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Plugin *Certificate*
Documentation

..

Date of Release: **22.07.2015**

Document-Version:	1.1
Plugin-Version	1.0.0 and above
Author:	Oskar Truffer, studer + raimann ag Stefan Wanzenried, studer + raimann ag

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Version	Author	Changes
1.0	Stefan Wanzenried	Created
1.1	Stefan Wanzenried	Updates when using Plugin with ILIAS 5.x

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1   Introduction

The certificate plugin offers an enhanced support for creating and administrating certificates inside ILIAS. The main features include:

- Multiple certificate types with different layouts
- Generate pretty PDF layouts with JasperReports, the world's most popular open source reporting engine
- Multiple languages
- Multiple settings including validity and notifications
- Certificate PDF files are stored in the ILIAS data directory
- Revision of files: Each certificate bound to a user and course can have multiple versions

After a successful installation, an administrator can create a so-called certificate type. This type defines the available placeholders, default settings and the layout (template) of a certificate. Inside an ILIAS course, the plugin adds a new tab "Certificate" where a course administrator can choose from available certificate types and create a "certificate definition". If a course member passes the course, a certificate is generated. Depending on the settings of the certificate definition, the certificate-owner and other users get a notification by email when the PDF file is finished and ready for downloading.

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2   Installation

2.1   Preparing ILIAS Core Patches

ILIAS needs some minor patches to the code in order to work with the Certificate Plugin. Please install the patches according to the GitHub ReadMe:

https://github.com/studer-raimann/Certificate/tree/dev#patches

2.2   Install the plugin using GIT

Use the command line to locate to the root folder of ILIAS and enter the following commands:
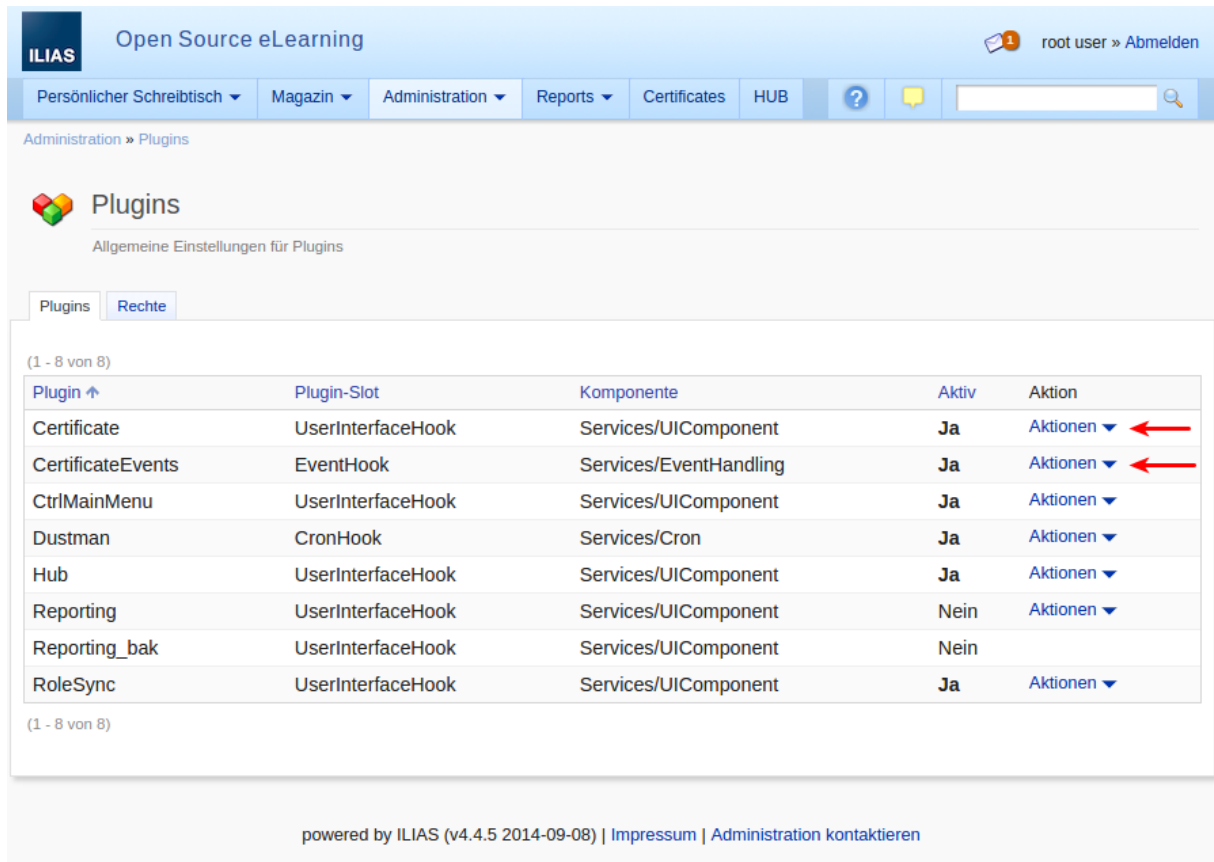
```
mkdir -p Customizing/global/plugins/Services/UIComponent/UserInterfaceHook/
cd Customizing/global/plugins/Services/UIComponent/UserInterfaceHook/
git clone https://github.com/studer-raimann/Certificate.git
```

Go back to the root folder of ILIAS and use the following commands to install the "CertificateEvents" plugin.

```
mkdir -p Customizing/global/plugins/Services/EventHandling/EventHook
cd Customizing/global/plugins/Services/EventHandling/EventHook
git clone https://github.com/studer-raimann/CertificateEvents.git
```

If everything is set up in the back end we move to the actual installation on the ILIAS front end. Log into your ILIAS installation with an administrator user. Navigate to "Administration → Plugins". If the steps mentioned above were executed correctly you should see the two plugins "Certificate" and "CertificateEvents". Use the actions menu to install and activate the plugins. Make sure you activate the plugins in the following order:

1.   CertificateEvents
2.   Certificate

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Now you have successfully installed the Certificate plugin.

2.3   Install depending services and plugins

The Certificate plugin depends on some other plugins and services. Please install them by following the provided links.

2.3.1   Plugins

ILIAS Version	Service	Installation link
Any	CtrlMainMenu	https://github.com/studer-raimann/CtrlMainMenu

2.3.2   Services

Installing a 3th-party service is straightforward and does not involve any further configurations (as with plugins). Some of the Services are not needed with ILIAS >= 5.x, as they are part of the core. The following table lists the services you must install according to the ILIAS version:
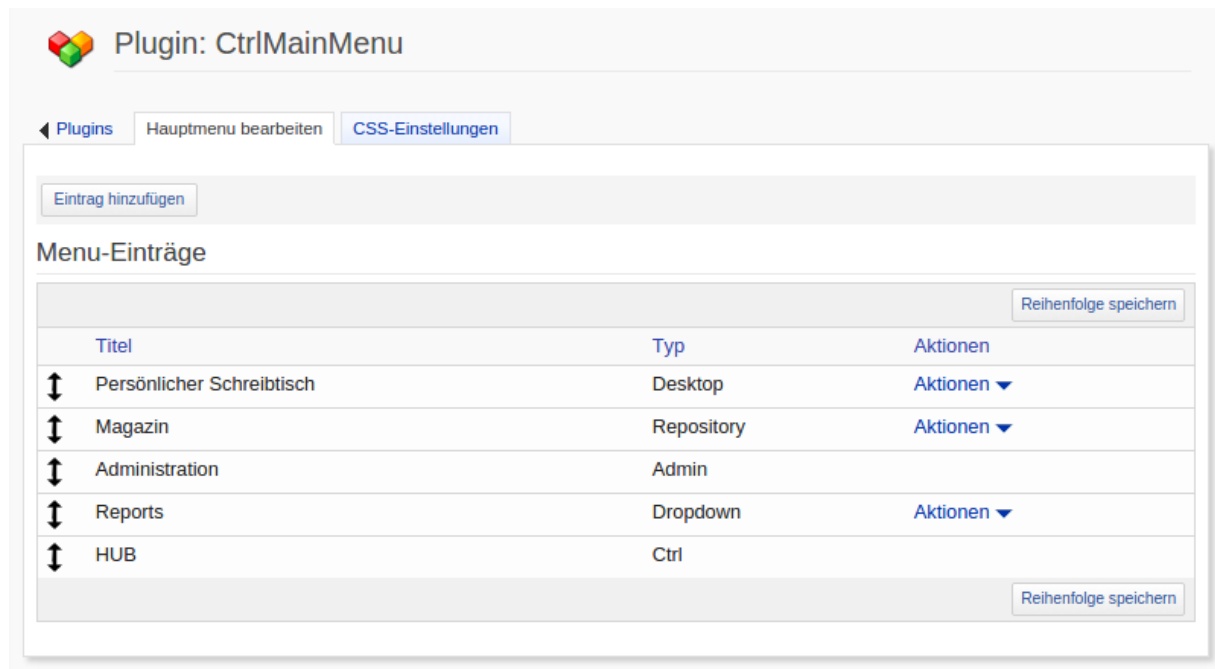
ILIAS Version	Service	Installation link

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Any	Jasper Report	https://github.com/studer-raimann/JasperReport
4.3.x, 4.4.x	ActiveRecord	https://github.com/studer-raimann/ActiveRecord
4.3.x, 4.4.x	RouterService	https://github.com/studer-raimann/RouterService

2.4   Add MainMenu Entry

In this chapter we are going to add the main menu entries for the additional Certificate GUIs. We will add a new dropdown menu in the ILIAS MainMenu, where users and administrators can see and manage their certificates.

First navigate into "Administration → Plugins → CtrlMainMenu Actions → Configure". You should see something similar to the screen shot shown below.

Here we click on: Add Entry and in the following form we choose the type "Dropdown". After this we will see the settings mask of the new dropdown. We choose a name, e.g. "Certificates", and choose the option "Use Arrow Image" afterwards use the button "Save and close". You will be back on the CtrlMainMenu configuration page as shown above but with one additional entry.

Choose the newly created certificate entry's actions button and go to "Edit entries". Here we will add three new entries.

First we add the entry where each user will later be able to see all his certificates: Click on "Add entry" and configure the entry according to the following table:

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Setting	Configuration
Select Access Type	No Access Control
Title	Something similar to "My Certificates"
GUI Classes, comma-separated	ILIAS **4.x**: ilRouterGUI,srCertificateUserGUI ILIAS **5.x**: ilUIPluginRouterGUI,srCertificateUserGUI

Hit "Save & Close" and make sure that you are back at "Certificate → Edit Entries" where you should see the newly created entry. Let's create two more entries following the same procedure:

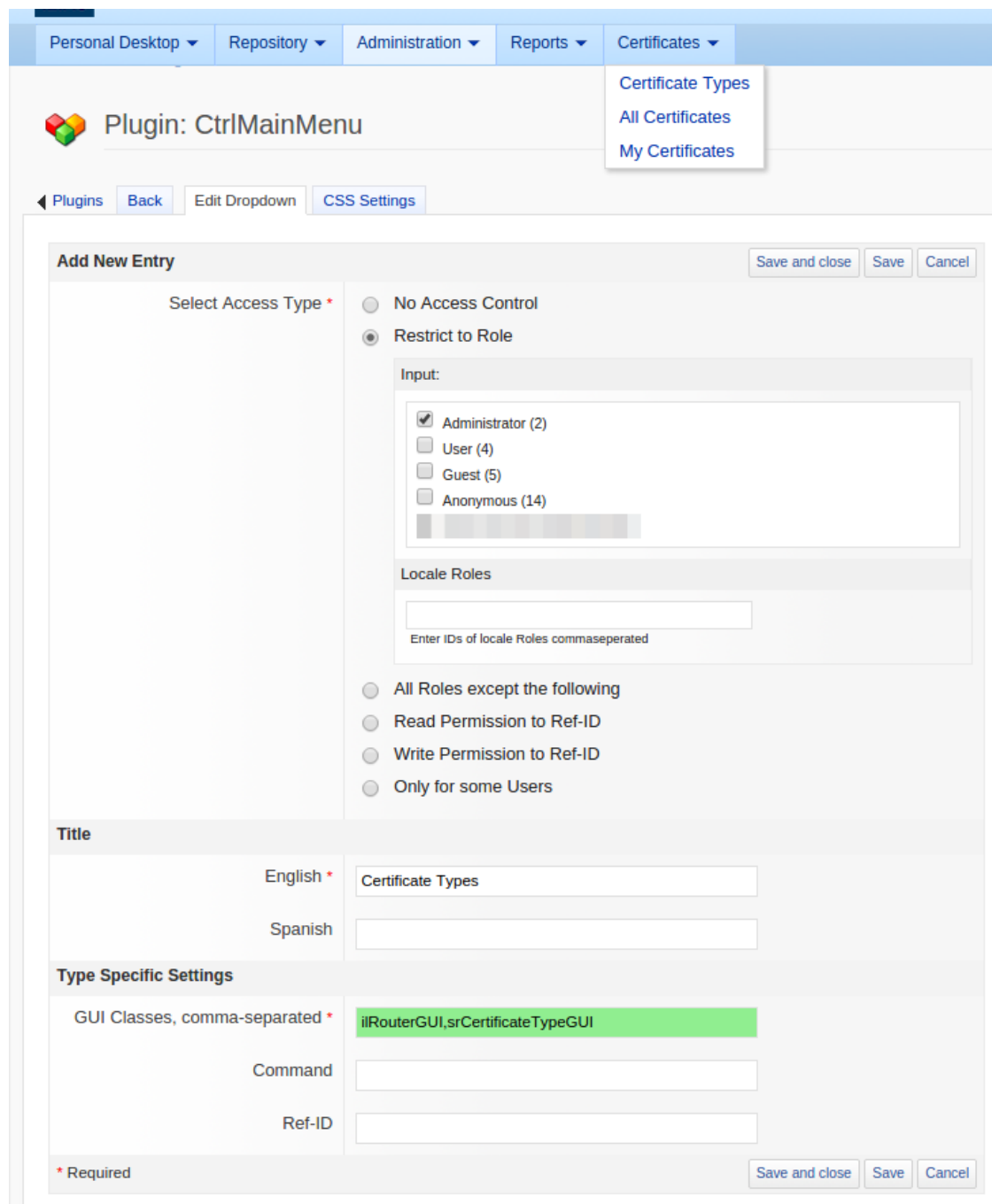| Setting	Configuration
Select Access Type	Restrict to Role → Administrator
Title	Something similar to "Administrate Certificates""
GUI Classes, comma-separated	ILIAS **4.x**: ilRouterGUI, srCertificateAdministrationGUI ILIAS **5.x**: ilUIPluginRouterGUI, srCertificateAdministrationGUI

Setting	Configuration
Select Access Type	Restrict to Role → Administrator
Title	Something similar to "Certificate Types""
GUI Classes, comma-separated	ILIAS **4.x**: ilRouterGUI, srCertificateTypeGUI ILIAS **5.x**: ilUIPluginRouterGUI, srCertificateTypeGUI

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The second entry allows Administrators to administrate certificates from all users in ILIAS. The third entry is needed to create and manage additional certificate types. Feel free to change permissions and titles according to your needs.

Note that the GUI classes are different depending on the ILIAS version. If you updated ILIAS from 4.x to 5.x you must edit these entries so that the links are working correctly.

In the following screen shot you can see an example configuration. Also take a look at the MainMenu with the newly created dropdown and the sub-entries:

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2.5   Installing the Cron-Job

After a user of ILIAS has successfully passed a course where a certificate was defined, we want him to receive a certificate. This certificate will be generated by a cron-job. This documentation will instruct you on how to install the cron-job on a Debian/Ubuntu distribution, which might also work for CentOS and some other Linux distributions. If you are working on a different OS, you might want to consult further resources in order to get your cron-job running.

1. Connect to the server via terminal
2. Create and open the file **/etc/cron.d/ilias_cert_cron** with a text-editor
3. Enter the following line

```
*/15 * * * * www-data php
[ILIAS_ROOT_PATH]/Customizing/global/plugins/Services/UIComponent/UserInter
faceHook/Certificate/classes/class.srCertificateCron.php [USER] [PASSWORD]
[CLIENT_ID]
```

Replace the four variables [ILIAS_ROOT_PATH], [USER], [PASSWORD] and [CLIENT_ID] according to the appropriate values of your installation. Make sure that the user has administration permissions in ILIAS, e.g. using the "root" user. If you can't remember your client ID, open the ILIAS setup (you can find it under yourdomain.com/setup/setup.php).

This script will run every fifteen minutes now in order to generate the PDFs of certificates for the users that passed a course.

3   User Manual

3.1   Plugin configuration

Navigate to the plugin administration and open the configuration for the Certificate plugin. Modify the default configuration according to your needs:
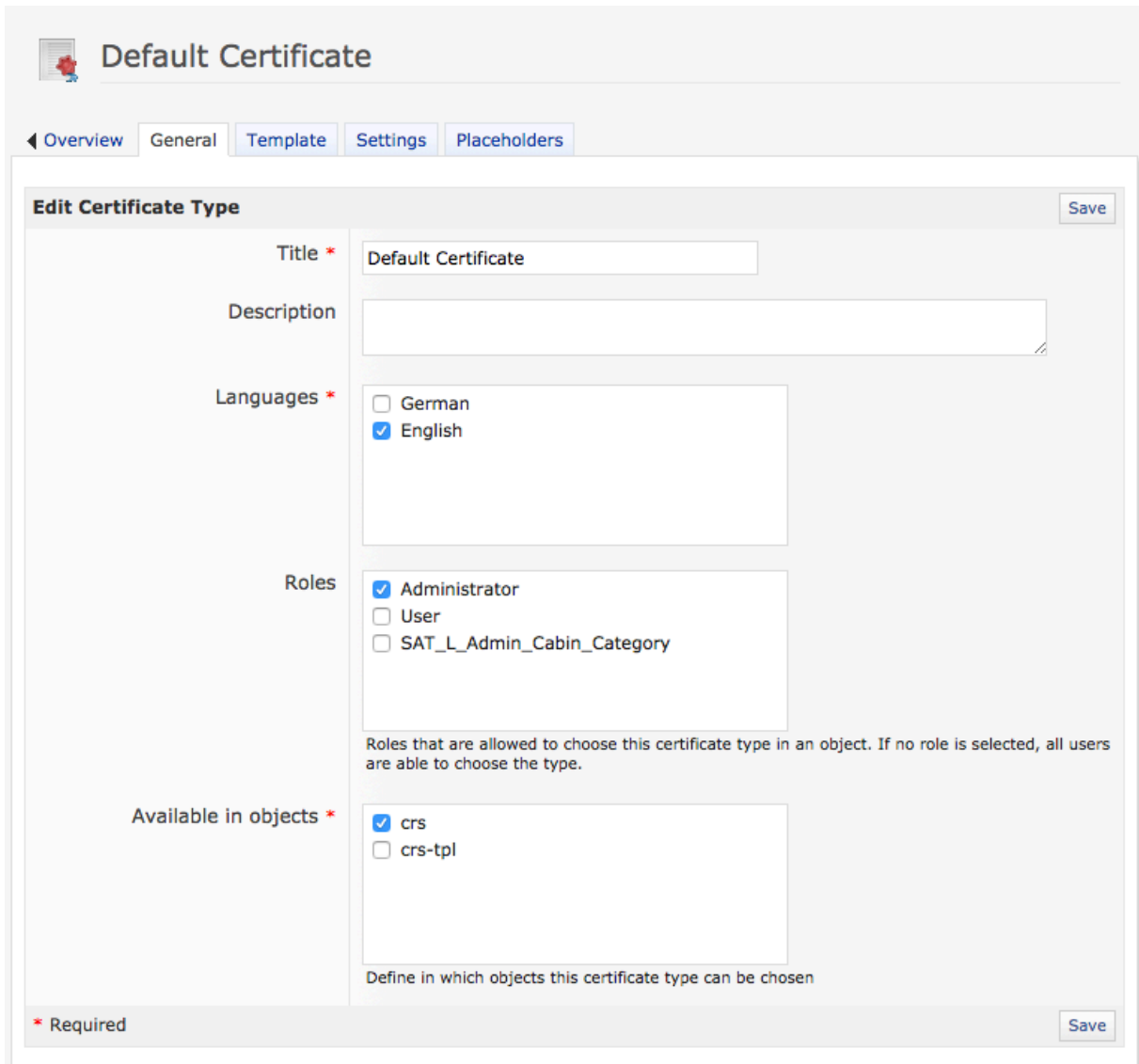
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Configuration options   Save   Cancel

Enable support for course templates	☐ If enabled, the plugin offers additional certificate settings depending if a course is marked as "course template"
Print date/times on certificate in UTC timezone	☑ Print date/times on certificate in UTC timezone
Date format *	Y-m-d Date format used to format all dates from the standard placeholders
Datetime format *	Y-m-d, H:i Date format used to format all dates with time from the standard placeholders
Time range certificate PDF generation (seconds)	28800 You can set a time range in seconds to invoke the PDF generation of a certificate. If you enter zero, the PDF is generated right after the user passed the course. Note that possible notifications are also sent after this time range.
Path to Hook class	./Customizing/global/Certificate/ Path to the class 'srCertificateCustomHooks', e.g. './Customizing/global/Certificate/class.srCertificateCustomHooks.php'. This class can be used to modify the standard behaviour of this plugin at various points. Must extend srCertificateHooks (see class description for more information).

Permission settings

Administrate certificate types	☑ Administrator ☐ User ☐ Guest ☐ Anonymous User assigned to one of the selected roles are allowed to administrate certificate types
Administrate certificates	☑ Administrator ☐ User ☐ Guest ☐ Anonymous User assigned to one of the selected roles are allowed to globally search and download certificates

Notifications

Notification for User (Subject)	New certificate generated for course [[COUR
Notification for User (Body)	Hi,
Notification for other Users (Subject)	New certificate generated for user [[USER_F
Notification for other Users (Body)	Hi,

* Required   Save   Cancel

3.2   Certificate types

Certificate types "describe" a certificate by defining settings, placeholders and the certificate layout. They are available for course administrators when choosing a certificate for the course. The Certificate plugin comes with one pre-installed type called "Default Certificate". You may modify this type according to your needs or create additional types.

3.2.1   General settings

Open the GUI for managing the Certificate types over the previous installed MainMenu entry. Edit the "Default Certificate" type.

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Default Certificate

◄ Overview | General | Template | Settings | Placeholders

Edit Certificate Type   Save

Title *	Default Certificate
Description	
Languages *	☐ German ☑ English
Roles	☑ Administrator ☐ User ☐ SAT_L_Admin_Cabin_Category

Roles that are allowed to choose this certificate type in an object. If no role is selected, all users are able to choose the type.

Available in objects *	☑ crs ☐ crs-tpl

Define in which objects this certificate type can be chosen

* Required   Save
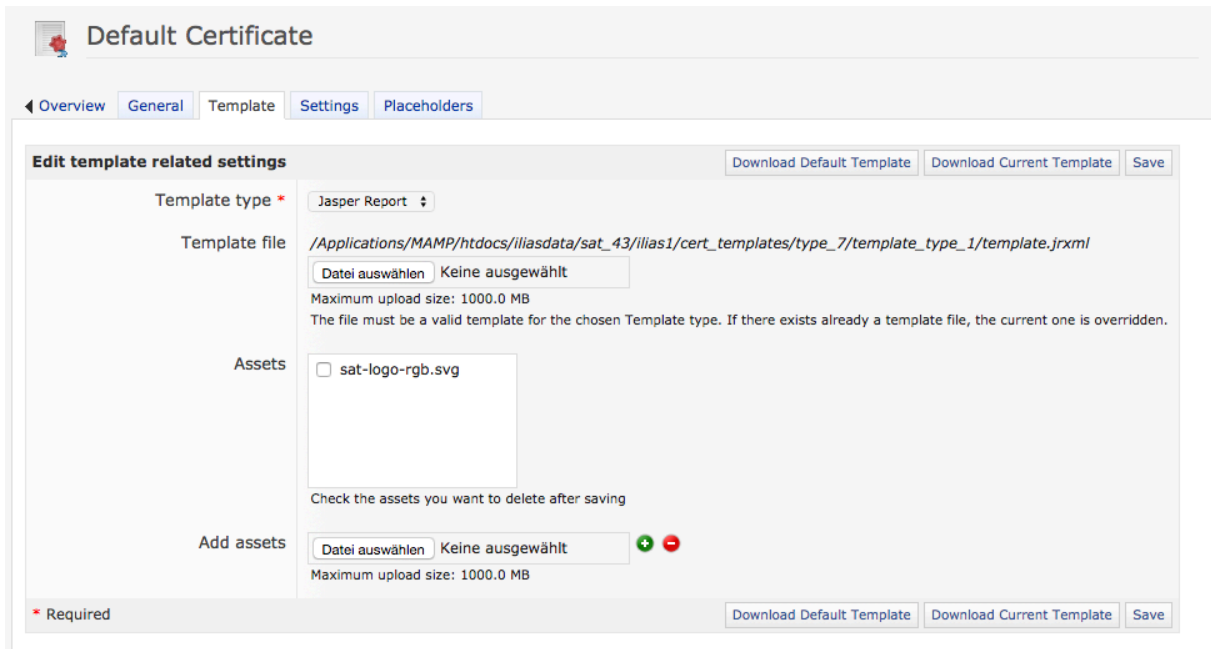
3.2.2   Template

The certificate template defines the layout of the PDF file. Although the plugin is designed to support multiple template types, it is recommended to use "Jasper Report". This type allows designing nice PDF layouts with the help of the software Jaspersoft Studio.

The typical procedure to create a new PDF layout looks like this:

1. Download the Default Template file. This jrxml file contains a sample XML structure which you can customize further by adding text, images and placeholders
2. Open the jrxml file with "Jaspersoft Studio". Make your modifications and save the file.
3. Upload the jrxml file again
4. Add any referenced assets in the template file (such as images)
5. Save

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The screenshot below shows the Jaspersoft Studio with the default template:
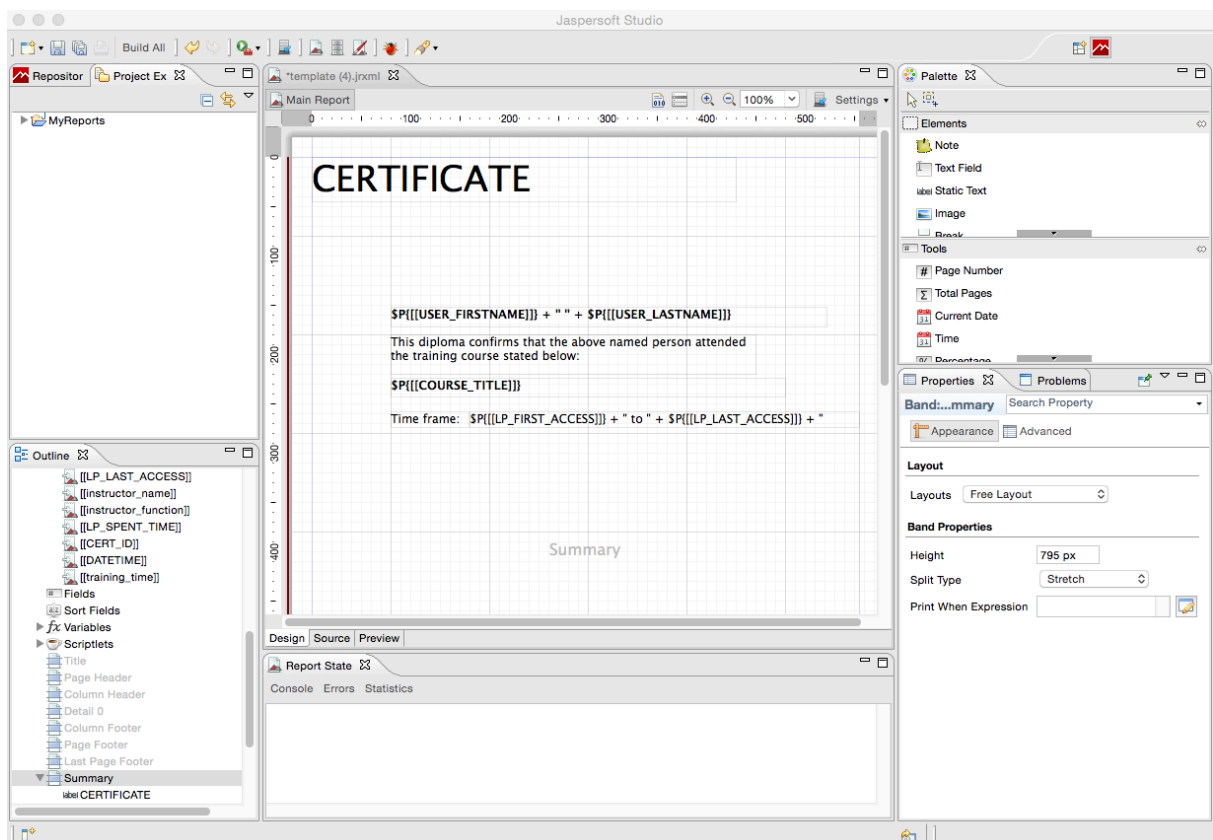
3.2.3   Settings

The following settings are available:

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Setting	Description
Certificate downloadable	If activated, the user is able to download the certificate PDF himself.
Default language	If the Certificate type supports multiple languages, specify the one that is chosen if the language of the user obtaining a certificate doesn't match any of the supported languages by the type.
Generation	Choose when a Certificate is generated: • Automatically, if the user passes a course • Manually At the moment, the second option is not supported by the plugin.
Notification	Enter e-mail addresses getting notified whenever a certificate is generated (comma separated).
User Notification	Activate this setting if the user should receive the certificate by email.
Validity Type	Define the validity type of a certificate: • Always • Date range after creation of certificate • Specific date
Validity	Choose the validity based on the validity type.

Note that by default all settings can be overridden on course level, e.g. when a course administrator chooses a certificate type. If a setting should not be changeable, remove the checkbox "Editable In" for the appropriate object. ATM, certificates are only supported for ILIAS courses.

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3.2.4 Placeholders

Placeholders are variables you can use in your certificate template, e.g. a .jrxml file for the JasperSoft Studio. A placeholder variable is replaced by a value at runtime, when generating the certificate PDF. The plugin offers a decent amount of so called "Standard placeholders". These placeholders come out of the box. Beside those placeholders, you are also free to create your own placeholders, which are fillable by a course administrator when defining a certificate on course level.

Here are some examples of available Standard placeholders:

Placeholder	Description
USER_FIRSTNAME	First name of the user
USER_LASTNAME	Last name of the user
CERT_ID	Internal ID of the certificate
CERT_VALID_TO	Date how long the certificate is valid, if the validity type is not set to "Always"
COURSE_TITLE	Title of the ILIAS course

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Default Certificate

◀ Overview   General   Template   Settings   **Placeholders**

ℹ Inside your template, wrap placeholder identifiers with "[[" "]]" symbols

Add new Placeholder

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Identifier	Max characters	Mandatory	Editable in	Default value 'en'	Label 'en'	Actions
crs_title	256	1	crs		Course Title	Actions ▼
trainer	64	1	crs		Trainer of course	Actions ▼

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Standard Placeholders

These are the standard placeholders provided by the plugin.

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Identifier	Description
USER_LOGIN	Login
USER_FULLNAME	Full name of the user (title, firstname and lastname)
USER_FIRSTNAME	First name of the user
USER_LASTNAME	Last name of the user
USER_TITLE	Title of the user
USER_BIRTHDAY	Birthday of the user
USER_INSTITUTION	Institution of the user
USER_DEPARTMENT	Department of the user
USER_STREET	Street of the user's address
USER_CITY	City of the user's address

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To define a custom placeholder, click on the button "Add new placeholder". In the following example, a new placeholder "trainer" is added to the certificate. This allows the course administrators to write the name of a person that was the trainer of the course.

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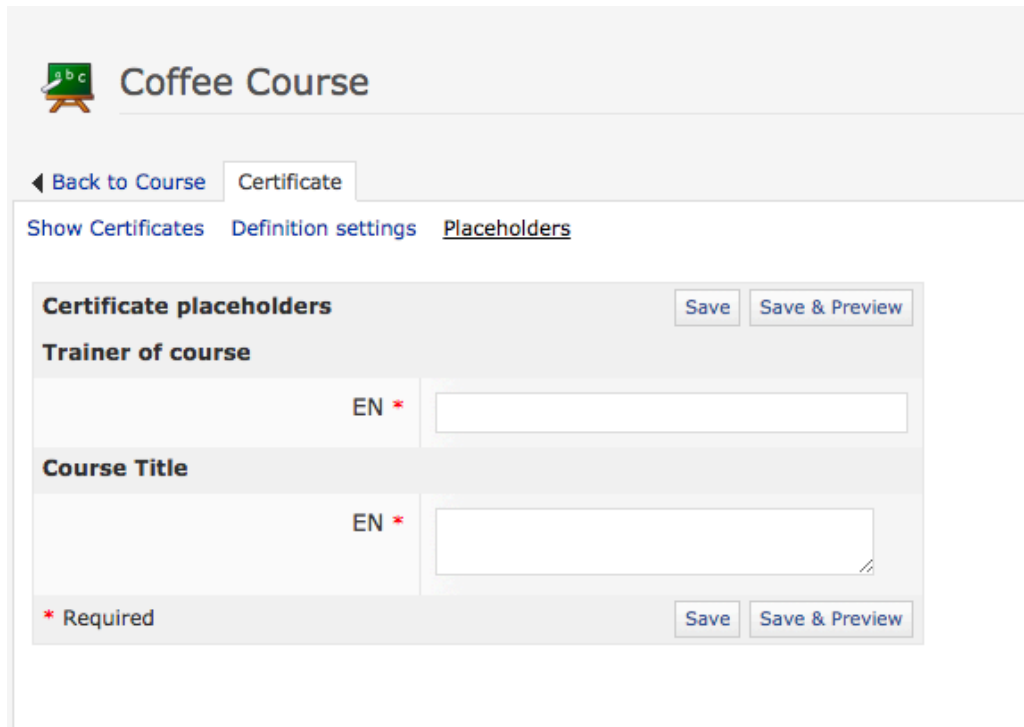
Available settings for placeholders:

Setting	Description
Identifier	The variable name of the placeholder that can be referenced in the template. In this example, to print the course trainer, the template must contain the following placeholder: [[trainer]] This variable is then replaced with the correct value defined in the certificate definition.
Max characters	Maximum amount of characters a course administrator is allowed to enter.
Mandatory	If checked, it is mandatory to fill out this placeholder.
Editable in	Remove any checkboxes if the placeholder's default value is not editable anymore.
Label	Label of this placeholder in the form.
Default value	Default value, pre-filled for the course administrator.

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The label and default value can be set for each language of the certificate type.

The screenshot below shows an example how placeholders can be entered in a course:

3.3   Certificate definitions

A certificate definition is created when choosing the certificate type in an ILIAS course. Depending on the settings of the certificate type, additional placeholders can be entered. It is also possible to overwrite some of the certificate specific settings, such as validity and notifications. Note that in order to define and configure a certificate for a course, the user needs "write" access to the course. This means, the person needs the permission "Edit settings".

3.3.1   Configure certificate for a course

Open the course where members should receive a certificate when passing the course. Click on the tab "Certificate".

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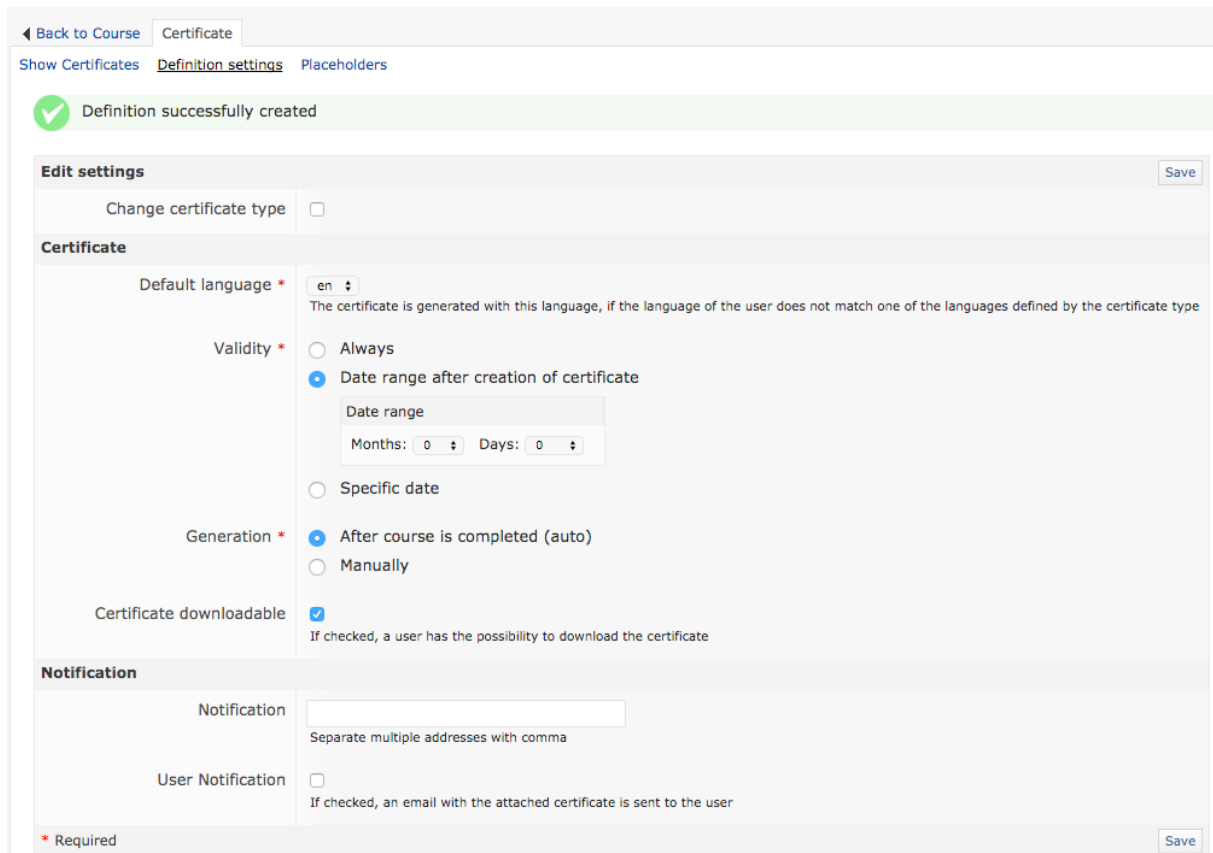info@studer-raimann.ch

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The plugin lists all the available certificate types. Choose the desired type and click on "Save". The certificate plugin creates a new definition and the GUI displays all settings for further configuration.

3.3.2   Settings

The settings of a certificate definition inherit the default value defined by the certificate type. If a setting is editable in the course object (remember that it is possible to define for each setting in which object it's editable) you can overwrite the default value. Settings that are not editable are displayed for information purposes, but the form is not active.

3.3.3   Placeholders

If the certificate type has custom placeholders defined, they are now fillable by a course administrator. Again, it depends if the placeholder is marked as "editable" for the course object.

By clicking on "Save & Preview", a sample certificate is generated containing the real placeholder data. User related data such as name, address, etc. is anonymized.
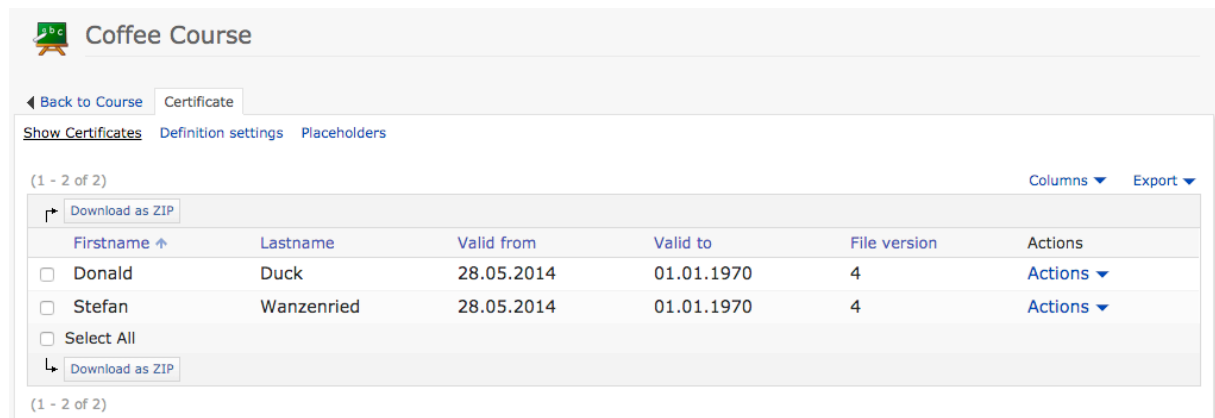
3.3.4   Show certificates

This section displays all the members that received a certificate from the course. A course administrator has the possibility to download individual certificates and multiple PDF files compressed in a .zip file.

3.3.5   Print new version of a certificate

If a certificate should be printed again due to errors in placeholders or user data, you can manually create a new version:

1.   Make sure that all errors are fixed, e.g. correct placeholders and typos in user related data

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2. Open the ILIAS course where you'd like to regenerate the certificate

3. Navigate to "Members → Edit participants"

4. Remove the "passed" checkbox in the members table for the member that should receive a new certificate.

5. Click on "Save"

6. Now, check the checkbox "passed" again

7. Click on "Save" again

By passing the course again, the certificate plugin generates a new version of the certificate. As soon as the plugin finished creating the PDF file, it is available in the section "Show certificates" for downloading.

3.4   Global certificate administration

Administrators have the possibility to globally search and download certificates. If you followed the installation section of this manual, we created some new main menu entries with the help of the CtrlMainMenu plugin. Open the certificate administration by choosing the main menu entry "Administrate Certificates".

There exist several filters for searching certificates:

Filter	Description
Certificate ID	This is a unique ID of the certificate. If printed on the PDF, you can find a certificate by this ID and check if it corresponds to the correct person.
First name Last name	First- and Last name of the certificate owner
Course title	Title of the course in ILIAS where the certificate belongs to
Valid from Valid to	Filter results depending on the validity date of the certificates
Certificate type	If your installation contains multiple certificate types, you can display only certificates with the given type
Show newest version only	By checking this option, only the newest version of a certificate is displayed. If deactivated, multiple versions of a certificate are displayed.

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Filter Hide Filter

Certificate ID		Firstname		Lastname		Course title	

Valid from		Valid to		Certificate type		Show newest version only	
(DD.MM.YYYY)		(DD.MM.YYYY)					

Apply Filter   Reset Filter

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Columns ▼   Export ▼

↱ Download as ZIP

	Certificate ID ↑	Firstname	Lastname	Course title	Valid from	Valid to	File version	Certificate type	Actions
☐	1	Stefan	Wanzenried	Coffee Course	28.05.2014	28.11.2014	1	Default Certificate	
☐	3	Stefan	Wanzenried	Coffee Course	28.05.2014	28.11.2014	2	Default Certificate	Actions ▼
☐	4	Stefan	Wanzenried	Coffee Course	28.05.2014	28.11.2014	3	Default Certificate	Actions ▼
☐	5	Donald	Duck	Coffee Course	28.05.2014	28.11.2014	1	Default Certificate	Actions ▼
☐	6	Donald	Duck	Coffee Course	28.05.2014	28.11.2014	2	Default Certificate	Actions ▼
☐	7	Donald	Duck	Coffee Course	28.05.2014	28.11.2014	2	Default Certificate	Actions ▼
☐	8	Donald	Duck	Coffee Course	28.05.2014	28.11.2014	3	Default Certificate	Actions ▼
☐	10	Donald	Duck	TEST-LP-Course	30.05.2014	30.11.2014	1	Diploma Signed	Actions ▼
☐	11	Donald	Duck	TEST-LP-Course	30.05.2014	30.11.2014	2	Diploma Signed	Actions ▼
☐	12	Donald	Duck	TEST-LP-Course	30.05.2014	30.11.2014	3	Diploma Signed	Actions ▼
☐	Select All								

↳ Download as ZIP

3.5 Overview of received certificates for users

Users have the possibility to view and download all received certificates. Downloading is only possible if the certificate type allows this functionality. Again, we created a main menu entry called "View Certificates" in the install section. Depending on your configuration of the certificate plugin, this entry may be missing or have another title.

Filter Hide Filter

Certificate ID		Course title		Valid from		Valid to	
				(DD.MM.YYYY)		(DD.MM.YYYY)	

Certificate type	
⬍	

Apply Filter   Reset Filter

(1 - 2 of 2)

Columns ▼   Export ▼

↱ Download as ZIP

	Certificate ID	Course title ↓	Valid from	Valid to	File version	Certificate type	Actions
☐	19	test-course	13.10.2014	13.04.2015	2	Diploma Signed	
☐	2	Coffee Course	28.05.2014	01.01.1970	4	Default Certificate	Actions ▼
☐	Select All						

↳ Download as ZIP

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