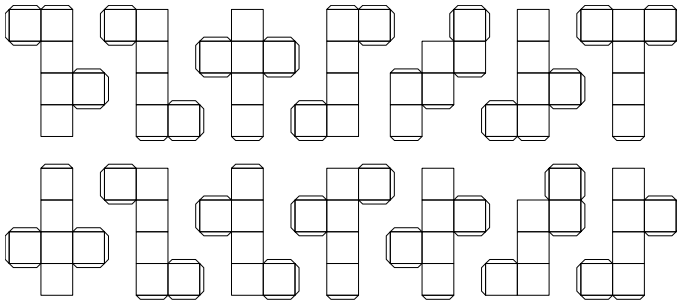


AdminstrationGuide

ProjectForge® 2011



Version: 3.6.1

Date: 2011-05-27

Project: ProjectForge® 2011

URL: www.projectforge.org

Author: Kai Reinhard
 k.reinhard@me.com

Contents

1	Introduction	4
2	Setting up the application working directory	4
3	Setting up the database	4
3.1	Desktop database Hypersonic	4
3.2	Initialization, first login and set-up dialogue	4
3.3	PostgreSQL	5
3.3.1	Mac OS X	5
3.3.2	Configuration	5
3.3.3	Setting up the database	6
3.4	Create database indices	6
4	Configuration	7
4.1	Base directory (application's home)	7
4.2	Configuration file config.xml	7
4.3	Configuration settings (web interface)	11
4.4	Using ttf fonts for PDF render engine	11
4.5	HTML formatted E-Mail templates	12
4.6	Configuration of Mobile Enterprise Blogging (MEB)	13
4.6.1	E-Mail	13
4.6.2	Servlet-Call	13
4.6.3	Easy creation of JIRA-Issues	15
4.7	Asterisk connection: phone calls and texting with ProjectForge	17
4.7.1	Phone calls	17
4.7.2	Texting	18
5	Maintenance	20
5.1	Updating by simple clicks	20
5.2	Re-indexing the database	21
5.3	Restart/Shutdown	21
5.4	Analysing tools	21
5.5	XML-backup and restore and data-base migration	22
5.5.1	Export	22
5.5.2	Import	22
5.5.3	Limitations	22
5.6	Backup	23
5.7	Restoring a backup	23
5.8	Automatical backup	23
5.8.1	Backup script	23
5.8.2	Adding crontab	24
5.8.3	Remote backup	24

5.8.4	Polling remote backup	24
5.9	Scheduler	25
5.9.1	Data base search index	25
5.10	Spaces	25
5.10.1	Store	25
5.10.2	Deletion or historization of spaces	25
5.11	Uninstalling ProjectForge	25
6	Webserver Tomcat	26
6.1	server.xml	26
6.2	context.xml	26
6.3	Increase memory and environment for Tomcat	26
6.4	Generating SSL key	27
6.5	Webapp Lambda-Probe	27
7	FAQ	29
7.1	Reset passwords	29
7.2	Hypersonic: Could not insert entries to the data base.	29

List of Figures

1	Initiating phone calls	17
2	Texting with ProjectForge	19
3	ProjectForge provides a convenient method for system updates. The data base scheme will be updated and the data base will be migrated automatically by scripts.	20

1 Introduction

This documents describes the administration of ProjectForge®.

2 Setting up the application working directory

1. `mkdir -p ${HOME}/ProjectForge/hibernate-search`
`mkdir ${HOME}/ProjectForge/tmp mkdir ${HOME}/ProjectForge/work`
2. `cp -r resources ${HOME}/ProjectForge/`

3 Setting up the database

3.1 Desktop database Hypersonic

1. `cp hsqldb-1.8.0.7.jar apache-tomcat/common/lib/` (for tomcat 6: `apache-tomcat/lib`)
2. `mkdir ${user.home}/ProjectForge`
3. Start ProjectForge® (via Tomcat or Eclipse WTP-Plugin)

The database will be written at default to `${user.home}/ProjectForge`.

3.2 Initialization, first login and set-up dialogue

After the first start of ProjectForge® you will see ProjectForge®'s set-up dialogue. Please configure at minimum the administrator's password and the target (empty data-base for a productive system or pre-filled with test data). You can configure or change all other settings such as time zone, e-mail addresses etc. any time later.

3.3 PostgreSQL

3.3.1 Mac OS X

Install PostgreSQL e.g. via `fink install postgresql`. Shared memory regions are set during the system's startup. Unfortunately, once the shared memory regions have been configured on Mac OS X, it appears they can't be changed. Here's how to increase them on your system. Edit `/etc/sysctl.conf` and set higher numbers there (from wiki.finkproject.org/index.php/Shared_Memory_Regions_on_Darwin):

File: `/etc/sysctl.conf`

```
1 kern.sysv.shmmax=16777216
2 kern.sysv.shmmin=1
3 kern.sysv.shmmni=64
4 kern.sysv.shmseg=8
5 kern.sysv.shmall=32768
```

Remember to set all of the 5 values above, otherwise your settings will be overridden by `/etc/rc`.



Hint

For more convenient start and stop of the PostgreSQL as normal user, try this:

```
1 Archon:~ admin$ sudo visudo
2 kai ALL = NOPASSWD: /sw/bin/pgsql.sh start
3 kai ALL = NOPASSWD: /sw/bin/pgsql.sh stop
```

Afterwards you can start without `su` as normal user the database with `/sw/bin/pgsql.sh start` and stop with `/sw/bin/pgsql.sh stop` without entering any password. (Currently I've problems with: "could not identify current directory: Permission denied". The hotfix is to change the directory to any which is readable for the super user: `cd /tmp; sudo /sw/bin/pgsql.sh start; cd -`).

3.3.2 Configuration

File: `pg_hba.conf`

```
1 # Database administrative login by UNIX sockets
2 local projectforge projectforge ident sameuser
3
4 # TYPE DATABASE USER CIDR-ADDRESS METHOD
5
6 # "local" is for Unix domain socket connections only
7 local all all md5
8 local all all ident sameuser
9 # IPv4 local connections:
```

```

10 host    all          all          192.168.12.34/32    md5
11 host    all          all          127.0.0.1/32       md5
12 # IPv6 local connections:
13 host    all          all          ::1/128             md5

```

3.3.3 Setting up the database

1. Edit postgresql.conf:

File: postgresql.conf

```

1 ...
2 max_connections = 200           # (change requires restart)
3 ...

```

2. createuser -U postgres -P projectforge as e.g. admin user.
3. createdb -U postgres -E UTF-8 -O projectforge projectforge as e.g. admin user.
4. You can drop any existing user and database with: dropdb projectforge and dropuser projectforge

5. **Re-use of existing database (use a dump)**

```

psql -q -f projectforge_2008-04-02_02-00.sql -U postgres projectforge 2>&1 >
log.txt

```

6. cp postgresql-8.0-318.jdbc3.jar apache-tomcat/common/lib/ (for tomcat 6: apache-tomcat/1)

7. **Creation of the new database scheme**

- (a) Create ProjectForge.xml in conf/Catalina/localhost/ (\$CATALINA_BASE/conf/[enginename] and modify
schemaUpdate=true
- (b) Start ProjectForge[®] for automatically creation of the new database scheme (see log files for detail).
- (c) Stop ProjectForge[®]
- (d) Restore setting in \$CATALINA_BASE/conf/[enginename]/[hostname]/ProjectForge.xml
schemaUpdate=false

3.4 Create database indices

The creation script of all proposed indices can be downloaded via the admin web. The most indices for the foreign keys are build out of the metadata of the PostgreSQL database.

4 Configuration

4.1 Base directory (application's home)

ProjectForge[®] needs a base directory which is set in `$CATALINA_BASE/conf/[enginename]/[hostname]/ProjectForge` of the web server. By default it is `/${user.home}/ProjectForge`. You should prepare this directory for use-age of ProjectForge[®]. The following directories must exist:

ProjectForge/hibernate-search	Here the lucene indices are stored. If corrupted, delete all files and directories in this directory and re-build data base indices via the web admin console.
ProjectForge/resources/fonts	For additional fonts used e. g. by the pdf renderers.
ProjectForge/resources/images	For images e. g. by the pdf renderers.
ProjectForge/work	For uploaded files etc.

4.2 Configuration file config.xml

- If not exist, all default values will be assumed.
- For not given values in config.xml the default value is assumed.
- The config.xml should be UTF-8-encoded.

The format of the file is:

File: <app-home>/config.xml

```

1 <?xml version="1.0" encoding="UTF-8" ?>
2 <config>
3   <!-- Uncomment this, if ProjectForge runs in root context: -->
4   <!--servletContextPath</servletContextPath-->
5   <!-- Uncomment this, if ProjectForge does not recognize your host
6       correctly for e. g. ImageCropper: -->
7   <!--domain>https://projectforge.acme.com:8443</domain-->
8   <!--pluginMainClasses>
9     org.projectforge.plugins.todo.ToDoPlugin
10  </pluginMainClasses-->
11  <!-- Customized logo file relative to <app-home>/resources/images: -->
12  <!-- logoFile>Micromata.png</logoFile-->
13  <telephoneSystemUrl>http://asterisk.acme.com/originatecall.php\
14  ?source=#source&target=#target</telephoneSystemUrl>
15  <telephoneSystemNumber>0561316793</telephoneSystemNumber>
16  <telephoneSystemOperatorPanelUrl><![CDATA[
17    <a onclick="var w = window.open('http://192.168.76.25/', 'asterisk', \
18      'scrollbars=no,resizable=yes,width=800,height=800');\
19      w.focus();" href="#">
```

```

20     
22     </a>]]</telephoneSystemOperatorPanelUrl>
23 <smsUrl>http://asterisk.acme.com/sms.php?number=#number&message=#message</smsUrl>
24 <defaultLocale>DE</defaultLocale>
25 <defaultTimeNotation>h24</defaultTimeNotation>
26 <sendMail>
27     <protocol>smtp</protocol>
28     <host>localhost</host>
29     <port>25</port>
30     <debug>>false</debug>
31 </sendMail>
32 <jiraBrowseBaseUrl>https://jira.acme.com/jira/browse/</jiraBrowseBaseUrl>
33 <holidays>
34     <holiday label="ACME 10th anniversary" year="2010" month="5" dayOfMonth="18"
35         workingDay="false" />
36     <!-- New holiday: -->
37     <holiday label="Erster Mai" month="4" dayOfMonth="1" workingDay="false" />
38     <holiday label="Dritter Oktober" month="9" dayOfMonth="3" workingDay="false" />
39     <!-- Xmas Eve as half working day: -->
40     <holiday id="XMAS_EVE" workingDay="true" workFraction="0.5" />
41     <!-- New year eve as half working day: -->
42     <holiday id="SYLVESTER" workingDay="true" workFraction="0.5" />
43     <!-- Ignore shrove tuesday: -->
44     <holiday id="SHROVE_TUESDAY" ignore="true" />
45 </holidays>
46 <contractTypes>
47     <contractType value="COF" label="Contract of employment" />
48     <contractType value="FC" label="Frame contract" />
49     <contractType value="PC" label="Project contract" />
50     <contractType value="SC" label="Service contract" />
51 </contractTypes>
52 <menuConfig>
53     <sub-menu>
54         <!-- Change the following menu's visibility: -->
55         <menu-entry id="IMAGE_CROPPER" visible="true" />
56         <menu-entry id="DOCUMENTATION" visible="false" />
57     </sub-menu>
58 </menuConfig>
59 </config>

```

Parameter	Description
logoFile	If you want to place your own company logo file at the top of the navigation panel, you can specify the logo file. The path is relative to the <app-dir>resources/images directory.
telephoneSystemUrl	(#source and #target will be replaced by ProjectForge®): http://asterisk.acme.com/originatecall.php?source=#source&target=#target
telephoneSystemNumber	For internal direct calls, the telephone system number will be removed if a number starts with it, e.g. 0123:012345 -> 45.
telephoneSystemOperatorPanelUrl	Here you can define any existing operating panel (see example config.xml above).
smsUrl	ProjectForge® supports the sending of SMS if a servlet is available (#number and #message will be replaced by ProjectForge®): http://asterisk.acme.com/sms.php?number=#number&message=#message"
defaultLocale	Default locale is used for formatting the week of year (which depends on the locale). All user's of ProjectForge® therefore will have the same definition of the weeks of year by using this locale application wide and not the user's locale.
defaultTimeNotation	Default time notation used for user's without a personal time notation setting. The default time notation is 24-hours for German user languages (starting with "de") or 12-hours for all other languages. Supported values: "H12" and "H24".
excelDefaultPaperSize	Default paper size for excel exports (default is DINA4). Supported values: "Letter"
continued on next page ...	

continued from previous page ...	
Parameter	Description
jiraBrowseBaseUrl	Base url for linking JIRA issues: https://jira.acme.com/jira/browse/PROJECTFORGE-222. The issue name UPPERCASE_LETTERS-### will be appended to this url. ProjectForge® parses the user's text input for [A-Z][A-Z0-9*]-[0-9]* and displays a list of detected JIRA-issues with a link beside the text area containing such issues. Example: https://jira.acme.com/jira/browse/ (don't forget closing '/'). If null, the no text input will be parsed and no JIRA link will be displayed.
holidays	ProjectForges pre-defined holidays can be extended or declared as to be ignored (see example above in config.xml). Pre-defined holidays (referenced by id) are: NEW_YEAR, XMAS_EVE, FIRST_XMAS_DAY, SECOND_XMAS_DAY, SYLVESTER, SHROVE_MONDAY, SHROVE_TUESDAY, ASH_WEDNESDAY, PALM_SUNDAY, MAUNDY_THURSDAY, GOOD_FRIDAY, EASTER_SUNDAY, EASTER_MONDAY, ASCENSION, WHIT_SUNDAY, WHIT_MONDAY, CORPUS_CHRISTI. If not given, only the pre-defined holidays will be used.
portletMode	If configured (as true) then only the content html layer is shown (no menu, no logos, no headbar). This is use-ful for iFrame integration or integration in e. g. Liferay.
contractTypes	If you're organizing contracts with ProjectForge you should configure your required contract types (s. examples in the config file above). If you delete or rename contract types (values) in your configuration any existing data base entry should be changed by you manually in the data base!
menuConfig	You can configure menu entries as invisible by adding them here (s. above in the example). To add new menu entries, please use the plugin technology. You can find a list of all id's of the ProjectForge menu entries here: MenuItemDef.html The ImageCropper is de-activated at default because it's SSL (https) required for correct functioning (required by the Adobe Flash player). Please note: a re-start of ProjectForge is required after any changes of menuConfig.
continued on next page ...	

continued from previous page ...	
Parameter	Description
pluginMainClasses	Here you can define further third party plug-ins or own plug-ins. The classes defined here must be derived from Abstract-Plugin. Multiple entries should be separated by white chars and/or commas. Please note: a re-start of ProjectForge is required after any changes of menuConfig.
cronExpressionNightlyJob	Cron expression for starting the nightly job. The nightly job re-indexes the data base (full re-index) and starts the MEB polling job (imports all mails from mail account, if not already imported and MEB mail account is configured). Default value is (every night at 2 am UTC, s. CronSetup.java): 0 0 2 * * ? See the documentation of the Quartz scheduling framework for further information.
cronExpressionMebPollingJob	Cron expression for starting the meb polling job for getting unseen mails from the mail server (only if MEB mail account is configured). Default value is (every 10 minutes: 5, 15, 25, ..., s. CronSetup.java): 0 5/10 * * * ? See the documentation of the Quartz scheduling framework for further information.

4.3 Configuration settings (web interface)

Please go to this page for setting different parameters of ProjectForge[®] such as default time zone etc. You'll find the documentation there.

4.4 Using ttf fonts for PDF render engine

FOP is used as internal render engine. For enabling True Type Fonts please refer the FOP documentation.

```

1 java -cp build/fop.jar:lib/avalon-framework-4.2.0.jar:lib/commons-logging-1.0.4.jar:lib/commons-
  \
2      org.apache.fop.fonts.apps.PFMReader <path>/<font>.pfm ttf<font>.xml

```

4.5 HTML formatted E-Mail templates

ProjectForge works with Groovy templates for generating e-mails (as notifications). You'll find the templates inside your web archive of the ProjectForge installation: `WEB-INF/classes/mail/`. You can modify any template of this directory if needed by simply copying the file(s) you want to modify into your ProjectForge application dir, which is also the destination of `config.xml`:

```
1 cp {PROJECTFORGE_WEB_DIR}/WEB-INF/classes/mail/templatefile {PROJECTFORGE_APP_DIR}/mail/
```

Afterwards you can edit this file. ProjectForge looks first in this ProjectForge app directory for loading templates and if not found it uses the resources path.

The templates are internationalized with the locale of the receiving user.

```
1 <html>
2 <html>
3 #INCLUDE{mail/mailHead.html}
4 <body>
5 #INCLUDE{mail/mailOpening.html}
6 <br />
7 Here you can place content (don't forget to use i18n keys for supporting internationalized
  e-mails).
8 ...
9 <br />
10 <%= pf.getString("link") %>: <a href="{requestUrl}">{requestUrl}</a>
11 <br />
12 This is an example of using dynamic data (here a list of positions will be printed):
13 <table>
14   <% for (position in order.positions) { %>
15     <tr>
16       <th><%= pf.getString("title") %></th>
17       <td>{position.title}</td>
18       ...
19     </tr>
20   <% } %>
21 </table>
22
23 #INCLUDE{mail/mailHistoryTable.html}
24
25 #INCLUDE{mail/mailClosing.html}
26 #INCLUDE{mail/mailFooter.html}
27 </body>
28 </html>
```

If you don't like html-formatted e-mails, you can simply remove all html tags (ignore the html suffix then).

4.6 Configuration of Mobile Enterprise Blogging (MEB)

ProjectForge supports two ways of receiving SMS: e-mail and/or servlet-call. You can use both or at least one of the two ways:

File: config.xml

```

1  ...
2  <receiveSmsKey>kds8uijkqw6idg</receiveSmsKey>
3  <mebMailAccount>
4    <hostname>mail.acme.com</hostname>
5    <username>pf-sms</username>
6    <password>h7ishd6d</password>
7    <protocol>imaps</protocol>
8  </mebMailAccount>
9  ...

```

ProjectForges ensures that messages will be imported only once.

4.6.1 E-Mail

ProjectForge can receive messages from a mail server (e. g. IMAP mail account). The e-mails will be parsed as key-value:

File: Mail

```

1  date=xxx
2  sender=0123456789
3  msg=JIRA issue: fix the encoding bug

```

The date can have one of the two formats: either seconds since 01/01/70 or 201006121738 (yyyymmddhhMMss).

There are two cron jobs which are responsible for getting new messages:

1. The first runs every 10 minutes (configurable in confix.xml) and get unseen (recent) mails from the mail server. If not already imported then a new entry is created.
2. The second runs nightly and read all mails from the inbox and creates new entries for not yet imported messages. This job ensures that no mail is lost e. g. if another mail client has read the mails from this inbox. The first job ignores already seen mails.

4.6.2 Servlet-Call

You can implement a servlet call whenever your system receives an SMS:

<https://pf.acme.com/secure/SMSReceiver?key=kds8uijkqw6idg&date=20101105171233&sender=0123>

The format of the values are the same as described above. The encoding should be UTF-8. The key is a communication key and should be configured in your config.xml (see above).

Please deploy the following php script on your Asterisk web server:

File: sms_receive.php

```

1  #!/usr/bin/php
2  <?
3  # SMS2ProjectForge
4
5  $SMS_DIR="/var/spool/asterisk/sms/mtrx/";
6  $PF_EMAIL="projectforge@change-to-your-domain.de";
7  $FROM="smsgateway@change-to-your-domain.de";
8  $PF_URL="https://change-to-your-domain.de/secure/SMSReceiver?key=<change-to-your-key>&date=%s&sender=";
9
10 function parseFile($file, $recipient) {
11
12     if(!$file)
13         return;
14     if(is_file($file)) {
15         $content = file($file);
16     } else {
17         print("$file is missing\n");
18         return;
19     }
20     foreach($content as $line) {
21         if(preg_match("/oa=(\d+)/", $line, $match)) {
22 #print("Absender " . $match[1] . "\n");
23             $oa = $match[1];
24         }
25         if(preg_match("/ud=(.*)/", $line, $match)) {
26 #print("Text " . $match[1] . "\n");
27             $text = $match[1];
28         }
29     }
30     if($recipient == "pf") {
31         $time = time();
32 # $mailto = sprintf("date=%s\nsender=%s\nmsg=%s\n", time(), $oa, utf8_encode($text));
33         $mailto = sprintf("date=%s\nsender=%s\nmsg=%s\n", time(), $oa, $text);
34         mail($PF_EMAIL, "SMS", $mailto, "From: smsgateway <$FROM>");
35         $url = sprintf($PF_URL,
36             $time,
37             $oa,
38             urlencode($text));
39         $pig = fopen($url, "r");
40         # XXX check answer!
41         # $ret = stream_get_contents($pig);
42     }
43     return(1);
44 }

```

```

45
46 function getRecipient($file) {
47     if(!$file)
48         return;
49     # pf.2010-05-04T16:46:01-11
50     if(preg_match("/(\w+)\.\d\d\d\d-\d\d-\d\d.\d\d:\d\d:\d\d-\d+/", $file, $match)) {
51         return($match[1]);
52     }
53     return;
54 }
55
56 ##
57 # Main
58 #
59 $content = array();
60 if(is_dir($SMS_DIR)) {
61     if($dh = opendir($SMS_DIR)) {
62         while(($file = readdir($dh)) !== false) {
63             if($file != "." && $file != "..") {
64                 if(parseFile($SMS_DIR . $file, getRecipient($file))) {
65                     unlink($SMS_DIR . $file);
66                 }
67             }
68         }
69     }
70 }
71 ?>

```

4.6.3 Easy creation of JIRA-Issues

File: config.xml

```

1  ...
2  <jiraConfig>
3      <createUrl>https://jira.acme.com/jira/secure/CreateIssueDetails!init.jspa</createUrl>
4      <issueTypes>
5          <issueType label="Bug" value="1" />
6          <issueType label="New functionality" value="2" />
7          <issueType label="Task" value="3" />
8          <issueType label="Improvement" value="4" />
9          <issueType label="Claim" value="5" />
10         <issueType label="Open Requirement" value="6" />
11     </issueTypes>
12 </jiraConfig>

```

First you have to define your URL for creating JIRA issues. Afterwards you should define your issue types. Every user has to define his favorite projects. This is necessary because JIRA does not provide

a creation URL where you can choose your project and issue type and a pre-filled summary of the issue!

4.7 Asterisk connection: phone calls and texting with ProjectForge

4.7.1 Phone calls

If configured the users are able to initiate phone calls directly by clicking on a phone number of an address or by entering a name or a phone number in the direct phone call page.

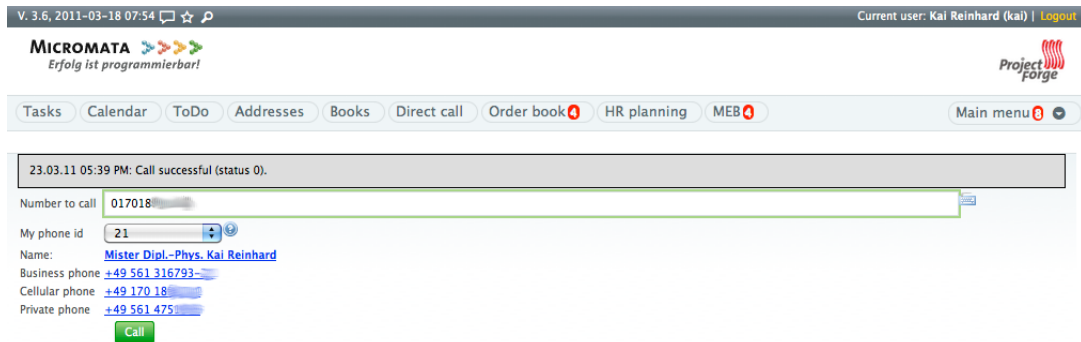


Figure 1: You can initiate a phone call by simply clicking on a phone number of an address or by entering a name or number into the number field.

Please deploy the following php script on your Asterisk web server:

File: originatecall.php

```

1  <?
2  # originates call from ProjectForge
3  # 03/09 by t.koch@micromata.de
4
5  $USERNAME = "admin";
6  $PASSWORD = "secret";
7
8  function doCall($source, $target) {
9      global $USERNAME, $PASSWORD;
10     $socket = fsockopen("127.0.0.1", "5038", $errno, $errstr, $timeout);
11     if(!$socket) {
12         return(1);
13     }
14     fputs($socket, "Action: Login\r\n");
15     fputs($socket, "UserName: $USERNAME\r\n");
16     fputs($socket, "Secret: $PASSWORD\r\n\r\n");
17     fputs($socket, sprintf("Action: Originate\r\nChannel: Local/%s@intern\r\nContext: intern\r\nExten: %s\r\nPriority: 1\r\nCallerid: %s\r\nTimeout: 8000\r\nVariable: var1=23|var2=24|var3=25\r\nAction: ABC45678901234567890\r\n\r\nAction: Logoff\r\n\r\n", $source, $target, $source));
18     return(0);
19
20     if($debug) {
21         while (!feof($socket)) {

```

```

22     print(fread($socket, 8192));
23     }
24     fclose($socket);
25     }
26 }
27
28 $SOURCE = $_GET{source};
29 $TARGET = $_GET{target};
30
31 if(!is_numeric($SOURCE)) {
32     print(2);
33     exit(2);
34 }
35 if(!is_numeric($TARGET)) {
36     print(3);
37     exit(3);
38 }
39 if(doCall($SOURCE, $TARGET))
40     print(1);
41 else
42     print(0);
43 ?>

```

Please check this servlet manually. It has to be available from your ProjectForge server. Then configure your servlet:

File: config.xml

```

1 <config>
2     ...
3     <telephoneSystemUrl>http://asterisk.acme.priv/originatecall.php?source=#source&target=#target
4     <!-- If the system number is given, ProjectForge will shorten your phone numbers starting
with -->
5     <!-- this number automatically. This enables internal calls. -->
6     <telephoneSystemNumber>0561316793</telephoneSystemNumber>
7     ...
8 </config>

```

To use the full functionality of ProjectForge please configure the address book feature. Don't forget to configure your default country phone prefix in the configuration web page.

4.7.2 Texting

If configured the users are able to text by clicking on the SMS symbol of an address or by entering a name or a cell phone number.

Please deploy the following php script on your Asterisk web server:

File: sms.php

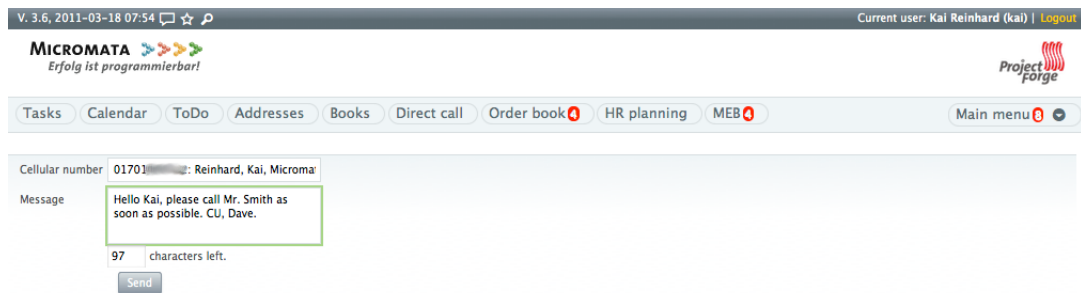


Figure 2: You can send text messages by simply clicking on the SMS symbol of an address or by entering a name or cell phone number.

```

1  <?
2  /*
3   Texting with ProjectForge and Asterisk
4   07.09.2009 by t.koch@micromata.de v1
5  */
6
7  $NUMBER = $_REQUEST{number};
8  $MESSAGE = $_REQUEST{message};
9
10 if(!is_numeric($NUMBER)) {
11     print("2\nwrong destination number");
12     return(2);
13 }
14 if(!$MESSAGE) {
15     print("1\nmissing message");
16     return(1);
17 }
18 if(strlen($MESSAGE) > 160) {
19     print("3\nmessage > 160");
20     return(3);
21 }
22 $rand = rand(100000, 4000000);
23 usleep($rand);
24
25 # XXX concurrent == maximum number of b channels
26 system(sprintf("/usr/sbin/smsq '--concurrent=8' '--spool-dir=/var/spool/asterisk/' '--motx-channel=
'--da=%s' '--motx-callerid=<callerid>' '--ud=%s' >/tmp/sms.$rand 2>/tmp/sms.$rand", $NUMBER,
$MESSAGE));
27 print("0\nok");
28 ?>
29

```

Please check this servlet manually. It has to be available from your ProjectForge server. Then

configure your servlet:

File: config.xml

```

1 <config>
2   ...
3   <smsUrl>http://asterisk.acme.priv/sms.php?number=#number&message=#message</smsUrl>
4   ...
5 </config>

```

To use the full functionality of ProjectForge please configure the address book feature. Don't forget to configure your default country phone prefix in the configuration web page.

5 Maintenance

5.1 Updating by simple clicks

ProjectForge provides a very convenient method for updating to new versions (improved again since version 3.5.2). Please call the menu "Update system".

MICROMATA Erfolg ist programmierbar!

ProjectForge

Tasks Calendar Addresses Books MEB Main menu

Important notes

- Please make a backup of your data base before running the scripts!
- Watch the ProjectForge log files for observing the results of the update scripts.
- In productive installations it's recommended to disable the automatically schema update in the context.xml.
- Please redeploy/restart your ProjectForge web application after updating the data-base.

Update scripts

Version	Update script	Pre-check	Result	Description
3.5.0	update-script-3.5.0	OK	update	Adds column book_type to t_book.
3.4.3	update-script-3.4.3	ALREADY_UPDATED		Adds column description to t_group_task_access.
3.4.0	update-script-3.4.0	ALREADY_UPDATED		Alters table t_task and t_gantt_chart.
3.3.47	update-script-3.3.47	ALREADY_UPDATED		Alters table t_pf_user, t_imported_meb_entry, t_group_task_access and t_task. Adds table t_contract.
3.3.45	update-script-3.3.45	ALREADY_UPDATED		Adds table t_meb_entry and t_imported_meb_entry. Alters table t_pf_user.
3.3.44	update-script-3.3.44	ALREADY_UPDATED		Drops and re-creates table t_user_rigt (must be empty).

Show old update scripts.

refresh

Figure 3: ProjectForge provides a convenient method for system updates. The data base scheme will be updated and the data base will be migrated automatically by scripts.

This dialog is called automatically on start-up if a new ProjectForge-Release detects something to

up-date. Please select the check-box "Show old updates" to see, that your ProjectForge is completely up-to-date. You can update from any older version.



Hint

If your ProjectForge installation is running with the schema-update option true then most of the updates below are done by the data-base layer (Hibernate). So you'll find no update entries in the table `t_database_update`. It's highly recommended to set schema-update option to false in production mode (please use this option only for the first start-up).



Hint

ProjectForge checks only the newest update entries (sorted by date) of every plugin and the ProjectForge's core for update. Any older update entries aren't tested. If you want to check older update entries, please check them via `SystemUpdatePage`.

5.2 Re-indexing the database

Should be done after setup: Use the administration menu.

5.3 Restart/Shutdown

Please use the containers shutdown mechanism (e.g. `catalina.sh stop`). During the undeployment of the *ProjectForge*[®]-War for example the user preferences cache will be flushed to the database, otherwise user preferences will may be lost.

5.4 Analysing tools

Useful commandes are

```

1 projectforge@vprojectforge:~$ jps
2 19533 Bootstrap
3 2261 Jps
4 projectforge@vprojectforge:~$ jstack 19533
5 2008-02-14 09:58:28
6 Full thread dump Java HotSpot(TM) 64-Bit Server VM (1.6.0_03-b05 mixed mode):
7
8 "Attach Listener" daemon prio=10 tid=0x00002aaaf4a6e800 nid=0x8fa waiting on condition
9 [0x0000000000000000..0x0000000000000000]
10   java.lang.Thread.State: RUNNABLE
11 "http-8443-10" daemon prio=10 tid=0x00002aaaf4a94800 nid=0x716c in Object.wait() [0x0000000041f4
```

```
12  java.lang.Thread.State: WAITING (on object monitor)
13  at java.lang.Object.wait(Native Method)
14  - waiting on <0x00002aaaaee262530> (a org.apache.tomcat.util.net.JIoEndpoint$Worker)
15  at java.lang.Object.wait(Object.java:485)
16  at org.apache.tomcat.util.net.JIoEndpoint$Worker.await(JIoEndpoint.java:416)
17  ...
```

5.5 XML-backup and restore and data-base migration

ProjectForge supports the import and export of its whole data-base as XML. It's independent from the data-base (Hypersonic, PostgreSQL, MySQL, Oracle etc.). You can choose this method to migrate your data-base from one data-base to any other data-base supported by ProjectForge.

5.5.1 Export

It's possible to export an XML-Dump from your data-base using the system administration dialogue (web). This backup contains all data of ProjectForge in one zipped xml file.

5.5.2 Import

1. First you need a fresh data-base (without any tables and data).
2. Afterwards start ProjectForge with the connection data to your new data-base.
3. Upload the XML or zipped XML file inside the setup-page (which is shown automatically in your web-browser for empty data-bases). Leave any other input fields such as password etc. untouched.
4. Press the upload button.
5. Watch the results in the log messages. ProjectForge will verify each single entry by comparing each object of the XML file with the imported data-base objects (each single field of every object is compared.) Any inconsistency or difference is shown in the log file.
6. Now you can login into ProjectForge.

5.5.3 Limitations

The limitation is the web servers memory. It's planned to support very large ProjectForge data-bases using different xml files. Please request this feature e. g. inside the help forum if needed. For migration without changing the data-base vendor the data-base specific dump and restore mechanism are recommended for large data-bases.



Hint

Please note: After an import of a dump file into a new ProjectForge installation all primary keys are changed! ProjectForge ensures the integrity of all data including the history entries.

5.6 Backup

All datasets of ProjectForge[®] will be stored in the underlying database (e. g. PostgreSQL).

You should install an Unix cron script making frequently a backup of the database. A dump of containing table entries as SQL statements for PostgreSQL is possible by using:

```
1 pg_dump -D -U projectforge -f pf_dump-'date '+%Y-%m-%d_%H-%M' '.sql
```

5.7 Restoring a backup

```
1 psql -q -f projectforge_2008-05-12_02-00.sql -U postgres projectforge 2>&1 > log.txt
```

For further details concerning dropping and creating a new data base, see [3.3.3](#) on page 6 .

Don't forget to create indices (see [3.4](#) on page 6)!



Hint

If you want to use productive data in your development system for testing, it's recommended to set all e-mail addresses of the users to your developers e-mail. Also all passwords can be easily set to test123 if you user following sql statement in your test database (not productive!):

```
1 update t_pf_user SET password='SHA{BC871652288E56E306CFA093BEFC3FFCD0ED8872}',
   email='m.developer@acme.com';
```

5.8 Automatical backup

5.8.1 Backup script

Install crontab entry as user projectforge on your ProjectForge[®] server starting the following script:

File: pforgebackup.sh

```
1 #!/bin/bash
2
3 PGSQL_DIR=/usr/bin
4 BACKUPDIR=/home/projectforge/backup
5 BASENAME=projectforge PASSWD=...
6
```

```

7 echo Starting backup of ProjectForge ...
8 BACKUPFILE=$BACKUPDIR/${BASENAME}_`date +%Y-%m-%d_%H-%M`.sql
9
10 echo Using filename $BACKUPFILE ...
11 echo Exporting ...
12 $PGSQL_DIR/pg_dump -D -U projectforge -W $PASSWD -f $BACKUPFILE
13
14 echo Zipping backupfile ...
15 gzip $BACKUPFILE
16
17 # For using scp for remote backup:
18 #scp $BACKUPFILE <user>@backup.mydomain:backup/
19
20 echo Deleting backups older than 14 days
21 find $BACKUPDIR -mtime +14 | xargs rm
22
23 echo Backup of ProjectForge finished.

```

For allowing `pg_dump` without prompting password (if set), you can add the following line to:

File: `pg_hba.conf`

```
1 local projectforge projectforge ident sameuser
```

5.8.2 Adding crontab

Adding following entry to the Unix crontab:

```
1 # run every day at 2:00 am
2 0 2 * * * /home/projectforge/bin/pforgebackup.sh
```

5.8.3 Remote backup

For remote backup via `scp` you need to use key authorization:

1. Generate keys (using empty password) `ssh-keygen`
2. Copy your public key, e. g. `identity.pub` to your backup server.
3. Add this key on the backup server to the authorized keys.

5.8.4 Polling remote backup

For security reasons it's also possible to get the backup files from the ProjectForge[®] server with a cronjob starting e. g. one hour later:

File: `pforgePollBackup.sh`

```

1 #!/bin/bash
2
3 SERVER=projectforge.mydomain
4 DIR=/home/projectforge/backup
5 REMOTE_DIR=backup REMOTE_USER=projectforge
6
7 rsync -avz -e "ssh -P" -C $REMOTE_USER@$SERVER:$REMOTE_DIR $DIR

```

In that case you have to generate ssh key on your backup server and to add it to the authorized keys on your ProjectForge® server.

Add the following entry to your crontab on the backup server: # run every day at 3:00 am 0 3 * * * /home/projectforge/bin/pforgePollBackup.sh

5.9 Scheduler

5.9.1 Data base search index

The re-index job starts every night at 4 AM (UTC). If an error occurs an e-mail is sent to the admin e-mail addresses configured via web administration. If not configured, no e-mail is sent.

5.10 Spaces

5.10.1 Store

All spaces are stored in the gwiki folder of your ProjectForge home directory. For example: ~/ProjectForge/gwiki/
Spaces are named by their ID representing the database spaces object.

5.10.2 Deletion or historization of spaces

If a spaces is marked for deletion, the corresponding wiki files, stored on filesystem, will not been deleted. You are required to handle the history- and backup management by your own, for example by renaming or moving corresponding spaces. If a deleted space will be recovered by it's history, the space needs his physical wiki files.

5.11 Uninstalling ProjectForge

You only need to delete the Exe-File (or war-file if deployed as war) and the working directory you've chosen / configured. If you're not sure, where ProjectForge's working directory is located, please restart ProjectForge and see for the directory in the log output or configuration tab of the standalone version.

**Hint**

Please note: If you delete the working directory, all your data base entries are deleted as well!

6 Webserver Tomcat

6.1 server.xml

File: doc/resources/tomcat/server.xml

```

1 <Server port="8005" shutdown="SHUTDOWN">
2   <Service name="Catalina">
3     <Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true"
4       maxThreads="150" scheme="https" secure="true"
5       clientAuth="false" sslProtocol="TLS"
6       keystoreFile="/home/projectforge/apache-tomcat-6.0.14/tomcat-localhost.keystore"
7       compression="on" compressionMinSize="2048" noCompressionUserAgents="gozilla,
traviata"
8       compressableMimeType="text/css,text/html,text/javascript,text/plain,text/xml"
9       URIEncoding="UTF-8" />
10  </Service>
11 </Server>

```

6.2 context.xml

File: \$CATALINA_BASE/conf/[enginename]/[hostname]/ProjectForge.xml

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <Context path="" reloadable="false" debug="0" docBase="webapps" cookies="false">
3   <Resource name="ProjectForgeDS" type="javax.sql.DataSource" auth="Container" driverClassName="c
4     url="jdbc:postgresql://localhost:5432/projectforge" maxActive="100" maxIdle="30" maxWait="1000"
username="projectforge" password="" />
5   <Parameter name="base.dir" value="${user.home}/ProjectForge" override="false" />
6   <Parameter name="hibernate.dialect" value="org.hibernate.dialect.PostgreSQLDialect" override="f
/>
7   <Parameter name="hibernate.schemaUpdate" value="false" override="false" />
8   <Parameter name="development" value="true" override="false" />
9 </Context>

```

6.3 Increase memory and environment for Tomcat

File: apache-tomcat/bin/setenv.sh

```

1 export JAVA_OPTS="-Duser.timezone=UTC -Xmx512m -XX:PermSize=96m -XX:MaxPermSize=192m -Djava.awt.h

```

6.4 Generating SSL key

```

1 keytool -genkey -keystore tomcat-localhost.keystore -alias tomcat -keyalg RSA -keysize
  1024 -keypass changeit -storepass changeit
2 Wie lautet Ihr Vor- und Nachname?
3 [Unknown]: localhost
4 Wie lautet der Name Ihrer organisatorischen Einheit?
5 [Unknown]:
6 Wie lautet der Name Ihrer Organisation?
7 [Unknown]:
8 Wie lautet der Name Ihrer Stadt oder Gemeinde?
9 [Unknown]:
10 Wie lautet der Name Ihres Bundeslandes oder Ihrer Provinz?
11 [Unknown]:
12 Wie lautet der Landescode (zwei Buchstaben) für diese Einheit?
13 [Unknown]:
14 Ist CN=localhost, OU=Unknown, O=Unknown, L=Unknown, ST=Unknown, C=Unknown richtig?
15 [Nein]: Ja

```

6.5 Webapp Lambda-Probe

Sehr nützliches Tool zur Überwachung von Speicher, Connections, Use-age etc. ist www.lambdaprobe.org

File: conf/tomcat-users.xml

```

1 <?xml version='1.0' encoding='utf-8'?>
2 <tomcat-users>
3   <role rolename="manager"/>
4   <role rolename="tomcat"/>
5   <role rolename="poweruser"/>
6   <role rolename="poweruserplus"/>
7   <role rolename="probeuser"/> <!-- Read-only access -->
8   <user username="probeuser" password="<password>" roles="probeuser"/>
9 </tomcat-users>

```

File: bin/setenv.sh

```

1 # Needed by probe: -Dcom.sun.management.jmxremote
2 export JAVA_OPTS="-Duser.timezone=UTC -XX:PermSize=96m -XX:MaxPermSize=192m -Djava.awt.headless=t
  -Dcom.sun.management.jmxremote"

```

File: conf/server.xml

```

1 <Server port="8005" shutdown="SHUTDOWN">
2   <GlobalNamingResources>
3     <!-- Used by Manager webapp -->
4     <Resource name="UserDatabase" auth="Container"
5               type="org.apache.catalina.UserDatabase"

```

```
6         description="User database that can be updated and saved"
7         factory="org.apache.catalina.users.MemoryUserDatabaseFactory"
8         pathname="conf/tomcat-users.xml" />
9     </GlobalNamingResources>
10    ...
11    <Engine name="Catalina" defaultHost="www.projectforge.org">
12        <Realm className="org.apache.catalina.realm.UserDatabaseRealm"
13            resourceName="UserDatabase" />
14        ...
15    </Engine>
16 </Service>
17 </Server>
```

7 FAQ

7.1 Reset passwords

As an administration user you can reset the user's passwords. If you've lost the administrator's password you can reset the password by updating the database entry like

```
1 update t_pf_user SET password='SHA{2F1E969683DE272AC96D5AA6033E93A8CB2F283F}' where username='adm
```

This encrypted passwords represents 'manage'. See the log file for encrypted passwords after login failures, if you want to set another password via sql. For HypersonicSQL shutdown the server and edit the ProjectForgeDB.script file like this:

```
1 INSERT INTO T_PF_USER VALUES(1, ..., 'SHA{2F1E969683DE272AC96D5AA6033E93A8CB2F283F}',..., 'admin')
```

7.2 Hypersonic: Could not insert entries to the data base.

If the user can't add new entries (contracts, Gantt charts, MEB entries etc.) to the data-base Hypersonic, please have a look in your ProjectForgeDB.script file. All create-table-statements should have the following entry for the primary key (pk):

```
CREATE MEMORY TABLE T_...(PK INTEGER GENERATED BY DEFAULT AS IDENTITY(START WITH 1) NOT NULL PRIMARY KEY, ...
```

If the script doesn't contain GENERATED BY DEFAULT ... , please stop your ProjectForge system and edit the script file and restart ProjectForge.