OpenMeetings 5

Software Manual, Description, and Suggested Features

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Contents

List of Todos

Introduction

It is a great time to advance development of software like OpenMeetings right now. Not only the urge to communicate in spite of the official restrictions to meet personally, but also the time gained by being forced to home office favors the progress.

At its outset this manual is intended to achieve two goals providing instructions how to use the software and inspiring with ideas how to further improve.

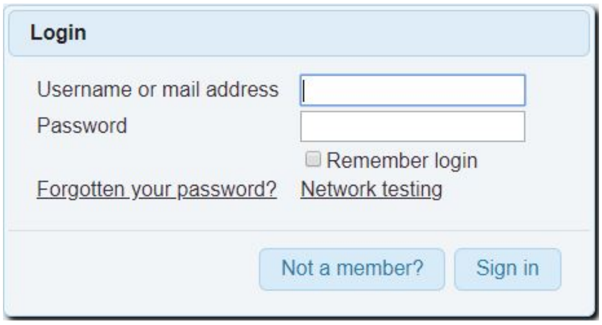
Part I.

User and Webadministrator

1. Login

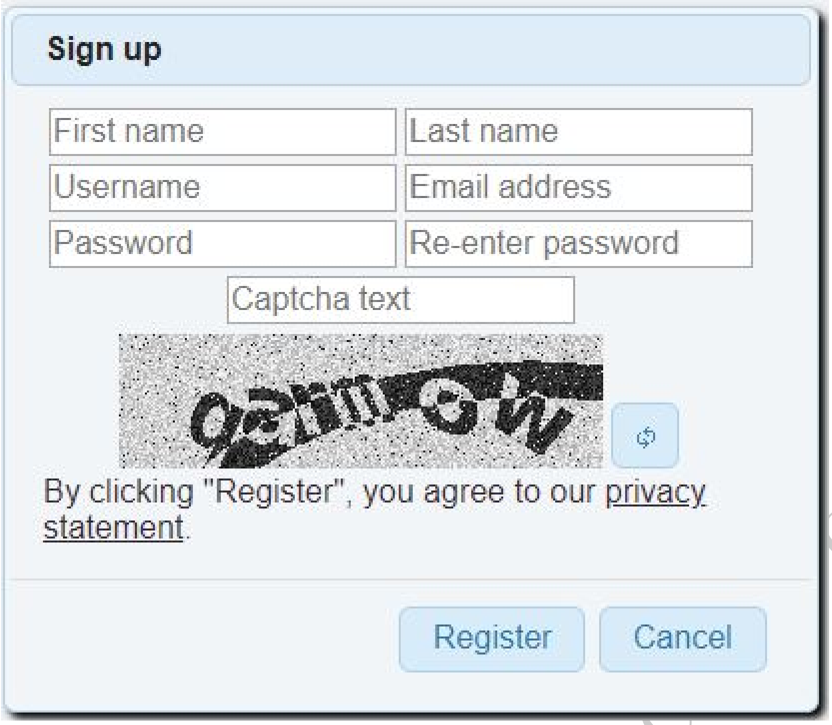
All dialogs in this section including the login dialog will be displayed in the language of your browser settings.

Here is a legal issue. This login page should provide a DSGVO compatible message with links to privacy statements, coockie usage and so on. I understand that this is provided with the registration, so every registered user has agreed with all that legal staff, but this page is also visited by non-registered users, and unfortunately it is a legal requirement to inform these users too.



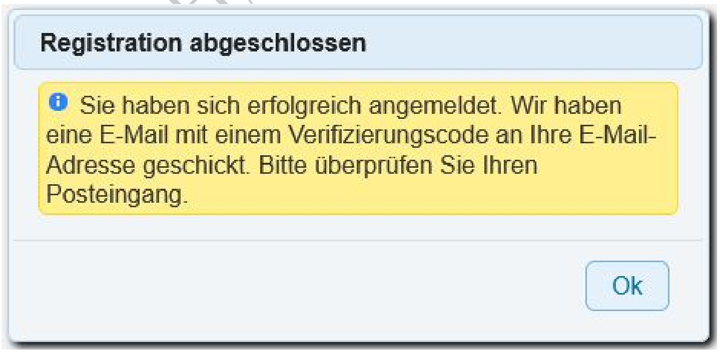
`Sign in` with your login and password or register by pressing the **`Not a member?`** button. **Forgotten passwords** can be restored by following the link, and the link **Network testing** opens a new tab that allows to monitor the network connection.

Sign up

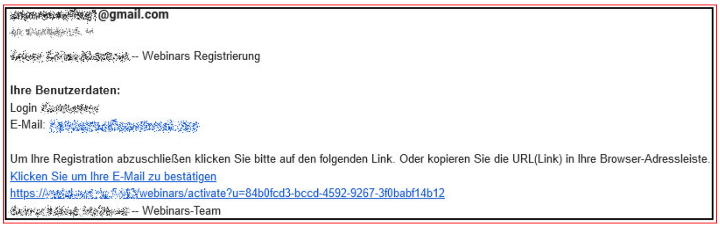


Give name, username, email and your chosen password. According to the security settings described in the configuration section of the administration chapter username and password will be checked if they fulfill the requirements which are by default a minimum length of 4 and 8 character for username and password respectively. Please carefully check your email if it includes a typo your account can never be activated. If the server is configured to use email confirmation this confirmation email will never be received.

The Captcha text has to be entered. If it is impossible to decipher it use the refresh button  to get an other one.



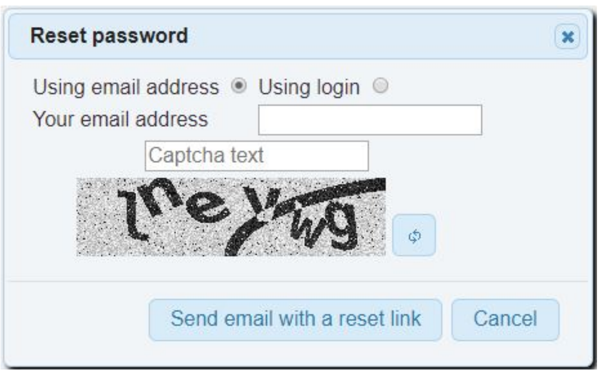
When successful and on the server email confirmation is turned on, an email will be send to your email address. Click the link provided to complete registration. Please note the language of that email will always be the same as in your browser.



It is usual to provide two input boxes for password and email to reduce typos. If email is mandatory a user can be successfully identified by that and a username becomes superfluous.

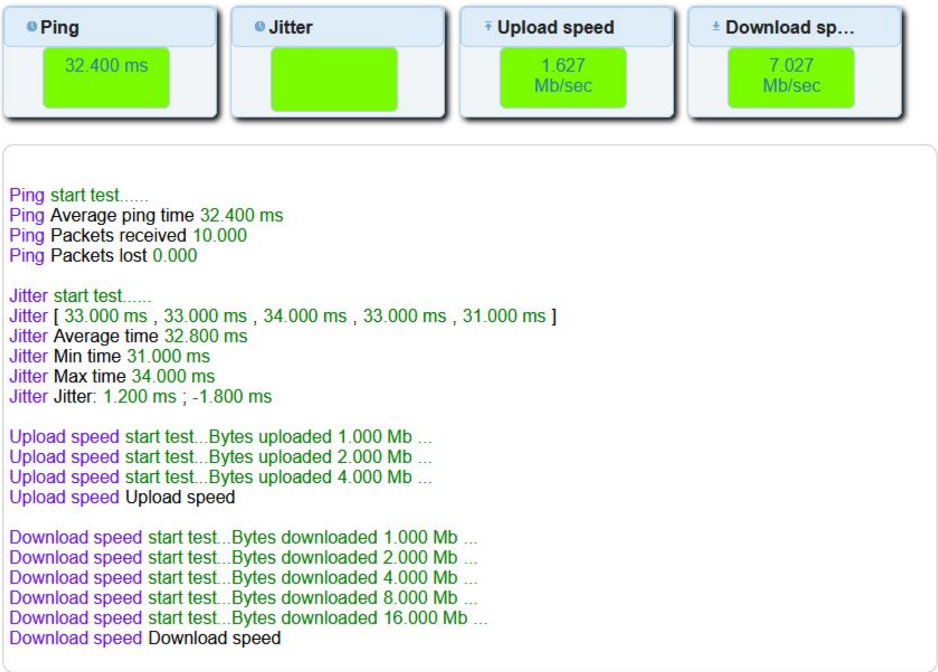
If email confirmation is turned on and the email is not confirmed within a certain space of time the account should be purged to allow the user to re enter its personal information because here again a clash results if the user doesn't receive the email for confirmation and tries to re enter the username that will cause an error.

Forgotten passwords



The reset password dialog will send an email that contains a link to reset the password. Two options are available input email address or login. The Captcha text has to be entered. If it is impossible to decipher it, use the refresh button  to get an other one.

Network testing



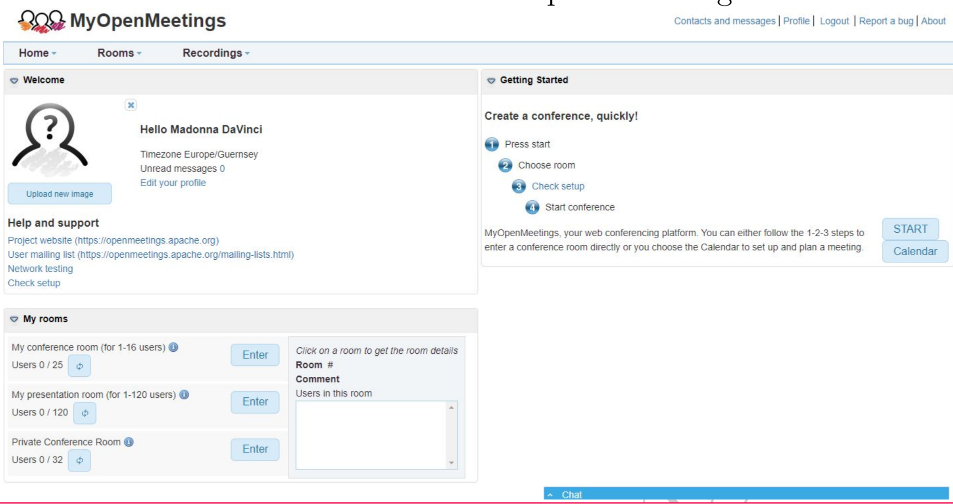
The figure shows a typical network test result. If you use a regular Internet connection upload speed will be much lower than download, which may become an issue if you upload a lot of stuff during the meeting. Therefore it is recommended to upload files in advance. If the conference takes place in the Intranet it doesn't matter so much.

Why the green Jitter field remains empty after the test though the test has bee performed successfully. This looks like a bug and may cause unnecessary question, so I recommend to put some value in that box when the test was successful.

2. Menu Home

2.1. Dashboard

The dashboard is the main window that opens after login.



> When logging in after the user language has been changed the "My room" widget still appears in the former language. Only after removing this widget from the dashboard and reinstalling it the language is actually changed. Although still the room names are mixed language.

The dashboard contains two menus and a variable number of widgets. The menu in the upper right corner allows instant access to various basic functions. In the lower right corner by clicking the blue bar a chat can be opened.

The upper right menu contains the following items.

Contacts and messages The build-in Email client

Profile The user profile section

> Actually this link goes not exactly to the profile page but to the edit profile page which may not be the primary intention.

Logout It is recommended to logout after using this software

> Is there an automatic logout after a period of inactivity. If not I would recommend it. If so I would like to mention it here.

Report a bug This is just a link to a website where a database of bugs is maintained. It takes a bit of knowledge though to understand the workings.

> It would be easier for unexperienced users to just drop a line or send a message to developers. If unexperienced with this technique this website demands a lot of time to familiarize with the procedure.

About will display the current version and build.

The next menu on the left, just below the logo has 3 submenus (Home, Rooms, and Recordings) for common users and an additional Administration submenu for administrators. The first menu item in the Home submenu will always bring you back to this dashboard.

In this dashboard the following widget are displayed.

Widgets

Welcome Basic user information and support

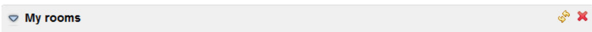
My Rooms Private rooms details

Getting Started Four step wizard

Recent Rooms Resently visited room details

Admin Functions Cleanup function is only accessible to administrators

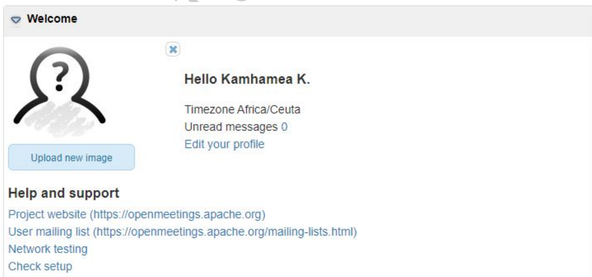
Capitalization in these widget titles is inconsequential. In "My rooms" also a capital R should be used.



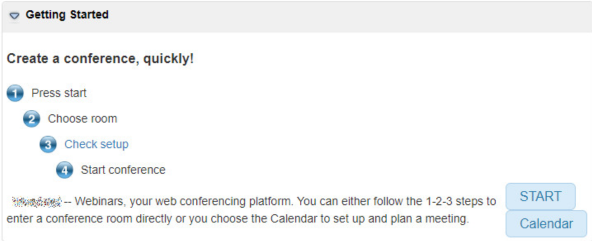
If all enabled a user sees four widgets: Welcome, My rooms, Getting Started, Recent Rooms. Each widget title bar contains a triangle on the left which by clicking minimizes the widget. On the right two icons allow to refresh the content of a widget or delete the widget.

If deleted the widget can be reinstalled in the widget customization window of the user profile (see below).

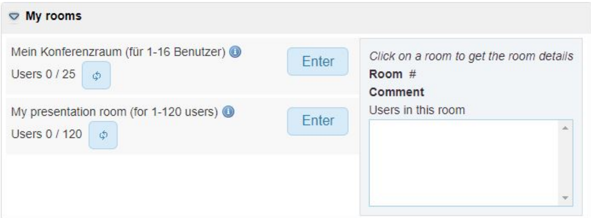
Welcome widget provides some useful links to upload or change the user image, to unread messages, to edit personal data of the profile, some help and support websites, network test, and check and setup of multimedia devices (microphone and webcam).



Getting Started gives a four step instruction to start a conference. This section also provides the start button—to start a meeting immediatly—and a calendar—to plan it in advance.



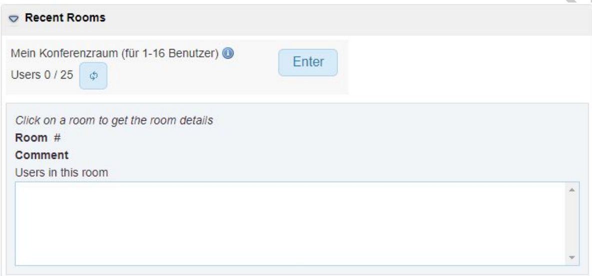
My Rooms lists private rooms. If a room is selected details including the guests in this room are displayed.



What's the difference of private and public rooms? How private rooms can be created? Who can be invited into a private room?

The room names are set by default so the languages mix is amazing.

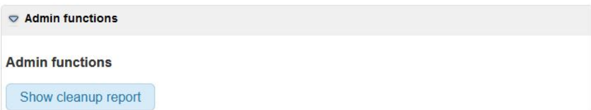
Recent Rooms is a list of rooms recently entered. Also if selected room details are displayed.

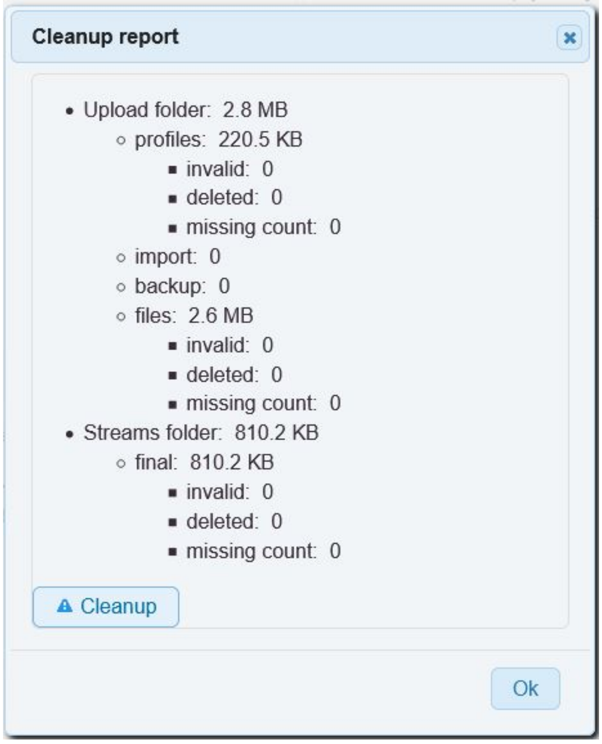


The administrator additionally sees an additional widget, Admin functions.

Please note again the inconsistency. The word functions should start with a capital letter and besides there is only one function and not functions.

Admin Functions holds a button "Show cleanup report", which when pressed displays a dialog with various memory information.





Profile

The user profile subsection can be accessed from the dashboard by clicking the Edit your profile link in the **Welcome** widget or in the upper right menu as described above. The profile page offers the following tabs.

My Profile Read-only information about the user.

Contacts and Messages The build in email client.

Edit Settings Profile editing window.

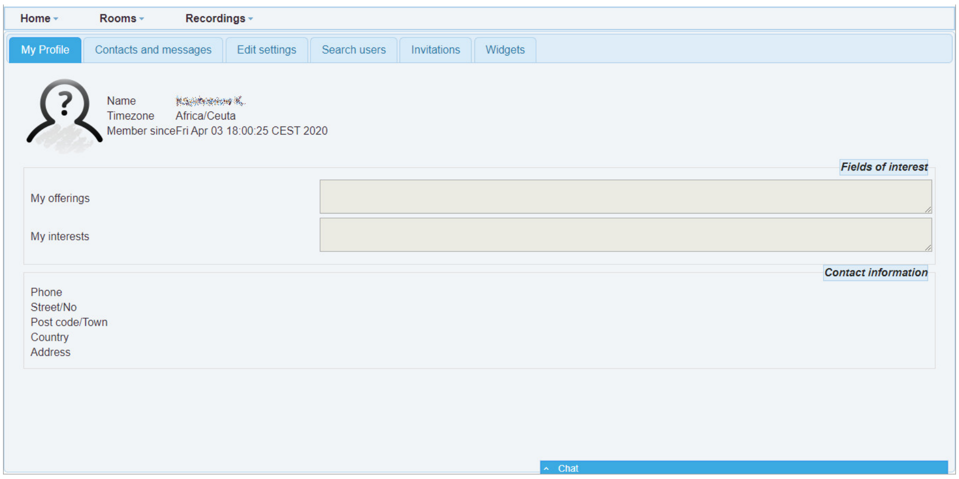
Search User Looking for specific users.

Invitations Manage invitations

Widget Customize the dashboard widgets.

Please note again the inconsequential capitalization in this menu.

My Profile

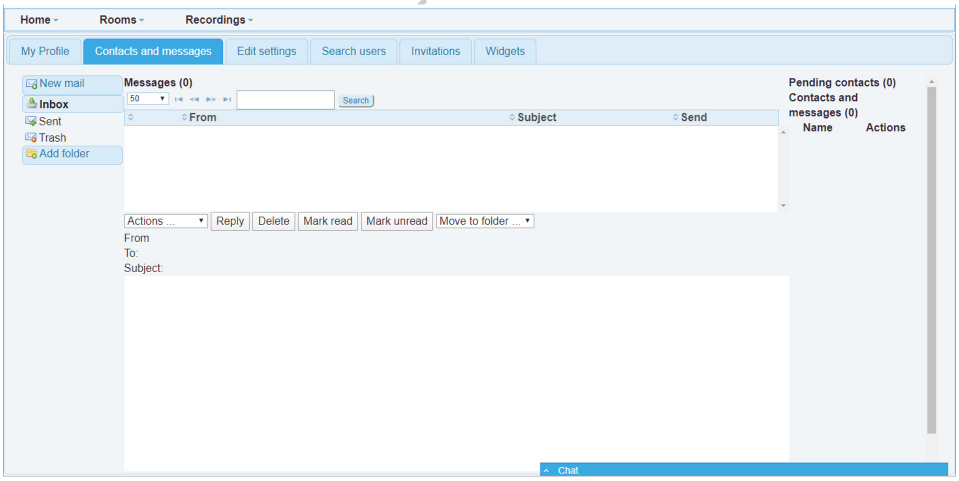


This tab shows some of the personal information. Data cannot be changed.

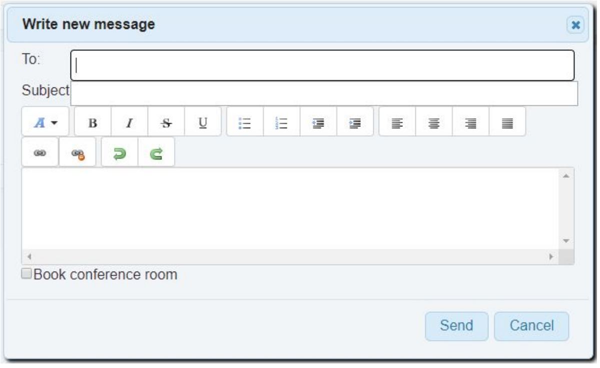
I'm unsure about the purpose of this tab because all the data and even more are available from the **Edit Settings** tab too. So this information is rather redundant.

Contacts and Messages

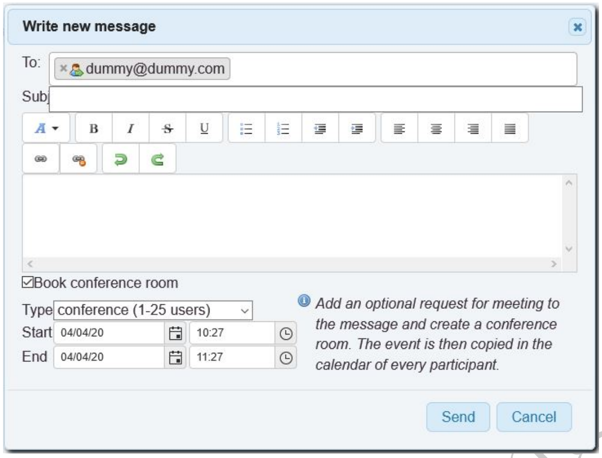
This tab provides a simple email client, so emails among member of a community can be managed from here.



This tab allows to send messages. Several text formating options are available.



With an message it is possible to book a conference room if the **Book conference room** checkbox is clicked.



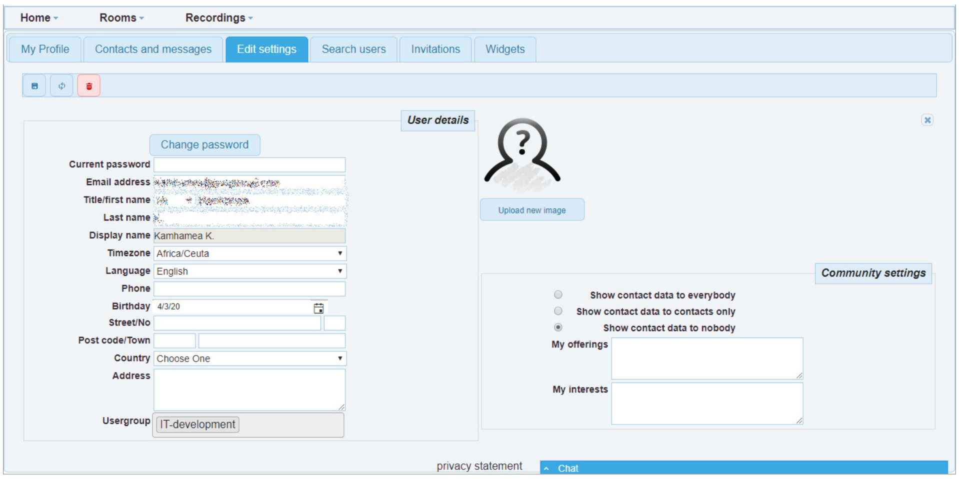
Also as with many email clients around, it is possible to create new folders to store messages separately.

This email client raises several security issues though.

- It does not include filters, so every user is exposed to spam
- Emails can be send to all users not only to established contacts and group members
- The address line exposes the full email address of a user
- This client can be abused to send spam as any email can be entered into the address line.

To solve these security issues would suggest the following restrictions
1. Messages can be send to users of the system only.
2. The email address is hidden and only the screen name shown instead.
3. Only to established contacts free text messages are allowed ll others receive preformed messages only such as : invitation or contact request.

Edit Settings



This tab allows editing all the user information, upload a picture, change password. The community settings allow to set some communication channels. One may specify to whom contact data will be accessible. nobody, everybody or contacts only. Group affiliation cannot be changed this has to be done by the administrator.

As discussed at several places editing group membership would be a good idea.

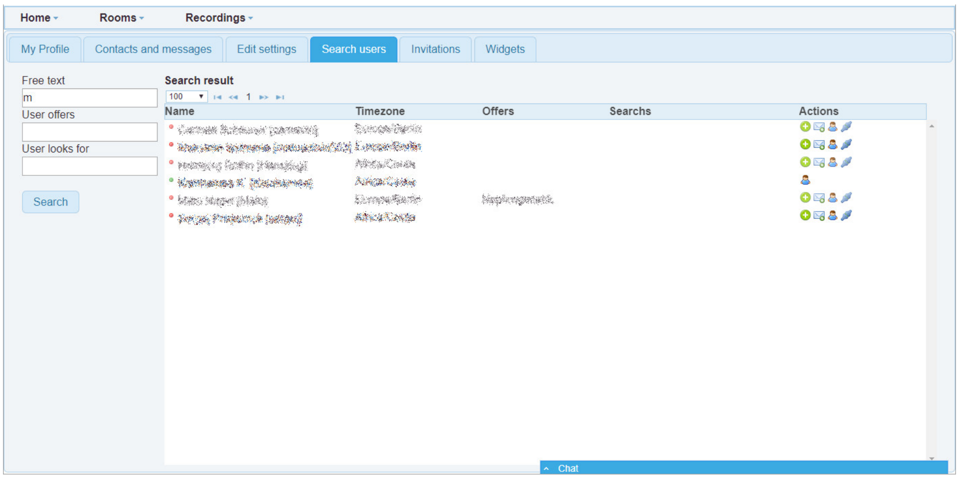
It has to be specified what contacts are and how they are maintained. A better option would have been group members which is well defined and can be easily managed.

The fields offerings and interests may help to channel some advertising features among the members. This is an interesting feature that can be used when searching users to communicate or invite.

This tab also offers a privacy statement.

I wonder if this is actually used or just a stub. Because I heven't seen it working when testing the email client.

Search User



This tab allows to search user in the system. Please note the empty list at startup. If you want to browse all users registered with the system just hit the search button with all the input fields left empty. Otherwise you may want to narrow your search by putting text fragments into the input fields.

It would be nice if a message would inform the user that hitting the search button is necessary to show a list. Alternatively a lst of all users can be displayed at startup

Each user row contains the screen name and username (login), time zone, offers, and searches. The last column provides some action buttons. The indicator left of the name shows whether a user is off-line (red) or online (green).

Displaying the username at this point is not only superfluous but may raise security issues. It can be omitted and space saved.

Of course which buttons are shown depends on the user.

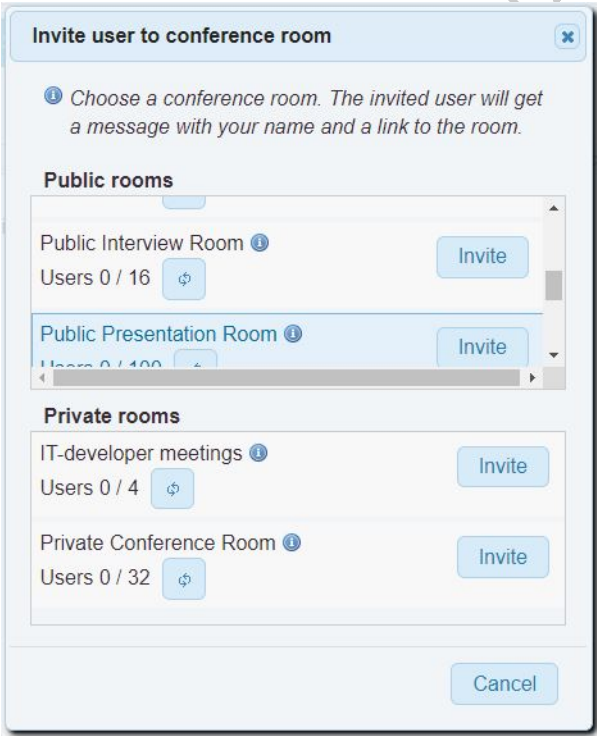
At the moment the only difference I can see is that the logged id user can see the own profile everything else makes no sense, but it makes no sense to see oneself in this list too. The profile can be checked elsewhere and everything else is already known of course, so the own record row can be omitted from the list.

I would suggest that users who share their group affiliation can message and invite each other. While user who don't share a group yet can invite into a group. Which is also more consistent compared to the inconsistencies of the contacts group discussed elsewhere.

- **Add to contacts.** Here a special group of contacts can be created.

  A singe group of contacts is not specific enough for those users who share a wide range of interests. It will be more useful to group these contacts. Also I didn't find a way to list contacts and to remove someone from the list. The concept of groups is more promising, so I suggest add to group or invite into group instead.

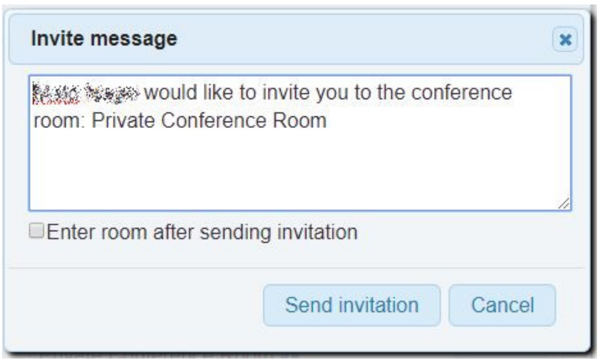
- **Send private message.** This opens the same dialog to compose an email as in the **Contact and Messages**.
- **Show user profile.** This shows the user profile data in a dialog.
- **Invite user to conference room.** Allows a user to invite to a room.



By that dialog a user can be invited to a specific conference.

If invited the next dialog indicates that a message is about to be send.

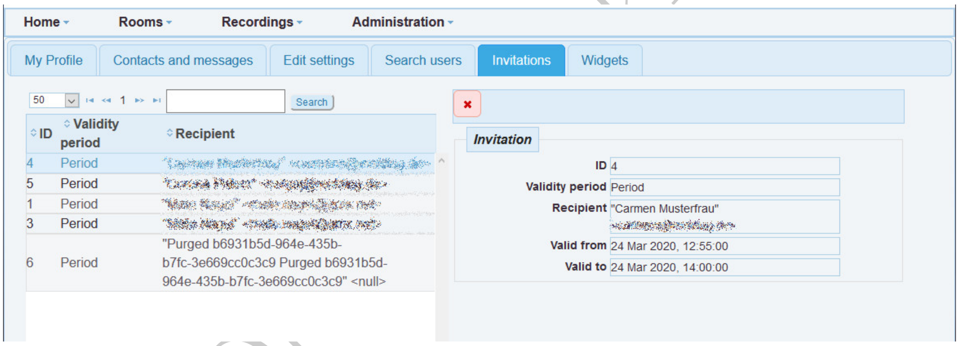
This function is buggy. 1. The name in this dialog is the receipient not the sender of the message. 2. the message never turns up anywhere, so it isn't send at all. probably.



Following the concept of groups as introduced above. I would be necessary to allow a search for groups, either in the same or a different tab.

Invitations

This tab allows to browse and delete invitations



This list also shows user that are purged, which is almost meaningless information.

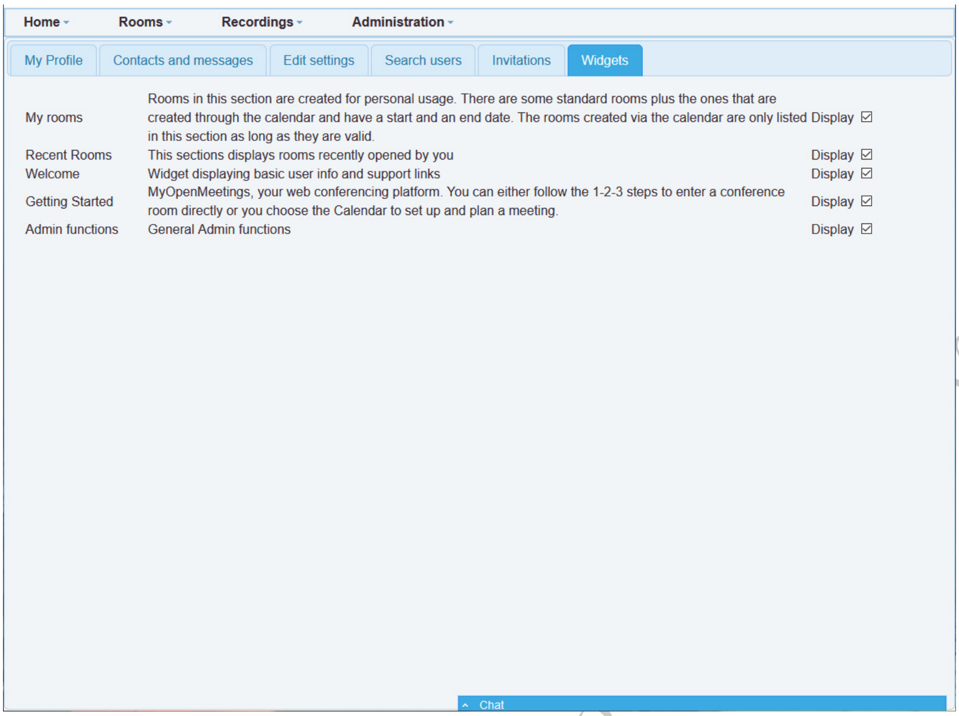
This list also shows invitations that have expired. A switch should be provided for upcomming and past events

Instead of just deleting an invitation expired invitations are better stored in an archived, so a button to archive should be provided along with the delete button. This button is not necessary though if all expired invitations are archived automatically, which is what I would prefer.

If an invitation to an upcoming event is deleted the invited person should receive a disinvitation/cancelation message.

The table contains a column Validity period. What does that mean? In all systems that I tested only "Period" was in that column, which is quite redundant.

Widget

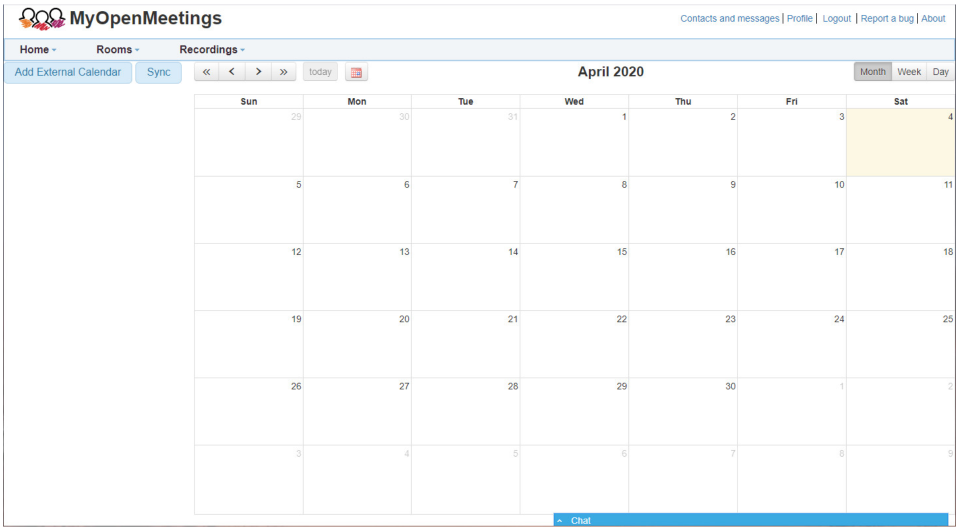


This tab allows to customize the dashboard. This option may become useful for experienced users who need their space to maintain all conference rooms and are no longer interested in getting started and support links.

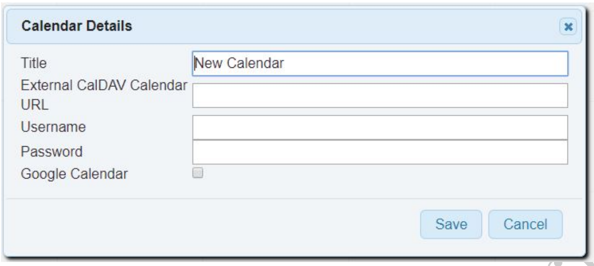
Please note administrators get an additional widget option on this tab **Admin functions** which is not available to common users.

2.2. Calendar

The calendar page gives an overview of meetings scheduled on this system and allows to schedule meetings and to invite users.



The two buttons to the left allow to synchronize with an external calendar. By pressing Add External Calendar a connection can be configured.



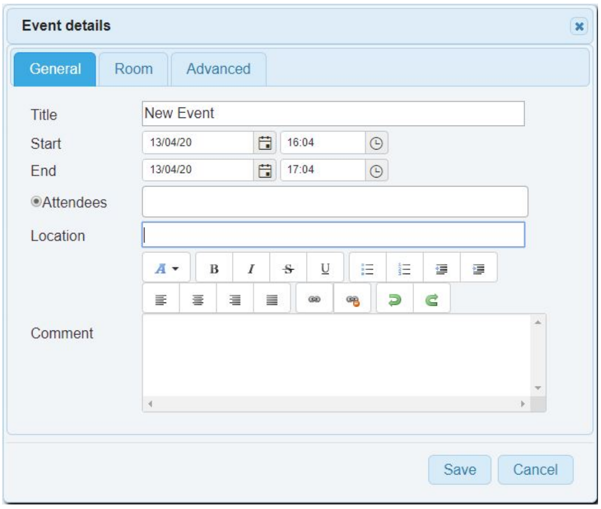
By checking the Google Calender checkbox the dialog adapts. If saved the calender then can be synchronized by pressing the **Sync** button.

I don't know whether this feature actually works. I didn't test it.

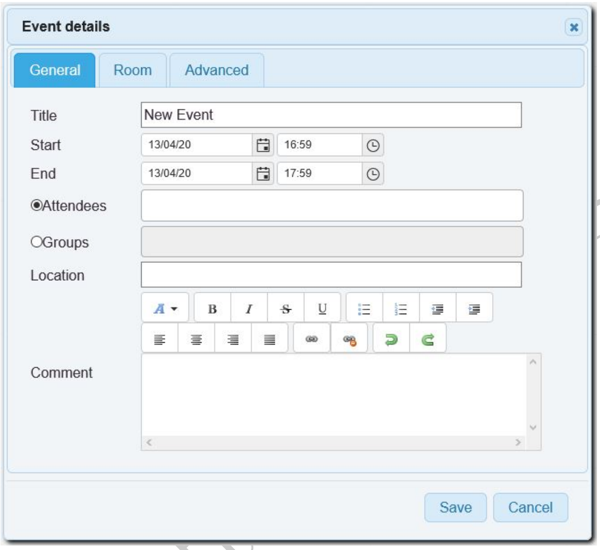
On top of the calendar panel are the navigation buttons.

A **today** button to jump back to the current day, and a calender icon button. The view options can be changed by the three almost right buttons.

When clicking a particular date a dialog opens which would allow you to schedule a meeting.

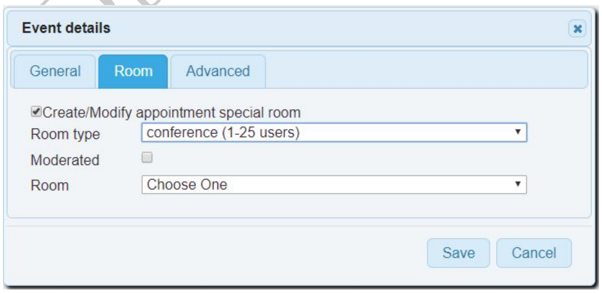


This dialog has three tabs: General, Room, and Advanced. The general tab is open by default. It looks a little bit different depending on your status as administrator or common user. If administrator you are able to invite whole groups while common users only can invite single users.

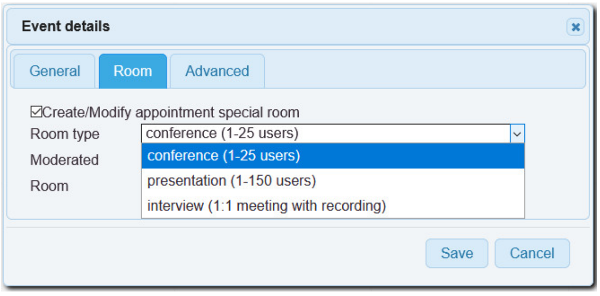


Adjust the data to your needs and proceed to the next tab.

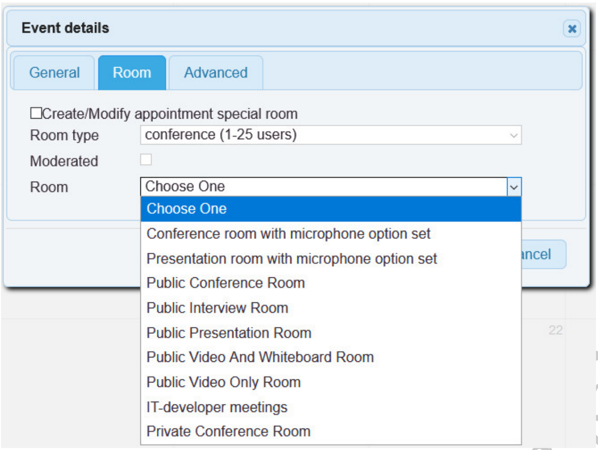
The location input field makes no sense to me as all meetings happen in virtual rooms and the input never pops up anywhere.



In the Room tab you have virtually two options. You may either create a new one (this option is checked by default) or use an already existing room (uncheck this option then).



If you decide to create a new room you may chose one from the three existing templates.



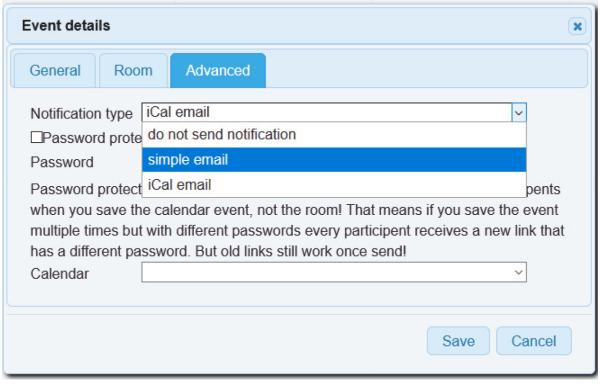
If you uncheck the box you may chose one of the existing rooms. Those include rooms created by default, when you first logged in or those created by the administrator.

The **Moderated** checkbox is enabled for newly created rooms only because with existing rooms this feature is already defined. Checking this box probably has the same consequences as in previous versions. The first user who enters the room will automatically become this rooms moderator. The next users have to ask for moderator privileges.

I would suggest the user who invited will automatically become the moderator. If this is the case by default it has to be explained here.

In the **Advanced** tab you may set the notification type. *iCal* is chosen by default. Other options are *simple email* and *no notification* at all.

I have no idea what iCal means, but it has to be explained here.

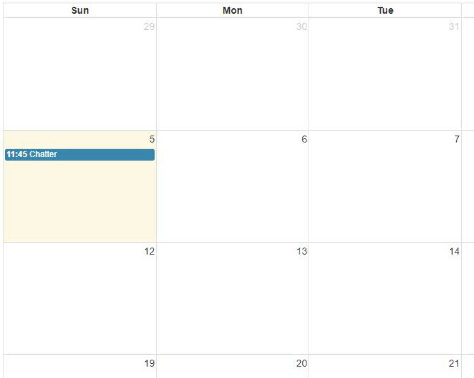


Next, checking the password protection checkbox allows to give a password every user has to give before entering the room. Please note that only links but not the rooms are password protected. That is the link cannot be opened if password is lost but the room still can be entered of a user who has the priviledge.

Room protection passwords seem more intuitive to me.

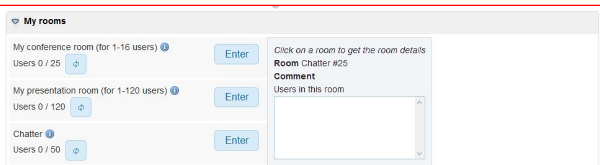
When saved invited user will see the scheduled meeting their calendar too.

It would be a good idea if the inviter/organizer of a meeting would see it in the calender differently marked.



Also the meeting will pop up in the **My Rooms** widget of the invited user but not the inviter.

Is this a bur or intentionally left that way? I have no idea why.



When selected the box right to it will show the details.

Strange enough the comment and the location will not show up. Just the room title and the number. The latter is of no use to common users.

3. Menu Rooms

This menu manages rooms.

Instead of just room listings I would also expect menu items to create and modify rooms.

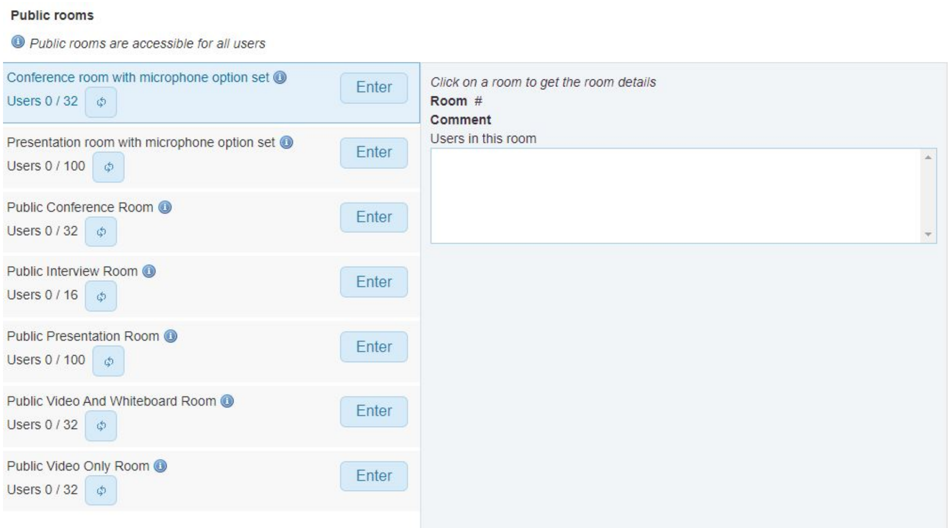
By default the system creates a bunch of rooms for every new user, which for most users is not necessary and makes maintenance cumbersome. There should have been a configuration option which rooms have to be created for a newly registered user.

If you hover this menu for the first time only three items are visible. Those include *Public rooms*, *Private Rooms*, and *My Rooms*. Whenever you click one of these three menu items you will get a list of rooms as explained below.

If you already have entered a room after a separator a list of recently visited rooms will appear. One clicking one of these you will immediately enter this room.

3.1. Public Rooms

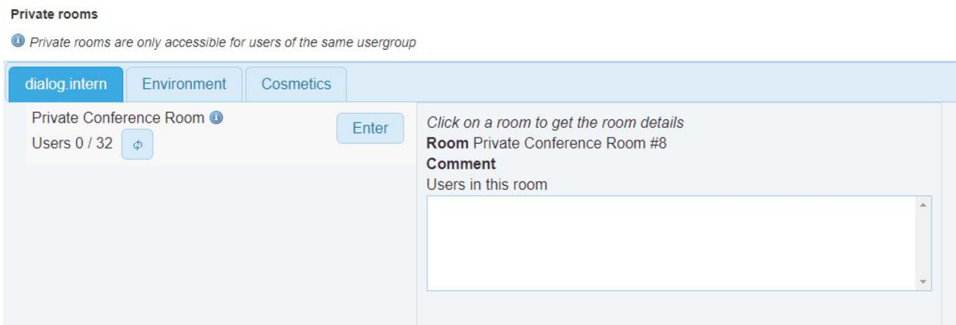
Public rooms can always be entered they are created by default when the system was installed. Webadministarators can create new rooms and change existing ones.



These rooms can be entered without permission

3.2. Private Rooms

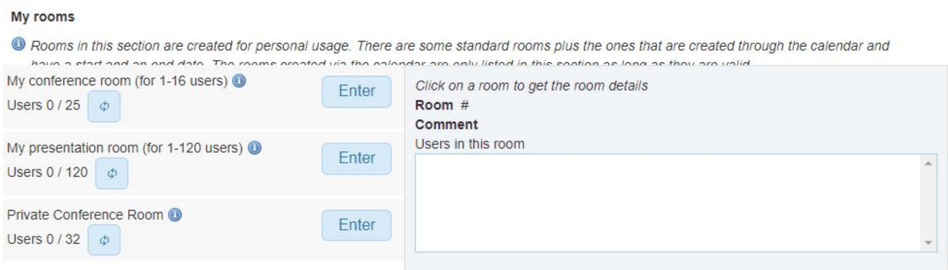
Private rooms are exclusively managed by you. While everyone can enter a public room. Private rooms can only be entered following an invitation. So you may want to invite someone into your private room to discuss undisturbed.



Please note a webadministrator can always change your private rooms as well.

3.3. My Rooms

In this section two private rooms are displayed by default. Additionally, all rooms you are invited too will be also listed here.

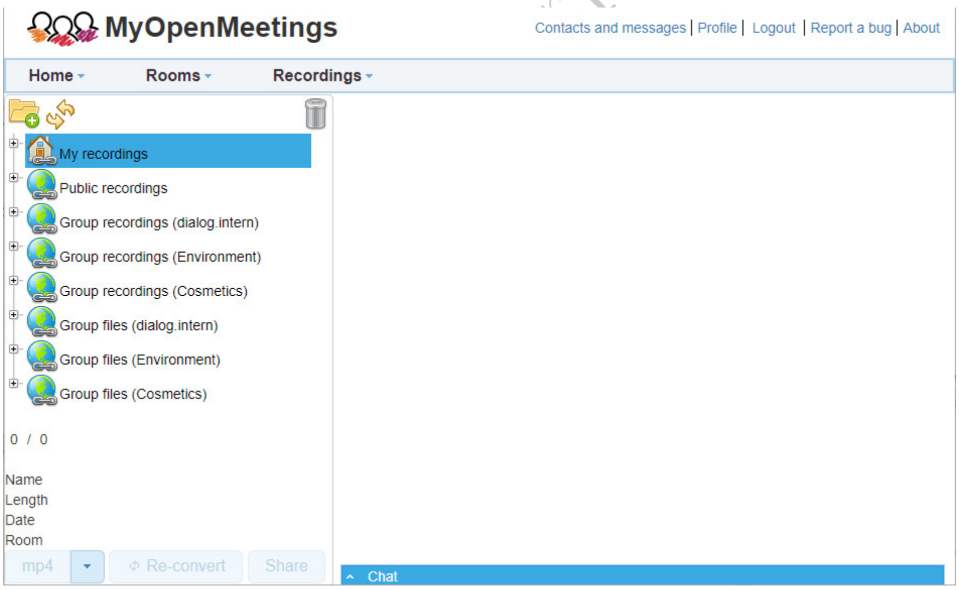


It would be of great help if the invited-to rooms would be colored differently. And if the room you invited to of course too.

4. Menu Recordings

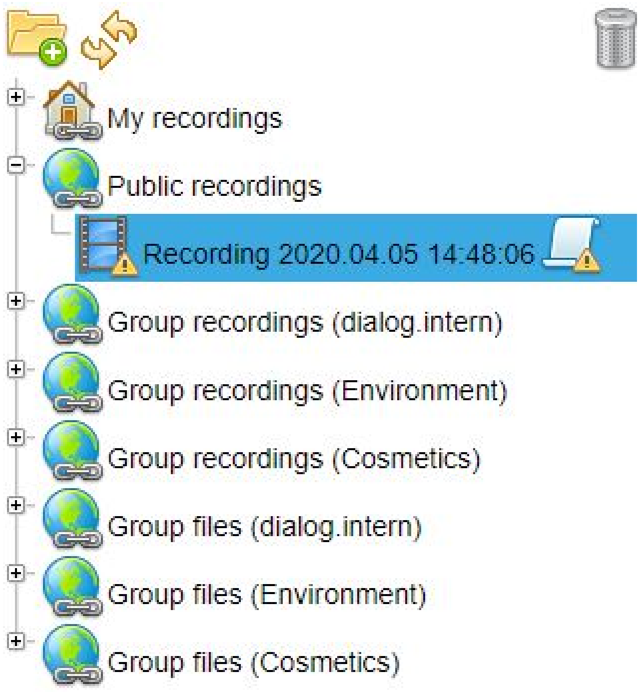
The recordings menu contains just one item.

Which when clicked shows an explorer like menu structure with all items empty at startup. Folders will be filled with recordings during a session.

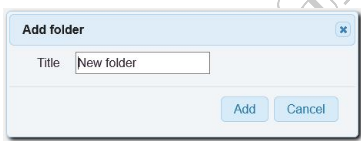


If the moderator records during a session this recording will pop up in his folder.

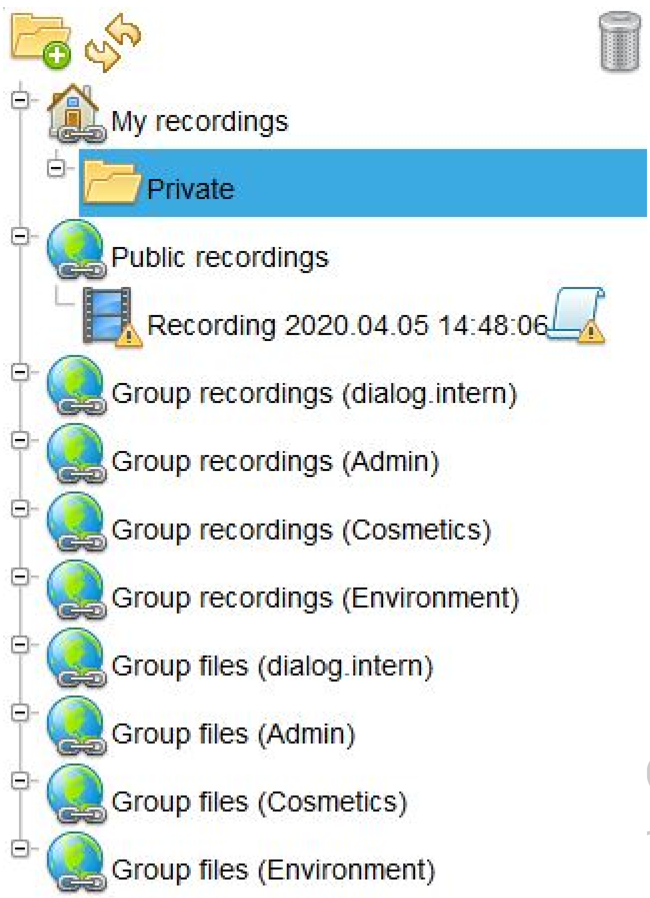
The file being moved to a public folder by drag and drop will be available to a group or all users then.



New folder can be created by clicking the icon in the recordings folder panel toolbar.



The new folder *Private* then appears below the my recordings folder.

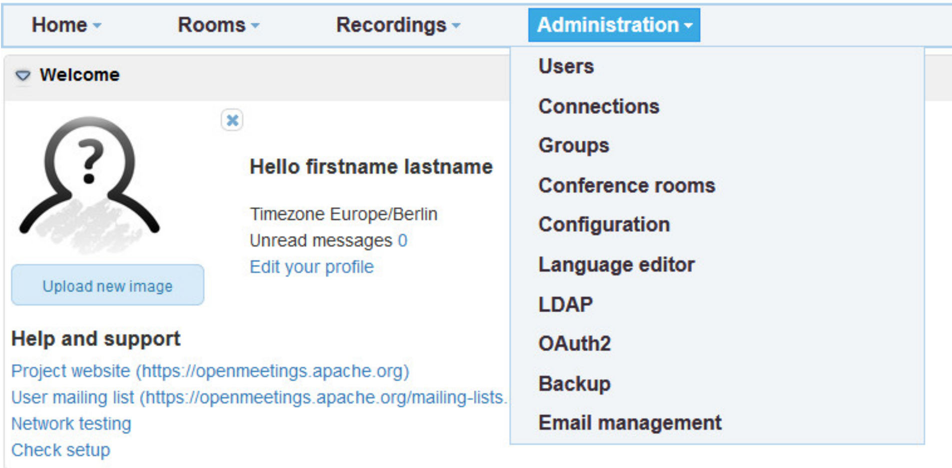


Here is probably a problem with recordings with the Firefox browser as all these recordings show an exclamation mark and playback of these recordings is impossible.

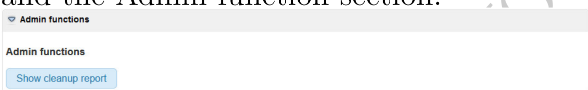
5. Menu Administration

This chapter is about the function listed in the administration menu and therefore mostly answers questions concerning the administration of the web interface. Questions concerning system administration are rather tackled in the **System Administrator** part of the manual.

Actually when studying administration the role of an administrator is twofold. 1. There are administrative tasks the affect the whole system such as configuring the email system, but 2. the administrator has tasks to configure rooms that is rather in a moderator's responsibility such as uploading files. Therefor an administration hierarchy is required System Administrator and Room (conference) Administrator

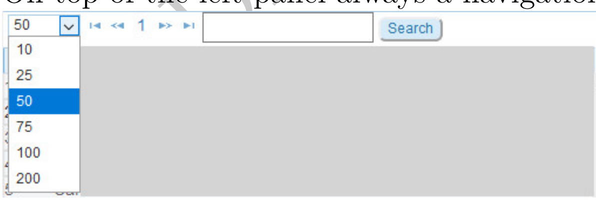


and the Admin function section.



Each administration page consists of two panels. On the left panel a list is displayed while the right panel shows details to the item selected in the list. Often the right panel also allows editing some of the properties. Please keep in mind that those changes are applied only if the save icon in the toolbar was clicked.

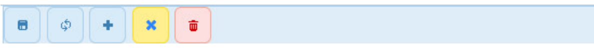
On top of the left panel always a navigation toolbar is displayed.



- The dropdown listbox allows to chose the number of raws displayed in the table below.
- The next 4 items in the navigation control include

  - fist page
  - previous page
  - current page number
  - next page
  - last page
- Finally a search input is offered

On top of the right panel always an edit toolbar appears that might change dependent on the content.



- Save
- Refresh
- New record
- Restore
- Delete
- Purge

5.1. User Administration

On the left panel a list of users can be browsed. The columns are sorted by id by default, but you can change sorting by clicking the up/down icon next to the column name. The tool bar above the column headers allows to select the number of user per page, navigate through the pages, and search the user database. This search ignores case and applies to all columns.

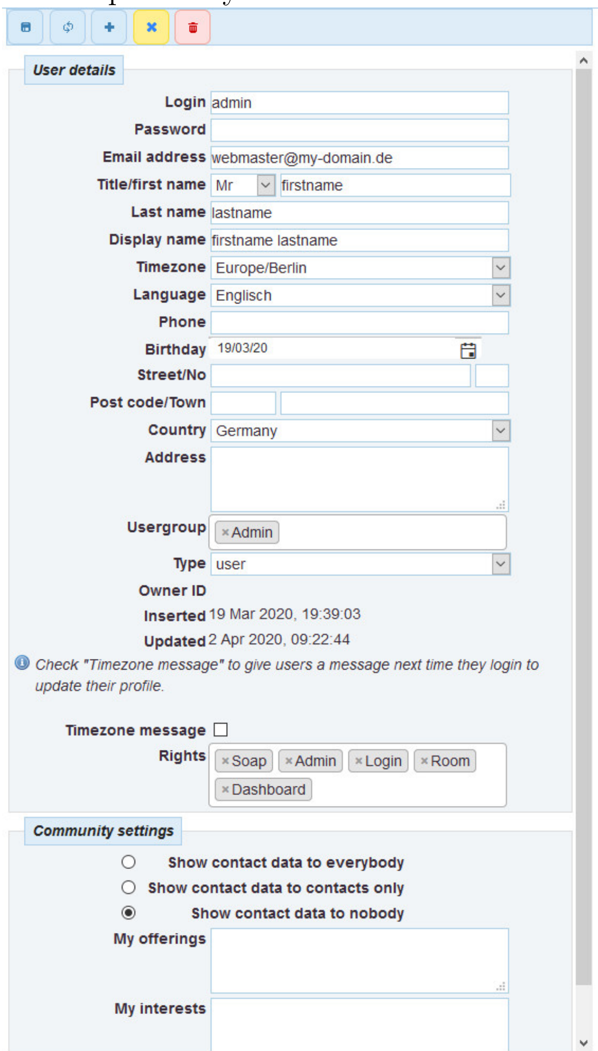
50 | 1 | Search

ID	Login	First name	Last name
1	admin	firstname	lastname
2	Tempo	Jürgen	Oster
3	Mexonaut	Max-Peter	Mustermann1
4	Mexonaut2	Maximilian	Mustermann2
5	Carmens	Carmen	Musterfrau
6	Bremspedal	Hartmut	Corona
7	Brechstange	Corona	Peters
8	Purged be6c8e6c-010f-4e55-878a-2e47f71e1f6c	Purged be6c8e6c-010f-4e55-878a-2e47f71e1f6c	Purged be6c8e6c-010f-4e55-878a-2e47f71e1f6c

The list on this picture show two users that are no longer active. While user with id 3 is deleted it can get activated again by the administrator and while a deleted user in that stage exists nobody else can use the username or email of that user. This is only possible when purged (user 8). A purged user cannot be activated again. The record though remains in the system.

In order to improve clarity of the user list purged users should e hidden by default the more as they also take a lot of space and is not editable any more, and deleted users as well should be made hidden by a switch.

The right panel displays the details of a user selected on the left. Most of the fields are self explanatory.



The toolbar of an active user provides the following functions.

Save This button has to be pressed to write the edited data to the database.

Refresh Reloads the data from the database.

New record Displays an empty record which when saved adds a new user to the database.

Delete record The record is marked as deleted, so the user cannot log in any more but the administrator can activate the user again. The username cannot be used.

Purge The record is removed from the system an cannot be activatd again. The username is free to be reused again.

As purging is final and cannot be reversed. I stronly suggest a two step procedure, so only deleted users can be purged.

Purging a record is only possible if a dummy email is entered. Testing for a valid email field before purging makes no sense at all.

Register a new user by admin doesn't work if confirmation email is on. Because the user doesn't

The toolbar of a deleted user does not contain the delete and save function any more but a restore function instead. When restored the toolbar changes to normal and the record can be edited again.

Refresh Reloads the data from the database.

New record Displays an empty record which when saved adds a new user to the database.

Restore Activates the record, but as it contains dummy data, of course, it has to be edited before it can be used again.

Purge The record is removed from the system an cannot be activated again. The username is free to be reused again.

The toolbar of a purged record shows dummy data to prevent duplicates in the system that may cause dysfunction.

These dummy data may be useful for the system to operate properly but are useless, confusing and spacious.

Refresh Reloads the data from the database.

New record Displays an empty record which when saved adds a new user to the database.

Restore Activates the record, but as it contains dummy data, of course, it has to be edited before it can be used again.

Purge The record is removed from the system an cannot be activated again. The user name is free to be reused again.

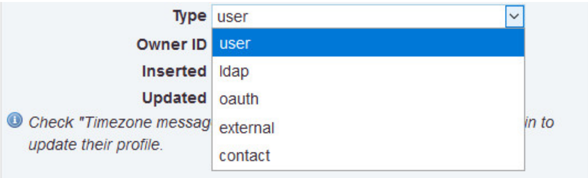
The toolbar of a purged record still contains refresh and purge which makes no sense any more.

If a purged record is re-introduced into the system, does this procedure reset all the personal information in the system connected with the previous user of the same id. This has to be tested carefully.

Most of the fields on the right panel are self explanatory. Some of them however need further clarification.

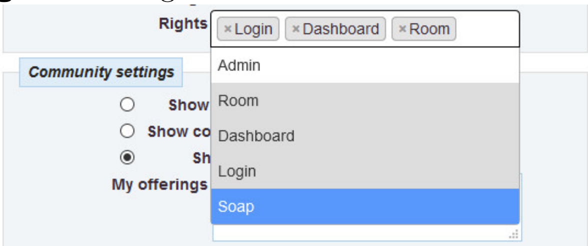
Usergroup This field contains a list of groups that can be generated and modified by the administrator (see below the section groups).

Type The type is set to user by default.



Where information about the other user types can be found?

Right The rights of a user can be choosen from a list.

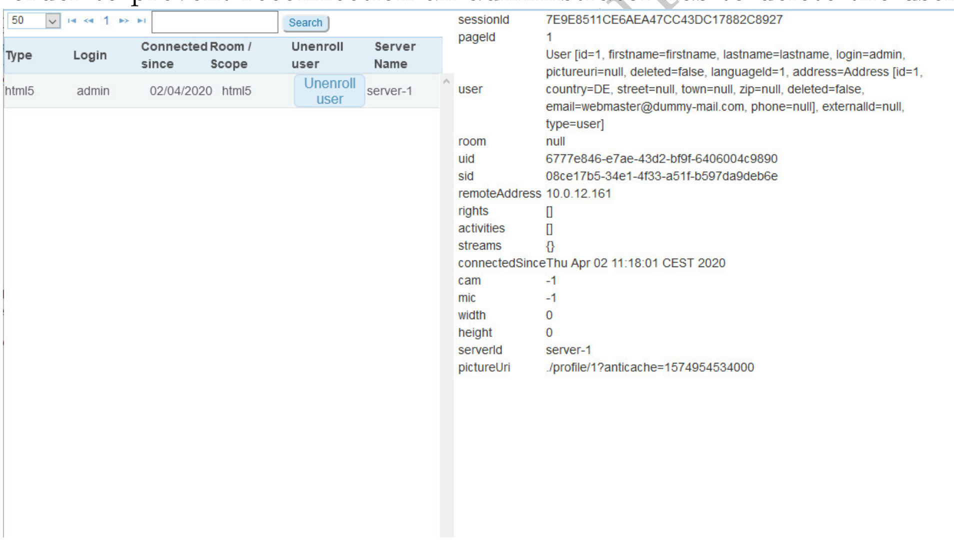


Unfortunately save the admin, nothing is known about these rights.

SIP mentioned in the type 2 Manual is no longer available. What is it anyway?

5.2. Connections Administration

Here an administrator can see all the users connected to the system, review the details of the connection, and disconnect. A user ejected from the system is still able to reconnect. In order to prevent reconnection an administrator has to delete the user first.



Again the screen shows two panels in the right panel the connections are listed. The navigation bar is virtually the same and with the user administration. The column headers are different though and not all of them self explanatory.

Type probably describes the user client's capabilities. In this case the browser is capable to handle HTML5.

Login Login name of the user

Connected since Start of the connection

> The time as shown in the previous version/manual would be more important here that just the date.

Room/scope The room which the user is connected to, and if no room is chosen just the type is displayed.

> The administrator never can show the room as when in a room the Administration menu is not available. It would be a good idea to make the Administration menu at least partially available to administrators wathing a presentation in some of the rooms.

Unenroll user This column contains a button which when pressed disconnects the user.

Server Name This column makes no sense to me.

> What is that content useful for? To my knowledge only one server can run with the system. If not where and how additional servers can be installed and configured?

> The CSS has to be improved: some more space left of the table to align it with the toolbar. Also the slider should be aligned with the table header. Also it would be fine if sorting options as with the user table would be available, and the left panel re-sizable.

The right panel displays details of the connection highlighted on the left panel.

sessionId self explanatory

pageId What does a page mean in this system?

user A dictionary with all the user information entered by the user

room rooms used by the user

uid Where this information is generated and what it is used for?

sid Where this information is generated and what it is used for?

remoteAddress IP address used by the user

rights Why this list is empty? An administrator has all rights I suppose.

activities What does activities mean?

streams Which streams are listed and what format is used?

connectedSince Contains date, time, and timezone information

cam if webcam is on or off

mic if microphone is on or off

width Webcam size

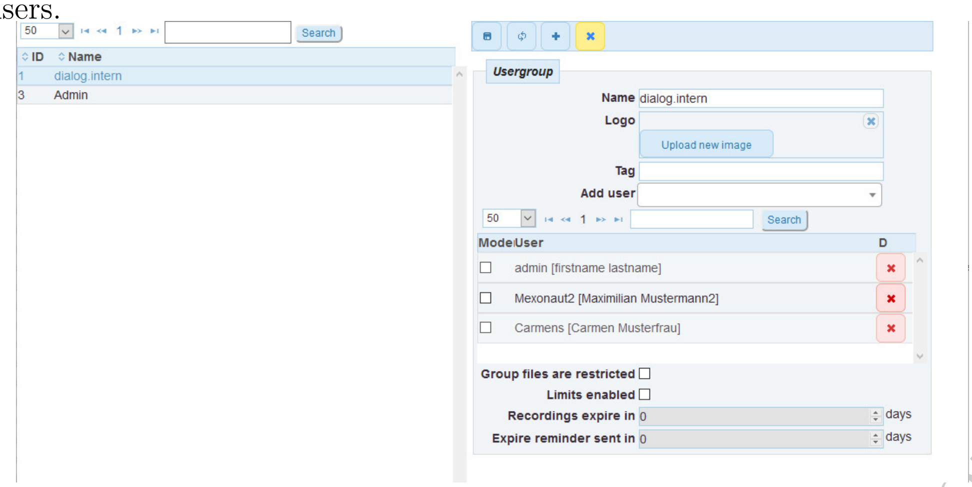
height Webcam size

serverId Same as on the left panel

pictureUri The picture stored in the system

5.3. Groups Administration

This section allows to browse existing groups, edit group properties, and add or remove users.



The left panel lists the groups defined on this server. The right panel displays the details and allows editing of a selected group. When the save icon is pressed data are stored in the database and the table on the left panel is refreshed.

Name Group name

Logo A picture serving as a group logo can be uploaded.

Where is this logo displayed in the system.

This manual and a help text attached to this input should explain usage and preferred size.

Tag Tag characterizing this group can be added.

The tag field has to be explained in more detail. Is there tag database, so that tags known to the community can be used. Tags should also appear in the table at the left and become searchable.

Add user In this dropdown list users can be chosen.

The dropdown field to add user seems to be inconvenient if a lot of users exist on the system. so a search dialog would be more appropriate.

Mode|User This control consists of the usual navigation bar that controls an adjacent list box were users can be checked and deleted.

The list box tat shows the users of a group displays only three users at a time but may contain much more, so it would be a good idea if this dialog would be resizable

The delete icon is self explanatory, but what is the meaning of the checkbox left to the user name?

Group files are restricted This field can be checked.

... but at least this manual has to explain what group files are and what kind of restrictions are employed to these files.

Limits enabled This field also can be checked.

... but again at least this manual has to explain what limits ne has to keep in mind.

Recordings expire in A number of days can be set.

Which recordings are meant by that. The recordings of a whole session or the recordings made by a user of the own desktop.

At least this manual has to explain what the default value '0' means. Infinity?

Expire reminder sent in A number of days can be set.

Instead of sending a reminder in a couple of days it would be more useful to send a reminder a couple of days before expiration. And again the meaning of the default value has to be explained.

The former manual mentioned that a user will be asked which group he wants to join after having logged in. Now, a user when logging in is no longer asked which group connect to. Does that mean the connection is made to all groups?

The other group properties have to be explained too in more detail. It is in particular necessary to mention purpose and how to use it.

5.4. Conference Rooms Administration

This section is to define conference rooms that can be attended by users of a particular group.

Left pane

The left pane lists all existing rooms.

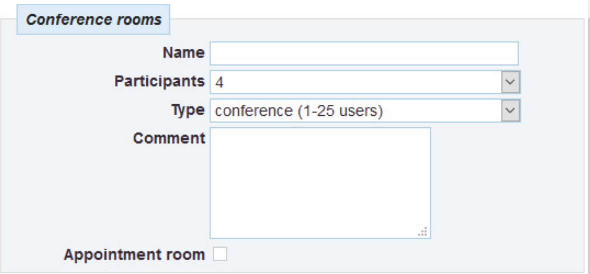
ID	Name	Public
1	Public Interview Room	true
2	Public Conference Room	true
3	Public Video Only Room	true
4	Public Video And Whiteboard Room	true
5	Public Presentation Room	true
6	Presentation room with microphone option set	true
7	Conference room with microphone option set	true
8	Private Conference Room	false
9	Mein Konferenzraum (für 1-16 Benutzer)	false
10	My presentation room (for 1-120 users)	false
11	Mein Konferenzraum (für 1-16 Benutzer)	false
12	My presentation room (for 1-120 users)	false
13	My conference room (for 1-16 users)	false
14	My presentation room (for 1-120 users)	false
16	My conference room (for 1-16 users)	false
17	My presentation room (for 1-120 users)	false
18	IT Besprechung	false
19	My conference room (for 1-16 users)	false
20	My presentation room (for 1-120 users)	false

Beside of grouping public and private rooms other groupings should be offered user and user group, ie. an additional column.

When a room is clicked in this list, the right panel lists room properties in several groups.

Conference rooms

The title of this group "Conference rooms" is misleading. I suggest "attributes", "characters", or "traits" or simply "title".



Name Name of the room

Participants The number of participants can be chosen from a drop down list.

Type The type of a room can be chosen from a drop down list.

It is not logical that here again is the range of number of participants can be determined. You can choose 1000 in the input babove and limit the size to 1-25 participants here.

- **Conference room** is a room where everyone shares his camera and microphone, has access to the whiteboard and can manage files. The session recording records the whole screen.
- **Presetation** is a room in which users must ask permission to share their camera and where they do not have access to files. The session recording records the whole screen.
- **Interview room** is a room where only two users can share their video and audio (there may be more than two users in the audience and the moderator will then enable or disable the cameras and microphones) and in which there is no whiteboard. The recording session only records video and audio.

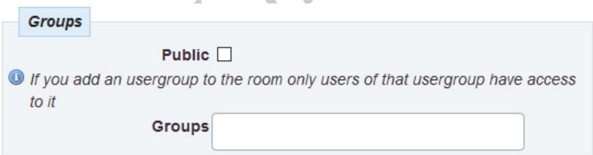
Comment idem

Appointment room A checkbox can be selected.

It is not clear what this means.

In the Version 2 manual a temporary room is mentioned this is not available any more, right?

Groups

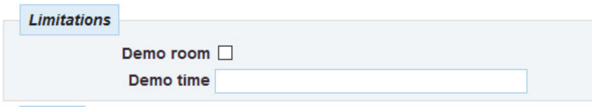


Public A checkbox can be selected.

It is not clear what this actually means.

Groups User groups can be entered here and only members of these groups can enter the room.

Limitations

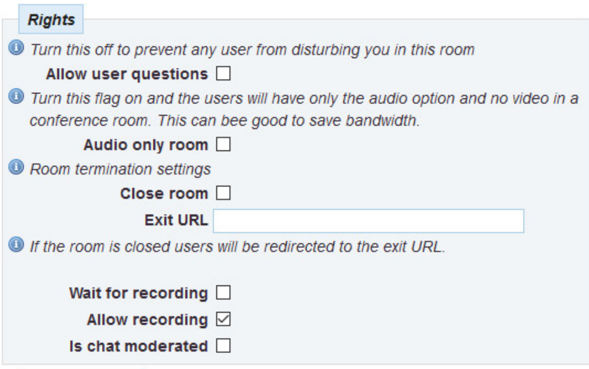


Demo room A checkbox can be selected.

Demo time User groups can be entered here and only members of these groups can enter the room.

This section is new in OM5 and its importance is unclear.

Rights



Allow user questions A checkbox can be selected to allow users to ask questions.

Audio only room A checkbox can be selected to stream audio only. This can be useful with limited bandwidth.

Close room A checkbox can be selected to close the room an prevent more users from entering. This can be useful to limit the number if listeners when bandwidth is an issue and to keep some secrecy.

Exit URL When closing a room new users that try to enter the room will be redirected to this URL where an information about the reason may be published.

Wait for recording A checkbox can be selected.

the importance of that option has to be explained. What can be recorded the presentation or some desktop window.

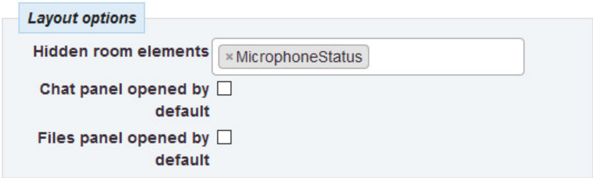
Allow recording A checkbox can be selected to allow recording.

However it is unclear what is recorded and by whom.

Is chat moderated A checkbox can be selected to allow chat moderation.

It is necessary to explain how chat moderation works and who is entitled to moderate. Is it the same people that moderate the room?

Layout options



Demo time User groups can be entered here and only members of these groups can enter the room.

TopBar description needed

Chat description needed

Activities description needed

Files description needed

ActionMenu description needed

PollMenu description needed

ScreenSharing description needed

Whiteboard description needed

MicrophoneStatus description needed

Usercount At the user tab a figure indicates the number of users in this room. If one decides to to hide this number select this option.

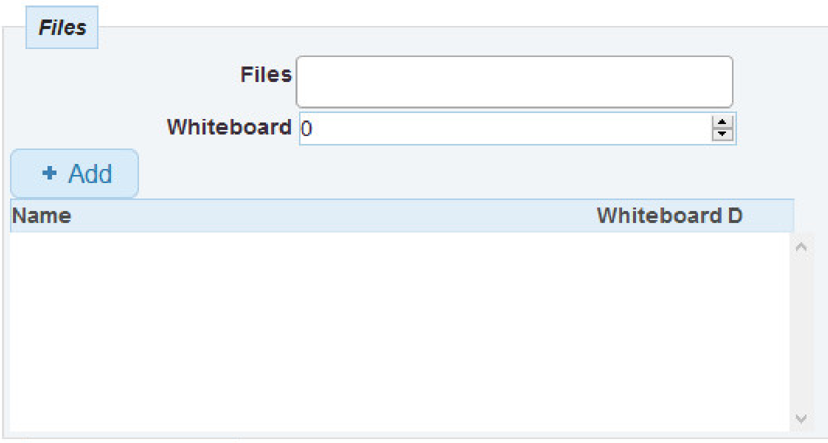
Chat panel opened by default A checkbox can be selected to show the chat when entering the room.

Files panel opened by default What is meant by file panel?

.

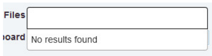
Files

This section allows to prepare files for presentation in this room.



Files Files can be chosen here.

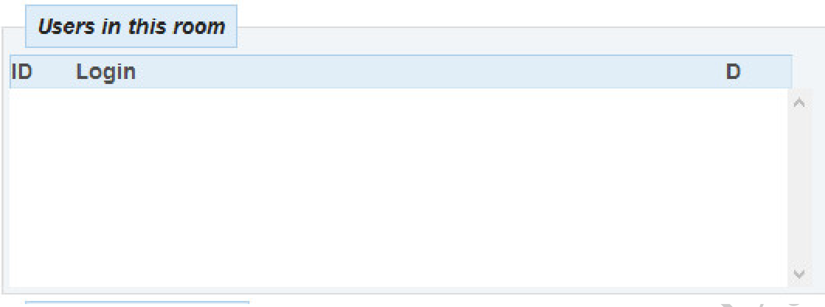
Where are the files choosen from hat will displayed here? Where they have to be uploaded?



Whiteboard Choose the whiteboard this file will be displayed on.

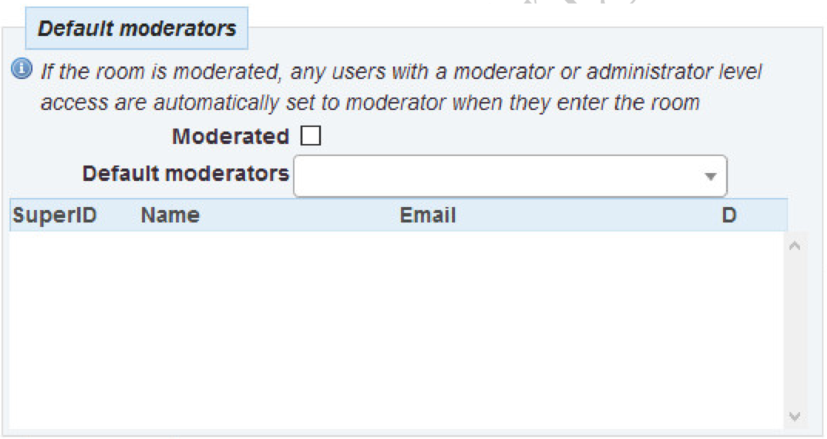
Add+ By pressing this button the file will be added to the list

Users in this room



This section just displays the users currently in his room and allows to disconnect.

Default moderators



This section allows to determine the moderator status of a room.

Allow user questions A checkbox can be selected to allow moderation. If the room is moderated, any users with a moderator or administrator privilege hat will enter is automatically set to moderator.

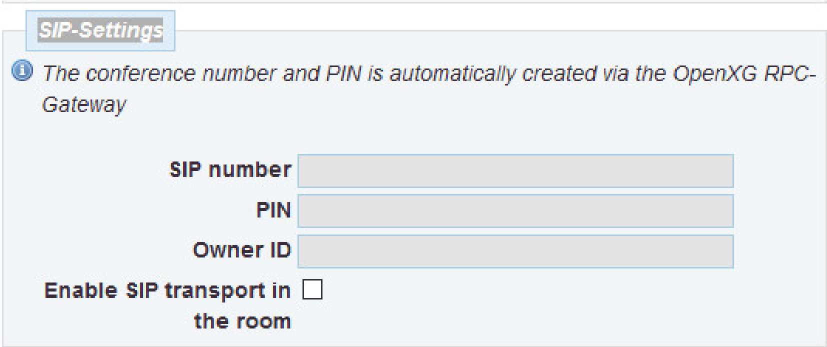
Default moderators Default moderators can be chosen from a dropdown list.

Why all users are listed here? It should be limited to users in the allowed groups. There may be defined a special group of room administators that should always be allowed to moderate any event.

The listbox shows the moderators assigned to this room and allowed to remove them individually.

> What means SuperID in this table header?

SIP-Settings



The input stet fields of this group are disabled and read-only. When a session is going on the values are displayed here for debug purposes.

SIP number disabled

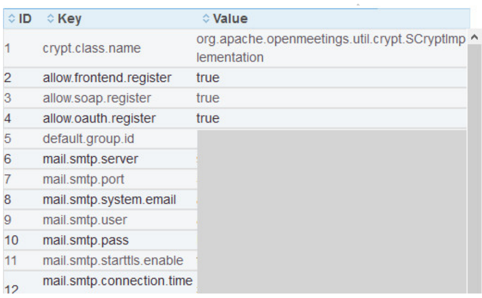
PIN disabled

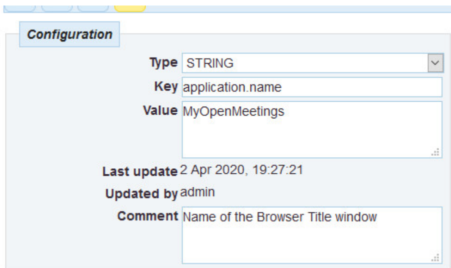
Owner ID disabled

Enable SIP transport in the room A checkbox can be selected to allow SIP transport.

> The advantages of SIP in connection with OpenMeetings is poorly explained.

5.5. Configuration





On the right panel a list of parameter is shown which when selected are displayed on the right panel.

Type The way a value has to be interpreted: STRING, NUMBER, BOOL, HOTKEY.

Key A unique name to identify the parameter.

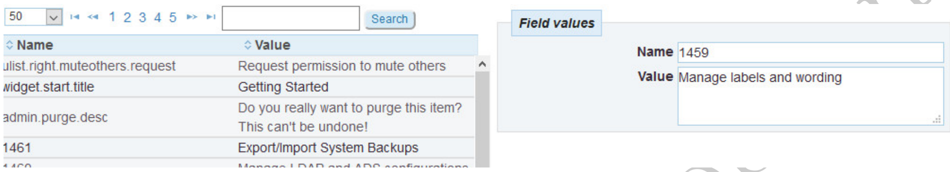
Value The string value that is stored in the database.

Last update A read-only field of date and time.

Updated by The administrator that made the change

Comment Drop a note here if necessary

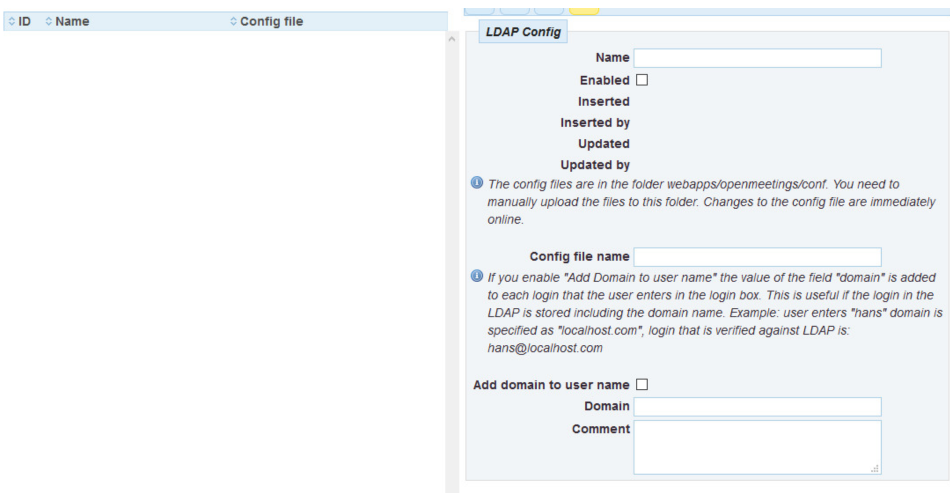
5.6. Language editor



This section comes with a new toolbar

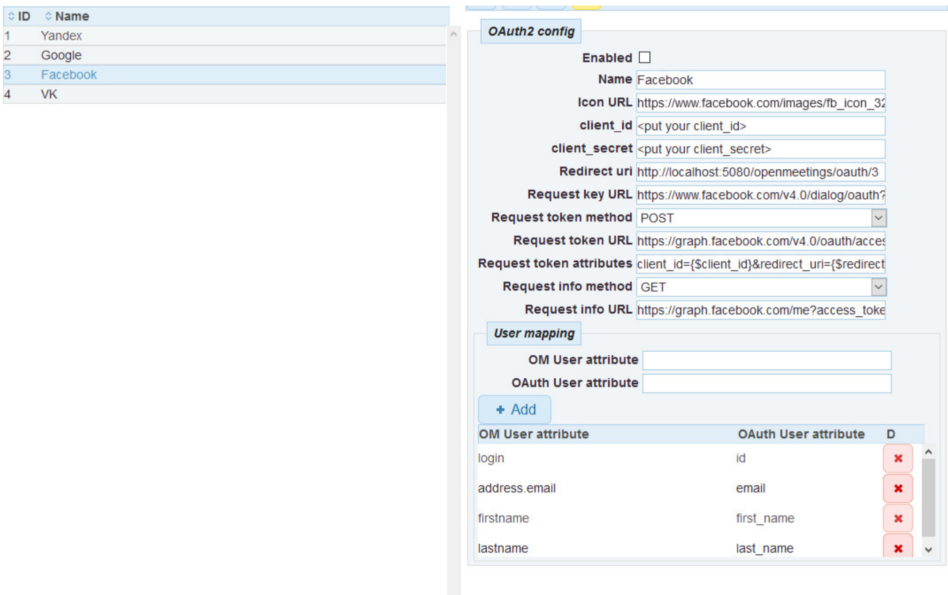
Show on the right panel two languages simultaneously, so translation is easier when comapring to other languages than names that are often meaningless.

5.7. LDAP



This section is new in OM5 and its importance is unclear. In order to write this section of the manual properly I need some more information about LDAP integration into OpenMeetings

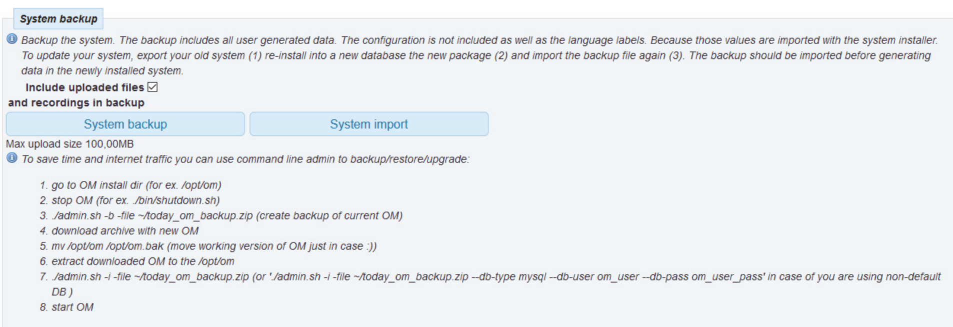
5.8. OAuth2



Here social media login can be configured.

Although probably everything is properly configured by default it doesn't work.

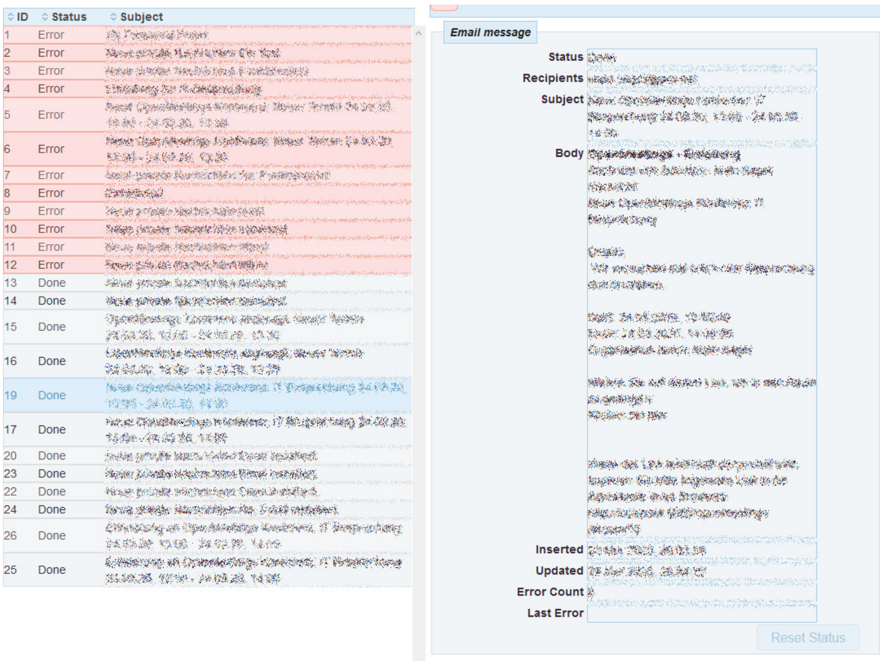
5.9. Backup



The system can be backed up by and imported which is a great way for maintenance.

Two buttons allow to download (System backup) o upload (System import) all the data. Also a CMI backup is explained in this page which is the recommended way if the amount of data exceeds 100MB.

5.10. Email management



The software works as an email client. All activity of that client is logged in the table on the left. Errors marked in red. Selecting an entry on the left pane allows to read the details on the right.

in case of error a number of Java classes is listed that exceed the space, so I would suggest to abbreviate that information and to enable a text download of the whole message. Such a text is even easier to handle for a developer as it can be searched and edited.

6. Running a Conference

This chapter is not ready yet. Just the structure exists, But many many pictures and text has to be filed in. As well as local testing has to be performed.

This chapter still has to e composed. Only the outline exists so far.

When refreshing a page during a conference window open the user will be added twice. A refresh can be accomplished by leaving and re-entering the room.

6.1. Conference Menu

Exit

Files

Fie upload

Actions

Send innvitation

Share/record screen

Apply to be moderator

Apply for whiteboard access

Apply for audio/video access

show sip dialer

Download as PNG

Download as PDF

Reset whiteboard

Polls

Create Quick Poll

Create a poll

Poll results

Vote

6.2. Users/Files Panel

Users Tab

Main User Toolbar

Selected User Toolbar

Files Tab

Main Files Toolbar

Activities And Actions

6.3. Whiteboard Panel

Whiteboard Header Bar

Whiteboard Navigation

Whiteboard Toolbar

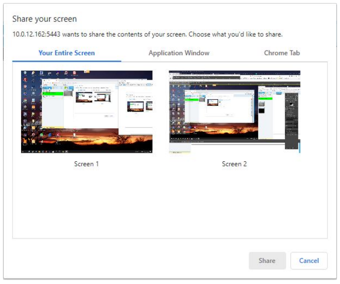
Clear Whiteboard

Clear objects on current slide

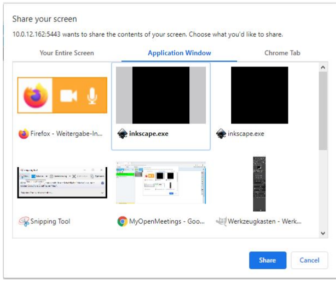
Google Chrome Client

Before recording of your screen starts you are asked for a source. The following options are available as separate tabs.

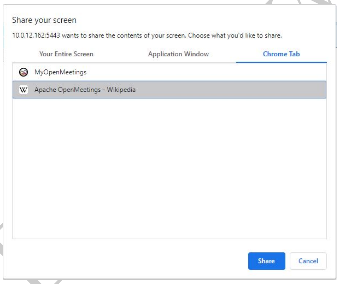
- Entire screen. Depending on how many screens you use with your computer you may just select one for presentation.



- Single application. This option is preferred when you plan to explain some software features.



- Browser tab. This is in particular useful if the application that you want to demonstrate runs in browser window. This option cuts of all your custom settings (such as bookmarks) and shows just the interior of the window.



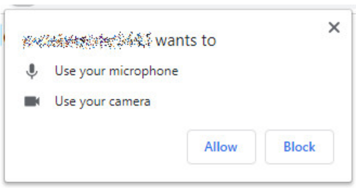
In each of these tabs you may choose the screen, application, or tab respectively.

7. Multimedia Setup

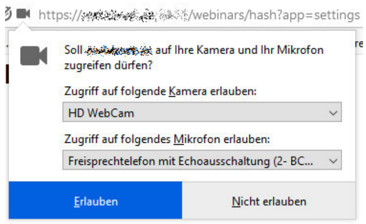
On the dashboard page two links are provided to set up the multimedia devices. **Check setup** is step 3 in the **Getting Started** widget and the last in the **Help and support** list provided by the **Welcome** widget.

Unfortunately there is no other way to access the dialog when these widgets are diabled or from within a conference room. The latter would be in particular useful if you want to switch from front to back camera of our mobile device during a presentation for demonstrating purposes. I would suggest to include this important point into a menu item.

Whenever access to your multimedia devices is requested the browser will ask for permission. This happens before the setup dialog works or a conference room is entered and your video stream will be published. The dialog presented by the browser differs. This one is from Google Chrome



Firefox has more options. Its dialog allows you to choose which webcam or microphone will be enabled.



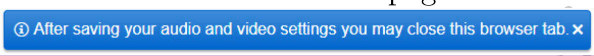
If access is not allowed yet the list buttons show **Loading data** and the multimedia display part is empty.

If access is granted. The webcam and microphone list buttons allow to select the appropriate device and the multimedia part shows the picture from the webcam and a green bar indicating the volume received from the microphone. Now it is possible to select the webcam resolution, but keep in mind the more resolution is offered the slower the presentation as much of the bandwidth is occupied for transmitting video data.

Unfortunately resolution cannot be changed during a meeting. It would be useful to change resolution temporarily if a user wants to demonstrate something with its own camera.

In order to check how this configuration will be perceived by others, saving a few seconds of video and audio is possible. By pressing **Play** the result can be reviewed and adjustments made.

As this dialog opens in a separate tab this tab can be easily closed as this message indicates in the bottom of the page.



This message BTW is not translated. It is always English even on a German page.

8. Workflows/Tutorials

8.1. Getting Started

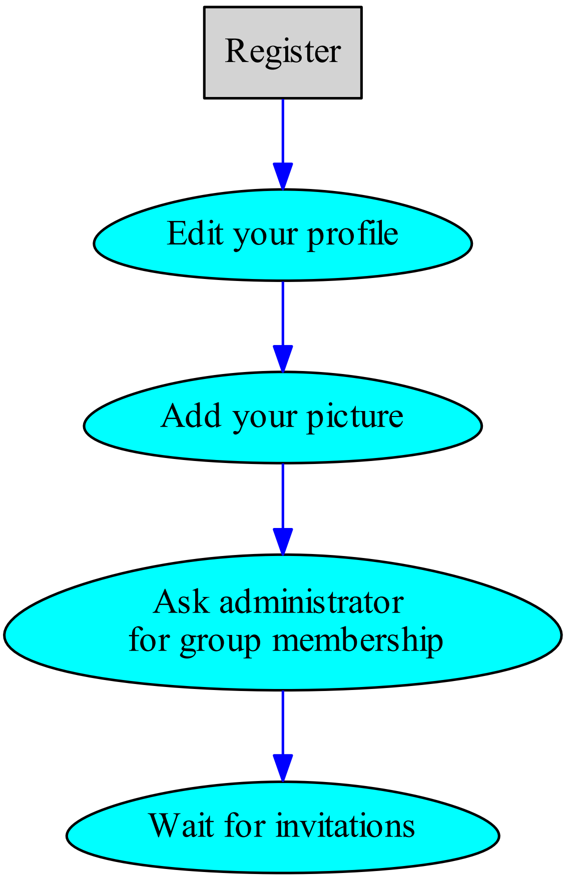


Figure 8.1.: Workflow getting started.

There is no way to join a group. You even cannot ask the administrator to put you in a group because you don't know who is.

8.2. Prepare administrator meeting

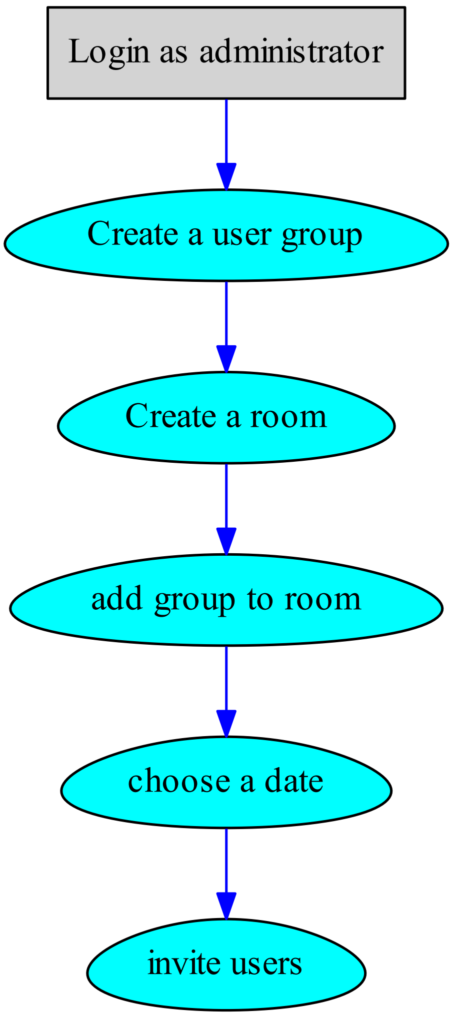


Figure 8.2.: Workflow to prepare an administrator meeting.

8.3. Prepare user meeting

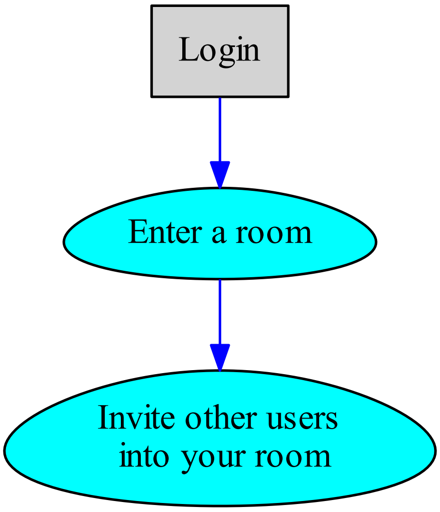


Figure 8.3.: Workflow to prepare a user meeting.

Part II.

System Administrator

9. Installation

9.1. Ubuntu 18.04

I copied all the bash instructions from files that actually worked, but in order to place them on a pdf page I had to insert line breaks, so mabe by these edits some typos slipped in. Please inform if you encounter such a typo.

Prerequisites Freshly installed Ubuntu 18.04 LTS on a server

- with at least 8GB RAM
- with LAMP installed (If not by default go to https://wiki.ubuntuusers.de/LAMP/ for help.)
- with command line access
- with root privileges

Optional phpMyAdmin is recommended as it helps to manage the database.

Listing 9.1: Update/upgrade as ever before a new installation

```
#!/bin/bash
sudo apt update
sudo apt upgrade
# usully not necessary if a fresh server
```

OpenJava

Listing 9.2: Install OpenJava 11

```
#!/bin/bash
sudo apt install openjdk-11-jdk openjdk-11-jdk-headless nano
sudo update-alternatives --config java
java -version
```

This should yield the following output:

```
openjdk version "11.0.6" 2020-01-14
OpenJDK Runtime Environment (build 11.0.6+10-post-Ubuntu-1ubuntu118.04.1)
OpenJDK 64-Bit Server VM (build 11.0.6+10-post-Ubuntu-1ubuntu118.04.1, mix
```

LibreOffice

Listing 9.3: Install LibreOffice

```
#!/bin/bash
sudo apt install libreoffice
libreoffice --help
```

[] The output would show the installed version. Something like

```
LibreOffice 6.0.7.3 00m0(Build:3)

Usage: soffice [argument...]
argument - switches, switch parameters and document URIs (filenames

Using without special arguments:
...
```

ImageMagick and Sox

Listing 9.4: Install ImageMagick

```
#!/bin/bash
sudo apt install -y imagemagick libjpeg62 zlib1g-dev
sudo nano /etc/ImageMagick-6/policy.xml
```

This will get the policy configuration file into the nano editor, were the following lines have to be commended out. In newer versions I found these lines already commented out at almost at the end of the file.

```
<!-- <policy domain="coder" rights="none" pattern="PS" /> -->
<!-- <policy domain="coder" rights="none" pattern="PDF" /> -->
```

Listing 9.5: Install Sox

```
#!/bin/bash
sudo apt install sox
```

Compilation of FFmpeg

In some online manuals the bash file (https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg_UbunDebi.sh) is recommended for this purpose, but it is a bit outdated, so I recommend doing it manually.

Listing 9.6: Change installation directory and open an empty file for editing

```
#!/bin/bash
cd /opt
nano ./ffmpeg_UbunDebi.sh
```

This will get a brand new bash file. Add the following content.

Listing 9.7: ffmpeg_UbunDebi.sh

```
#!/bin/bash
# FFmpeg compilation for Ubuntu 18.04.
# Adapted from ffmpeg_UbunDebi.sh
# downloadable from
# https://cwiki.apache.org/confluence/download/attachments/27838216/
# Thanky to Alvaro Bustos and Hunter.
# 2020-04-01

# If compilation fails due to uninstalled modules,
# please try to install the seperately and manually
# as when this line failes execution does not stop
cd /opt
sudo apt install -y autoconf \
automake \
build-essential \
libass-dev \
libfreetype6-dev \
libsdl1.2-dev \
libtheora-dev \
libtool \
libva-dev \
libvdpau-dev \
libvorbis-dev \
libxcb1-dev \
libxcb-shm0-dev \
libxcb-xfixes0-dev \
pkg-config \
texi2html \
zlib1g-dev \
mercurial \
cmake \
libx264-dev \
libmp3lame-dev \
libvpx-dev \
libfdk-aac-dev

# Create a directory for sources.
SOURCES=$(mkdir ~/ffmpeg_sources)
cd ~/ffmpeg_sources

# Download the necessary sources.
wget "http://www.tortall.net/" \
```

```
"projects/yasm/releases/"\
"yasm-1.3.0.tar.gz"
wget "https://netcologne.dl.sourceforge.net/" \
"project/opencore-amr/fdk-aac/" \
"fdk-aac-0.1.6.tar.gz"
wget "http://ffmpeg.org/releases/" \
"ffmpeg-4.1.tar.gz"

# Unpack files
for file in `ls ~/ffmpeg_sources/*.tar.*`; do
tar -xvf $file
done

cd yasm-*/
./configure \
--prefix="$HOME/ffmpeg_build" \
--bindir="$HOME/bin" &&
make &&
sudo make install &&
make distclean; cd ..

cd fdk-aac-*/
autoreconf \
-fiv && ./configure \
--prefix="$HOME/ffmpeg_build" \
--disable-shared &&
make &&
sudo make install &&
make distclean; cd ..

cd ffmpeg-*/
PATH="$HOME/bin:$PATH" \
PKG_CONFIG_PATH="$HOME/ffmpeg_build/lib/pkgconfig" \
./configure \
--prefix="$HOME/ffmpeg_build" \
--pkg-config-flags="--static" \
--extra-cflags="-I$HOME/ffmpeg_build/include" \
--extra-ldflags="-L$HOME/ffmpeg_build/lib" \
--bindir="$HOME/bin" \
--enable-gpl \
--enable-libass \
--enable-libfdk-aac \
--enable-libfreetype \
--enable-libmp3lame \
```

```
--enable-libopus \
--enable-libtheora \
--enable-libvorbis \
--enable-libvpx \
--enable-libx264 \
--enable-nonfree &&
PATH="$HOME/bin:$PATH" make &&
sudo make install &&
make distclean &&
hash -r; cd ..

cd ~/bin
cp ffmpeg ffprobe vsyasm yasm ytasm /usr/local/bin

echo "FFmpeg Compilation is Finished!"
```

Create database and user

Open your preferred tool to enter SQL commands. Here is described the mysql prompt.

Listing 9.8: Install ImageMagick

```
#!/bin/bash
mysql -u root -p
Enter password:
```

Listing 9.9: Database preparation

```
mysql>CREATE DATABASE open503 DEFAULT CHARACTER SET 'utf8';
mysql>GRANT ALL PRIVILEGES ON open503.* TO 'omaccess'@'localhost' IDENTIFI
mysql>quit
```

Kurento media server

First install the key to enable apt install.

Add a small explanation about the purpose of Kurento and maybe a link to its documentation.

Listing 9.10: Enable kurento repository key and open editor

```
#!/bin/bash
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys 5AFA7A83
sudo nano /etc/apt/sources.list.d/kurento-dev.list
```

In the editor add the following lines. Please note that these lines are specific to Ubuntu 18.04 and have to be changed if an other version of Ubuntu or Debian is used.

```
deb [arch=amd64] http://ubuntu.openvidu.io/6.10.0 bionic kms6
deb [arch=amd64] http://mirror.yandex.ru/ubuntu/ bionic main restricted
deb [arch=amd64] http://mirror.yandex.ru/ubuntu/ bionic universe
```

Next update the archive and install kurento.

Listing 9.11: Install and start kurento

```
#!/bin/bash
sudo apt update
sudo apt install --yes kurento-media-server
sudo /etc/init.d/kurento-media-server start
```

Change configuration.

Listing 9.12: Install and start kurento

```
#!/bin/bash
sudo nano /etc/default/kurento-media-server
```

In line 7 replace "kurento" by "nobody".

```
DAEMON_USER="nobody"
```

Restart the server.

Listing 9.13: Install and start kurento

```
sudo /etc/init.d/kurento-media-server restart
```

Tomcat and OpenMeetings

Tomcat and Openmeetings are installed together. Though this might reduce compatibility issues it hinders updates in one of these components.

Installation of Tomcat should be independent of Openmeetings so updates of both these bundles cane be performed independently.

Listing 9.14: Install and start kurento

```
#!/bin/bash
cd /opt
sudo wget "http://archive.apache.org/" \
"dist/openmeetings/5.0.0-M3/bin/" \
"apache-openmeetings-5.0.0-M3.tar.gz"

sudo tar xzvf apache-openmeetings-5.0.0-M3.tar.gz

sudo mv apache-openmeetings-5.0.0-M3 open503

sudo mkdir -p \
/opt/open503/webapps/openmeetings/data/streams/\
{1,2,3,4,5,6,7,8,9,10,11,12,13,14}

sudo mkdir -p \
/opt/open503/webapps/openmeetings/data/streams/hibernate
```

```
sudo chmod -R 750 /opt/open503/webapps/openmeetings/data/streams
sudo chown -R nobody /opt/open503

sudo wget "https://repo1.maven.org/" \
"maven2/mysql/mysql-connector-java/8.0.18/"
\"mysql-connector-java-8.0.18.jar"

sudo cp \
/opt/mysql-connector-java-8.0.18.jar \
/opt/open503/webapps/openmeetings/WEB-INF/lib
```

After that a program to specifically start Tomcat and Openmeetings has to be installed and started.

Listing 9.15: Install and start kurento

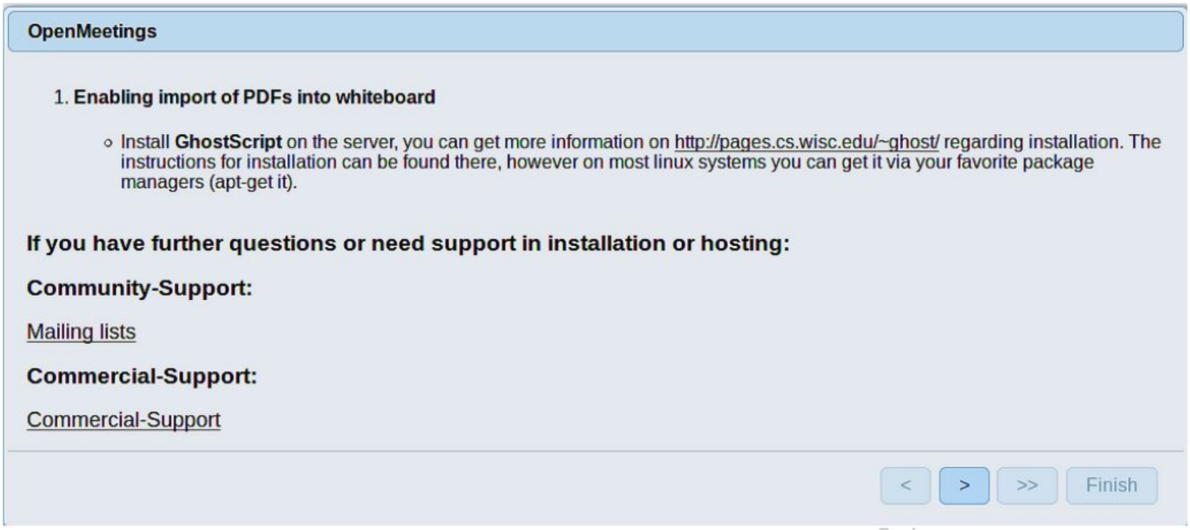
```
cd /opt
sudo wget https://cwiki.apache.org/confluence/download/attachments/2783821
sudo cp tomcat3 /etc/init.d/
sudo chmod +x /etc/init.d/tomcat3
sudo /etc/init.d/tomcat3 start
```

The server can now be reached by a browser and has to be configured next.

9.2. First Start Configuration

Before the server can be used it has to be configured properly. This configuration wizard is started when accessing the server via browser for the first time. To configure this please access the website https://YOUR_SERVER_IP:5443/openmeetings.

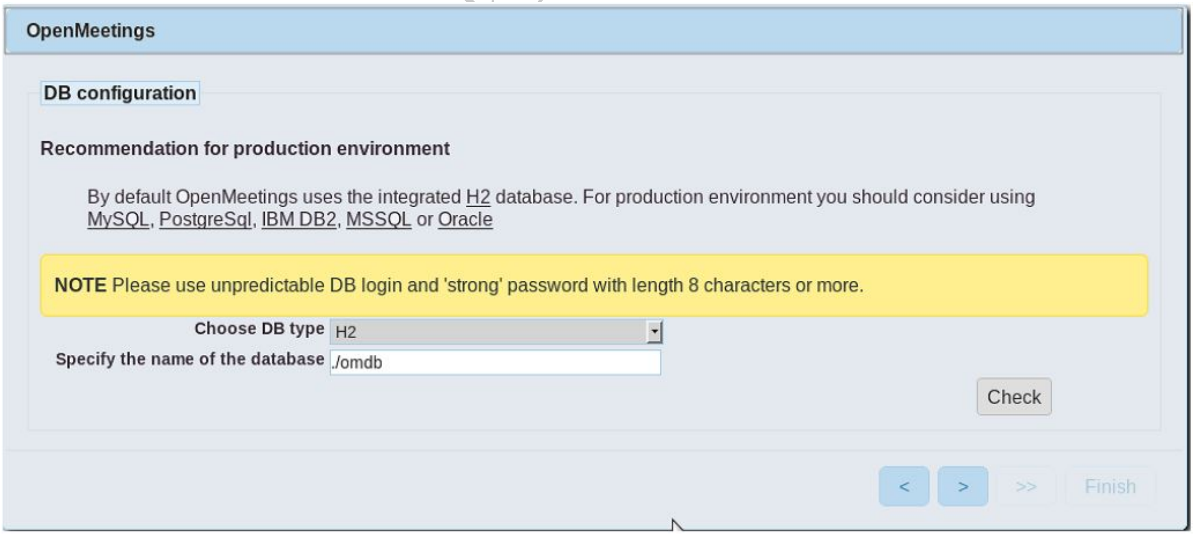
1st Dialog



This dialog asks for GhostScrip to be installed, but with all servers GhostScript was already installed by default or by LibreOffice though unfortunately export into pdf did not work.

This dialog can be widely ignored an one can proceed to the next page.

2nd Dialog

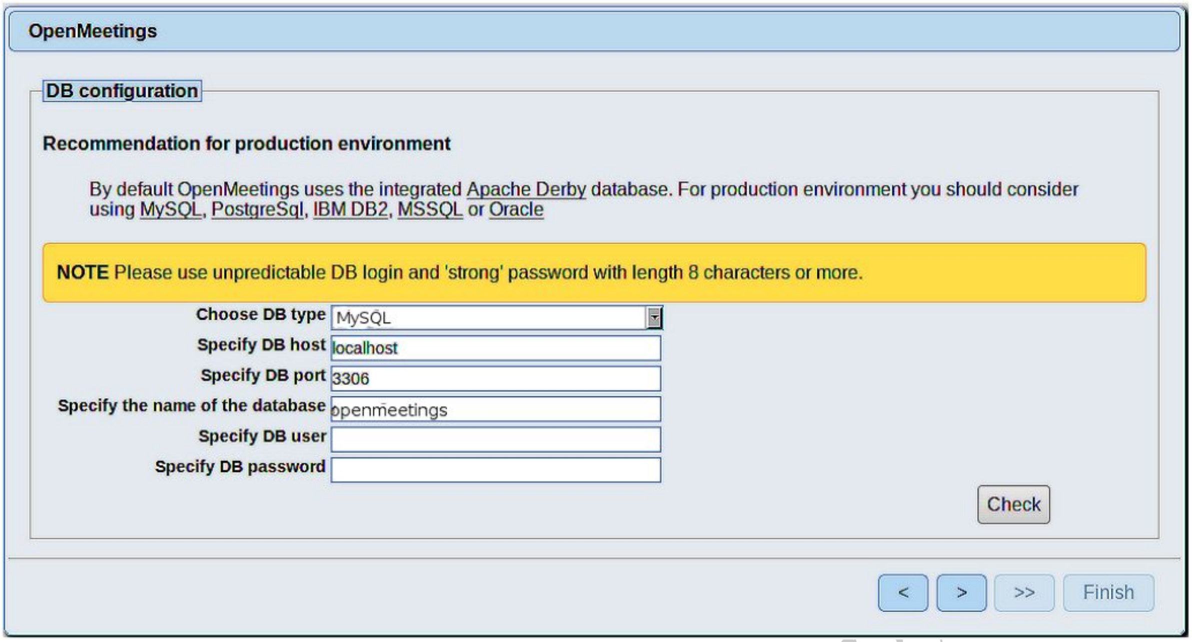


Choose the database type

Choose DB tape MySQL

then automatically the next dialog opens up.

3rd Dialog



Here the following database parameter defined in the previous section have to be entered.

Choose DB tape MySQL

host localhost

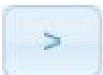
port 3306

database open503

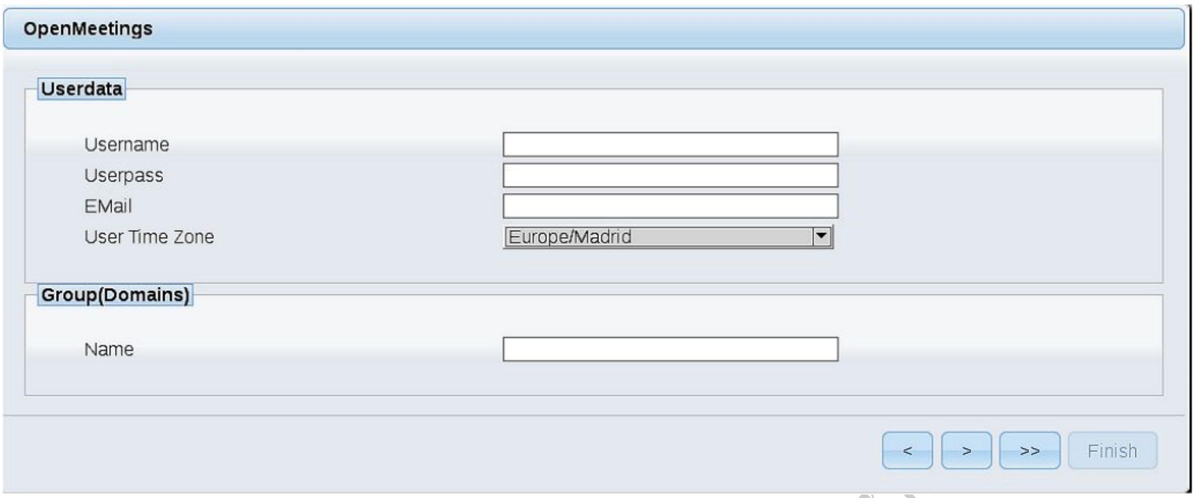
user omaccess

password AAA.bbb.CCC

Now press the next button to save the data.



4th Dialog



This dialog determines the administrator access. One has to keep these data at a secure place because once lost there will no mor administrator access to the OpenMeetings server.

There has to be a way to rescue the administrator account, or at least tow administrators should be allowed.

Userdata - Username choose your administrator name

Userdata - Userpass choose your administrator password

Userdata - Email enter your administrator email

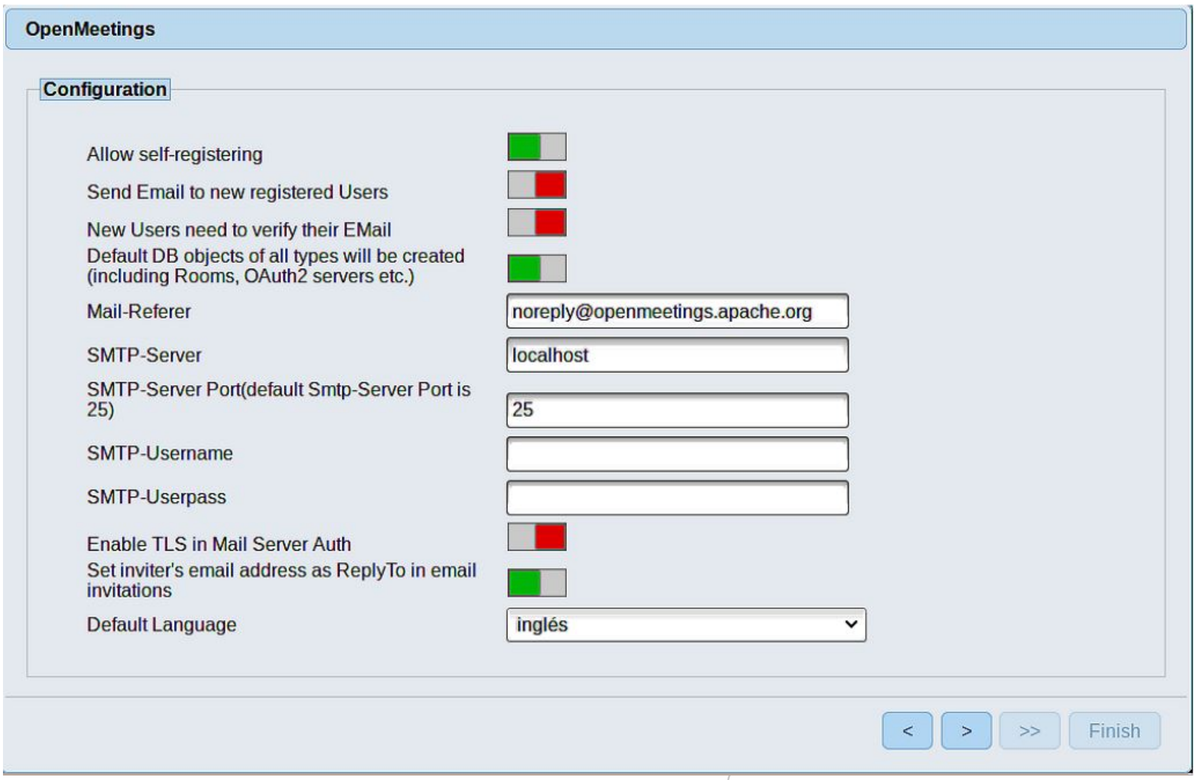
Userdata - User Time Zone choose your administrator time zone

Group(Domains) - Name Enter the first user group (more can be added by the administrator later on.)

Time zone should be maintained for user group separately to allow international usage of the same server.

Proceed by pressing next.

5th Dialog



this dialog is to configure email access. One may change these values later if logged in as administrator. The following example demonstrates a googlemail access. But please read sect configure googlemail to allow its usage with Google.

Mail-Referer YOUR-EMAIL@gmail.com

SMTP-Server smtp.gmail.com

SMTP-Server Port 587 (default is 25 which is often blocked)

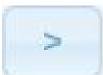
SMTP-Username YOUR-EMAIL@gmail.com

SMTP-UserPASS YOUR-EMAIL@gmail.com PASSWORD

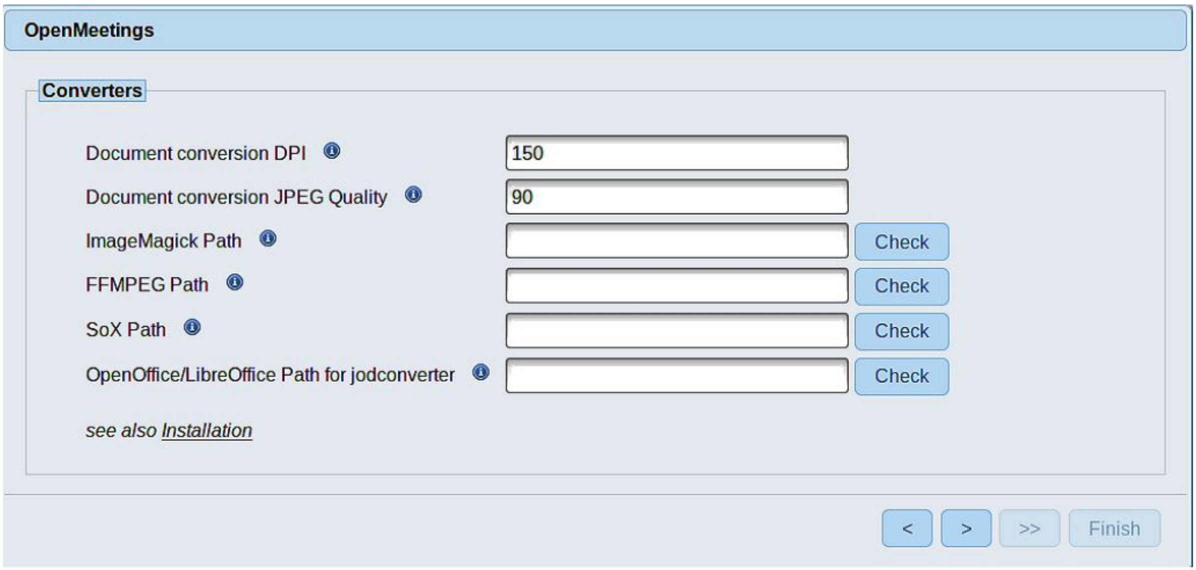
Enable TLS in Mail Server Auth switch to green

Default language your language for administration (English is preferred)

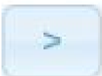
Proceed by pressing next.



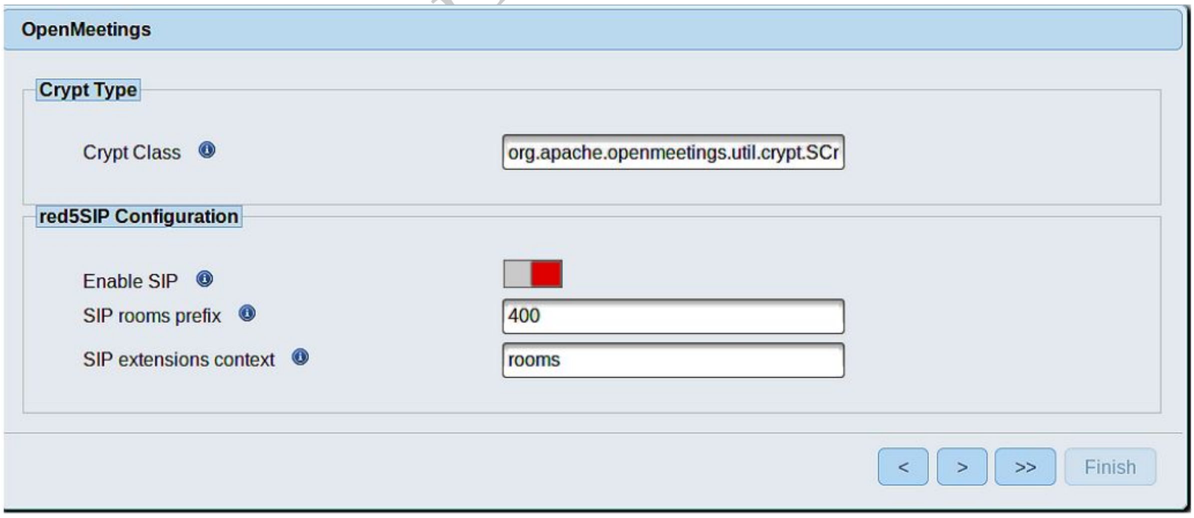
6th Dialog



One can leave this dialog unchanged though it is recommended to check proper installation of the components by pressing the button. Please be patient LibreOffice takes a while. Proceed by pressing next.



7th Dialog



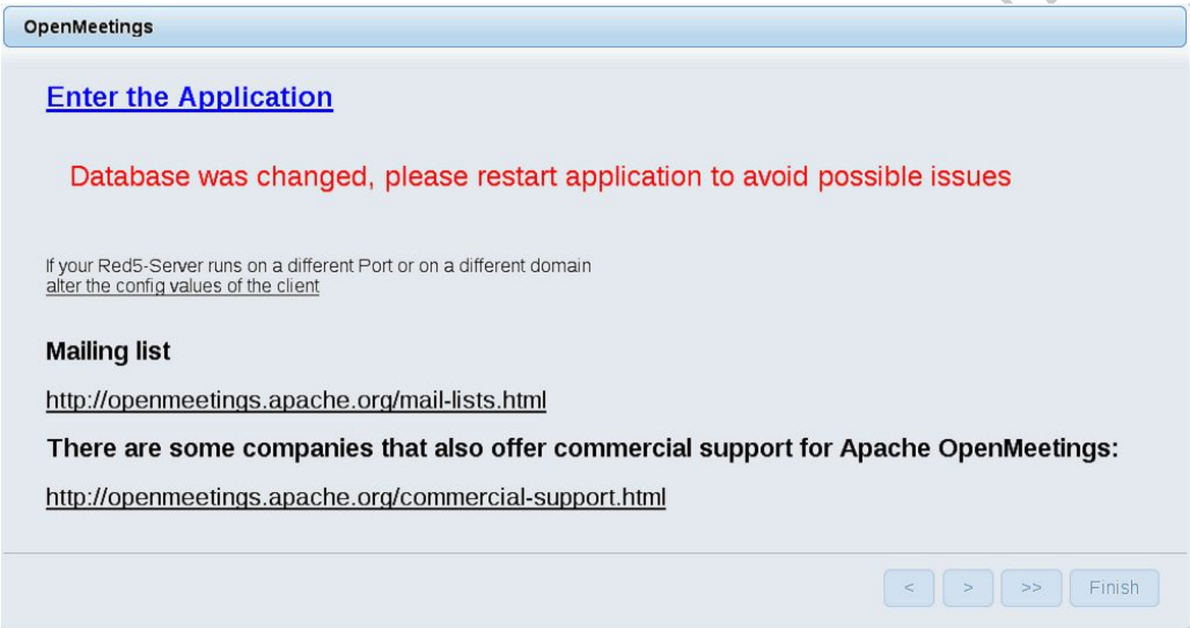
Remove this dialog or at least change its content.

Ignore this dialog as red5SIP is no longer in use with OpenMeetings 5. Proceed by pressing next.

8th Dialog

Now press finish and start the automatic configuration process.

Final Dialog



Important: Don't click the "Enter the Application". One has to restart the server first.

If you see this dialog First Start Configuration is successfully completed. At this point please restart the server.

Listing 9.16: Install and start kurento

```
#!/bin/bash
sudo /etc/init.d/apache2 restart
sudo /etc/init.d/tomcat3 restart
```

When Tomcat was successfully restarted and everything worked properly, you will see the login dialog and may login as an administrator for the first time or create an new user account.

In which language the dialog appears. The language of the user or the language of the Server?

9.3. Google Mail Configuration

As administrator one can access the email configuration through the menu `Administration > Configuration`.

6. mail.smtp.server smtp.gmail.com

7. mail.smtp.port 587 (default is 25 which is often blocked)

8. mail.smtp.system.email YOUR-EMAIL@gmail.com

9. mail.smtp.user YOUR-EMAIL@gmail.com

10. mail.smtp.pass YOUR-EMAIL@gmail.com PASSWORD

11. mail.smtp.starttls.enable true = switch to green

12. mail.smtp.connection.timeout 30000

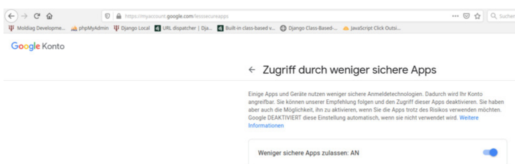
13. mail.smtp.timeout 30000

24. send.email.at.register true = switch to green

25. send.email.with.verfication true = switch to green

Additionally to these configurations you have to configure you account with google to accept less secure applications.

1. Login to your google mail account
2. got to the page `https://myaccount.google.com/lesssecureapps`.



and turn the switch to the right to enable less secure apps to reach the account.

9.4. Customization

The OpenMeetings website https://openmeetings.apache.org/WebappNamePath.html guides you through customization of your server which includes:

- Customize Openmeetings logo
- Renaming /openmeetings context
- Changing hard-coded application name in string labels
- Running multiple Openmeetings instances on the same server

CSS customization to create an individual appearance is explained here (https://openmeetings.apache.org/themes-and-branding.html).

9.5. SSL

Beginning with version 5 OpenMeetings allows secure server access. Configuration is described on their website (https://openmeetings.apache.org/HTTPS.html).

Website instruction to HTTPS is buggy, superfluous and also contains some unusual terminology.

Here follows the instruction for a domain based security key and certificate combination. Given you received a set of files:

- YOUR-DOMAIN.ca.pem
- YOUR-DOMAIN.key.pem
- YOUR-DOMAIN.crt.pem
- YOUR-DOMAIN.csr.pm

Than in order to run the script given on that website one has to copy/rename the files as follows,

Listing 9.17: Copy/rename certificates

```
#!/bin/bash
# PLease note that YOUR-DOMAIN has to be replaced
# intermediate certificate
cp YOUR-DOMAIN.de.ca.pem intermedXX.crt
# private key
cp YOUR-DOMAIN.de.key.pem openmeetings.key
# Signed CSR
cp YOUR-DOMAIN.de.crt.pem openmeetings.crt
# root certificate
cp YOUR-DOMAIN.de.csr.pem root.crt
```

After having created the proper SSL-files you can run the script with some modifications as listed below. When asked for the password always enter **openmeetings**.

Listing 9.18: Copy/rename certificates

```
#!/bin/bash
openssl pkcs12 \
-export \
-in openmeetings.crt \
-inkey openmeetings.key \
-out openmeetings.p12 \
-name openmeetings \
-certfile root.crt \
-certfile intermedXX.crt

OM_HOME=/opt/open503/

keytool \
-importkeystore \
-srcstorepass openmeetings \
-srckeystore openmeetings.p12 \
-srcstoretype PKCS12 \
-deststorepass openmeetings \
-destkeystore $OM_HOME/conf/keystore \
-alias openmeetings \
-deststoretype PKCS12

keytool \
-import \
-alias root \
-keystore $OM_HOME/conf/keystore \
-trustcacerts \
-file root.crt

keytool \
-import \
-alias intermed \
-keystore $OM_HOME/conf/keystore \
-trustcacerts  \
-file intermedXX.crt
```

One can easily ignore an error with the root certificate. That is no longer necessary, and therefore CA are often lazy with encoding it properly.

10. Troubleshooting

10.1. Login Failure

- If the group is accidentally removed from the administrator account login is no longer possible:

This makes the administrator account forever unaccessible because only the administrator can assign groups. The solution is adding an arbitrary group to user 1 (which usually is the administrator).

Listing 10.1: Insert a user group record for the administrator

```
INSERT INTO
‘group_user‘
(‘id‘,
‘deleted‘,
‘inserted‘,
‘updated‘,
‘is_moderator‘,
‘user_id‘,
‘group_id‘)
VALUES
('', '', NULL, NULL, '', '1', '1');
```

As the table's id column is set `AUTO_INCREMENT` one can omit the id value. Else, the value can be added if the accidental deletion created a gap.

An administrator doesn't need a group assignment, or even better an administrator group should be created during installation which should be marked undeletable.

Part III.

Developer

11. Suggested New Features and Improvements

11.1. Modular Structure

From the user's point of view, the OmenMeetings project actually consists of two main parts the conference rooms with the dashboard and all the multimedia capabilities and a social network woven around it.

There is much better developed social network software around, so I would suggest not to invest to much effort into the improvement of this part of the software, but advance the capabilities of social network integration instead. As I understand some interactions already exist but are mostly limited to improve login capabilities (and unfortunately I couldn't get these connectors working either). Those connectors have to be extended and standards defined so that other social network providers can connect their software to OpemMeetings.

As I understand the discussions in the user group correctly some integration with moodle already works more or less, but I didn't found the standards defined and documented by which this integration is accomplished.

Such a modular structure would provide the following advantages that hopefully may enhance progress of the software:

- Development could run more independent so updates to one part can be performed even if the other part has not yet reached production status.
- Developers can better focus on their subject the are more experienced with.
- Different programming languages can be used in different parts. It can be noted that programming languages adapt to specific tasks.
- Even companies can develop interfaces more suitable to their clients
- Finally, Having suggested so many improvements to the social network interface I doubt that this will be accomplished any time soon, so I would rather suggest to develop it from scratch based on an existing CMS.

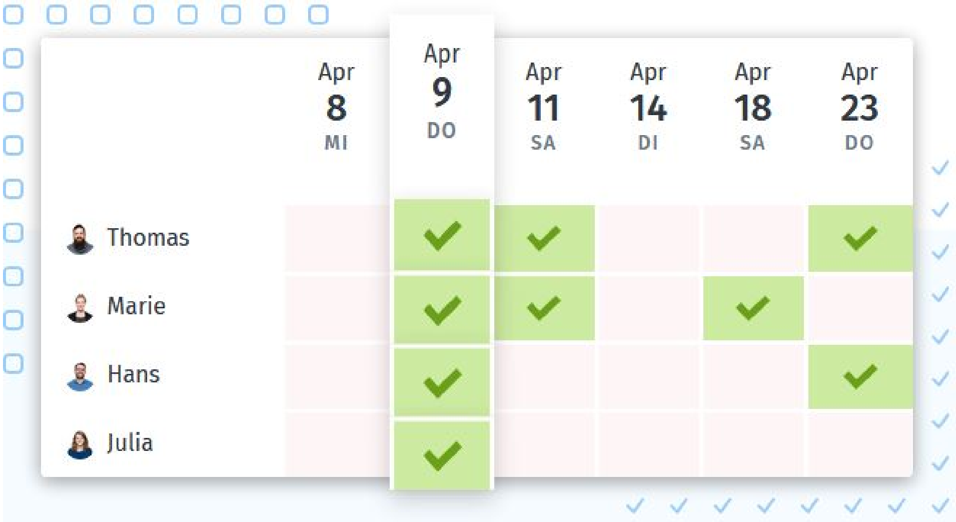
11.2. Improved Installation

It would be of great advantage to the success of this software if the tedious installation process could be more automatized, kind of an `apt install openmeetings` command.

That of course also need to make the software more modular too, so that tomcat and OpemMeetings can be installed and updated separately, for instance, as it is possible with mysql, ffmpeg, Libreoffice, and other essential components.

11.3. Announcements

Instead of just inviting people to a presentation. It would be a good idea if presentations could be announced in a group and and users may apply for participation.



In combination with that feature a doodle like system to find a most convinient meeting date can be established. Which also would work fine with invitations not to a particular date but topic.