18 give Apache rights to the generated folder

From the version 0.9.8 the CWM can generate a complete application.

Give the Apache all the right for:

```
/var/www/cwm/generated/
chmod 666 /var/www/cwm/generated/
```

---

### 3.19 Install cron Job

Starting with version 0.9.9, a cron job is provided for the Chronos Web Browser. It's supposed to preprocess large models on a regular basis, so the users can view the CWB contents without waiting for the full generation process.

The configuration for the cron job resides in `/var/www/cwm/application/jobs/config.ini`. The URL must point to the web path to CWM `main.php`. The login and password must be a user with read access to all models. You should create a special user for this task.

An example `config.ini` looks like:

```
[server]
url = http://localhost/cwm/application/main.php
login = cronuser
password = Sup3rSECrEtPAssWoRD
```

The cron job must use `/var/www/cwm/application/jobs/` as working directory. The script to be called is `/var/www/cwm/application/jobs/statistics.php` with a PHP5 interpreter. It should be run with the web server user. The user must have write access to `/var/www/cwm/application/jobs/log`. All output of the cron job is written to this directory. For tracking installation issues, you still should monitor the standard output of the job. An example cron job file looks like:

```
HOME=/var/www/cwm/application/jobs/
25 2 * * * www-data /usr/bin/php5 -q
/var/www/jobs/application/jobs/statistics.php 2>&1 >> /var/log/cwm.log
```

This would run the script each day at 2:25 AM. Be sure to have an additional line break after the line.

---

### 3.20 Install the standard Models and Users

In case of Upgrade:

- Open Firefox 3 and browse to <http://localhost/cwm/application>
- Click on upgrade to upgrade your database

---

### 3.21 Connecting 2 CWM instances

**Requirements:** 2 CWM instances with at least version 0.9.9.2

**Server:** CWM instance that provides a *library model* to the client instance.

**Client:** CWM instance that references parts of the library model in its *local models*.

**Server configuration:**

- nothing to do here

**Client configuration:**

- In *server.ini* add the following sections

```
[remoteserver]
```

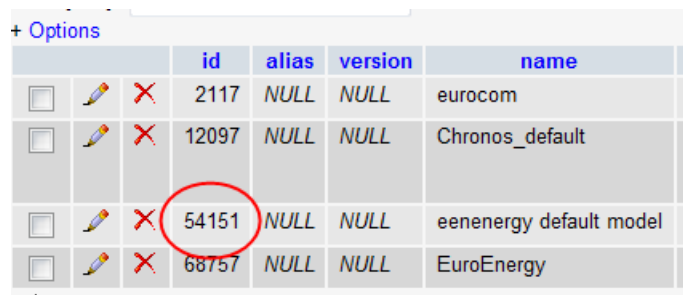
```
cim = http://url.of.server.cwm/application/main.php
```









```
[remoteuser]
```

```
cim = cimuser
```

For each remote server add an entry in the *remoteserver* section, where the key (e.g. "lib" or "cim") is an arbitrary system wide unique name for the server and the value is the url of the remote CWM instance. To log into the remote application the appropriate user denoted in the *remoteuser* section will be used. The user must exist in both instances.

- Check with PHPmyadmin the database of the Server CWM.
  - Look in the table Model or Package for the ID.



	id	alias	version	name
<input type="checkbox"/>  	2117	NULL	NULL	eurocom
<input type="checkbox"/>  	12097	NULL	NULL	Chronos_default
<input type="checkbox"/>  	54151	NULL	NULL	eenenergy default model
<input type="checkbox"/>  	68757	NULL	NULL	EuroEnergy

- Log into the **backend application** of the CWM client.
- create a new Model instance.
- Set the *umi* property of the instance to an umi of a remote Model or Package, e.g.

```
urn:umi:cim:Model:54151
```

or

```
urn:umi:cim:Package:54151
```

[umi notation: urn:umi:{remote server key}:{object id of referenced Model or Package}]

- Save the Model instance.
- Log into the CWM. The referenced Model is contained in the model tree.





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## 4. Get started

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### 4.1 Administrate users and roles

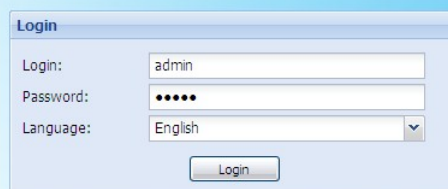
- Click on start application to start the backend application
- Use the standard user:admin with the password:admin to login
- Click on Administration to manage users and roles
- Change immediately the password for the user admin
- Create so many users and roles as necessary.

---

### 4.2 Test the CWM

- Browse to <http://localhost/cwm/gui/>
- Login
- welcome to the CWM!!!

CHRONOS WEB MODELER

A screenshot of a web browser showing a login form titled "Login". The form has three input fields: "Login:" with the text "admin" entered, "Password:" with five dots indicating a masked password, and "Language:" with a dropdown menu showing "English". Below these fields is a "Login" button.

## 4.3 Test the CWB

NOTE the CWB is now integrated as start window of the CWM

- Browse to <http://localhost/cwm/Browser>
- Login
- select a model
- welcome to the CWB!!!

