EQUELLA®

Blackboard Learn Configuration Guide

Version 6.4

Document History

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EQUELLA Blackboard Learn™ integration overview

EQUELLA integrates easily with Blackboard Learn™ (Blackboard) by using the EQUELLA Blackboard Building Block to create a seamless system for users. Additionally the EQUELLA Shared Secret functionality provides a single sign-on for users.

The purpose of this guide is to provide system administrators with an understanding of the EQUELLA Blackboard integration process to enable successful integration.

Please note that this guide has been developed using EQUELLA version 6.4 and Blackboard version 9.1 (SP16) and, as such, may differ in appearance to your own installation.

Prerequisites

To successfully complete this installation the system administrator will require:

- Sufficient privileges to access the Blackboard system integration functionality.
- Sufficient privileges to access the EQUELLA User Management functionality (further information is provided in the *EQUELLA Security Guide*).

System prerequisites for integration

- EQUELLA version 6.4 and Blackboard version 9.1 (SP16) must be installed and running. Further information on installing EQUELLA is provided in the *EQUELLA Installation and Administration Guide*.
- Ensure the time settings of the servers have the correct time and time zone for their location. This way both will report to Greenwich Mean Time (GMT) and synchronise correctly.
- To access the EQUELLA Home page at least one course must have been created in Blackboard. Refer to the Blackboard documentation for more information.

Integration procedure

EQUELLA Blackboard integration can be broken into the following steps:

1. Register an LTI OAuth Client in EQUELLA.
2. Configure and enable the Shared Secret in the EQUELLA User Management tool.
3. Download the Blackboard Building Block from the EQUELLA Institution Manager.
4. Upload the building block into Blackboard.
5. Activate the EQUELLA Plugin in Blackboard.
6. Test the installation.

Configure EQUELLA

This section describes the required configuration changes to EQUELLA to support a seamless integration. To achieve this, an EQUELLA LTI OAuth Client Application needs to be registered, along with a Shared Secret configuration.

Register an LTI consumer

LTI consumer client registrations are registered from the **Settings** page in EQUELLA.

To create a new LTI consumer

1. Select **Settings** from the navigation menu, and either type *LTI* in the filter box, then select **LTI consumers** from the results or scroll down to **LTI consumers** on the Settings list. An example is shown in Figure 1.
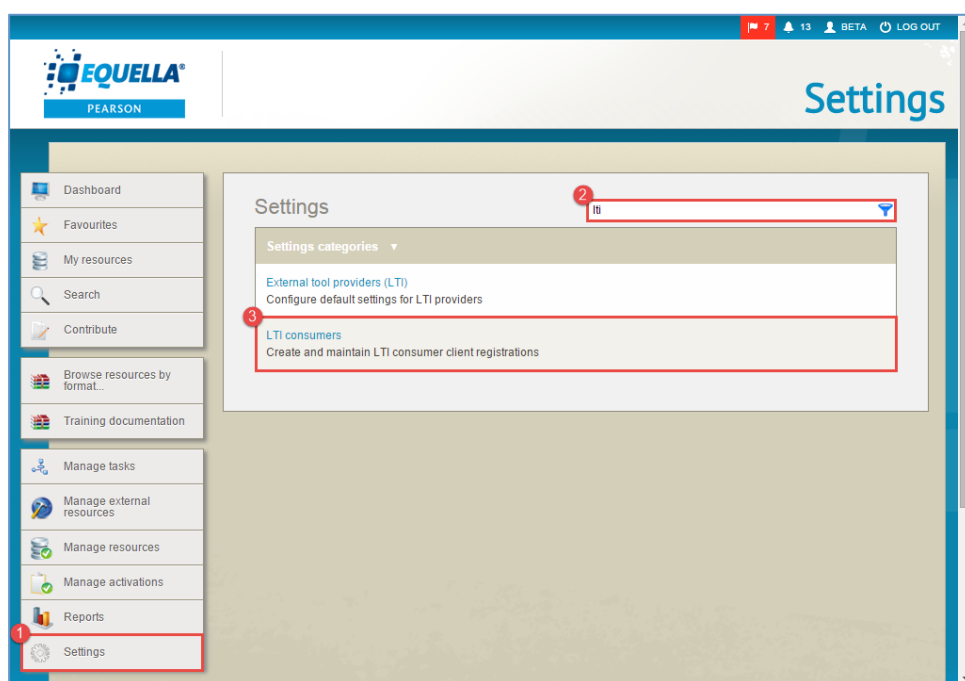

Figure 1 Settings page - LTI consumers

The **LTI consumers** page displays. An example is shown in Figure 2.
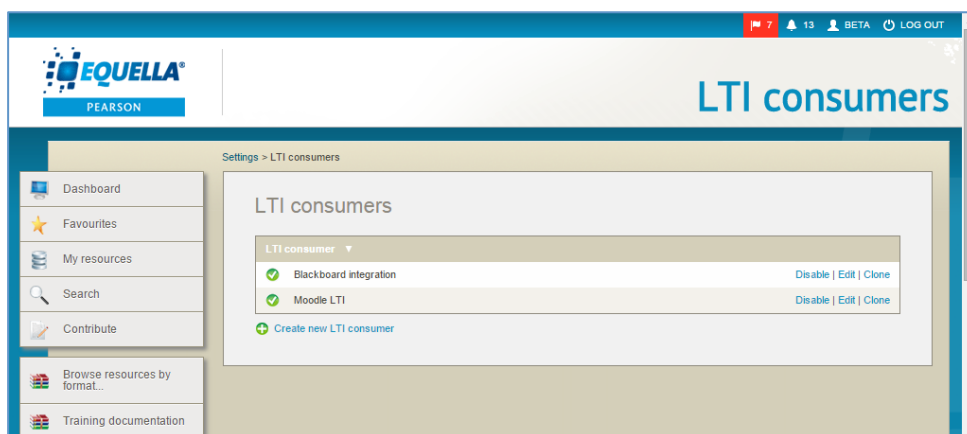
Figure 2 LTI consumers page

2. Select the **Create new LTI consumer** link to open the **Create new LTI consumer** page. An example is shown in Figure 3.
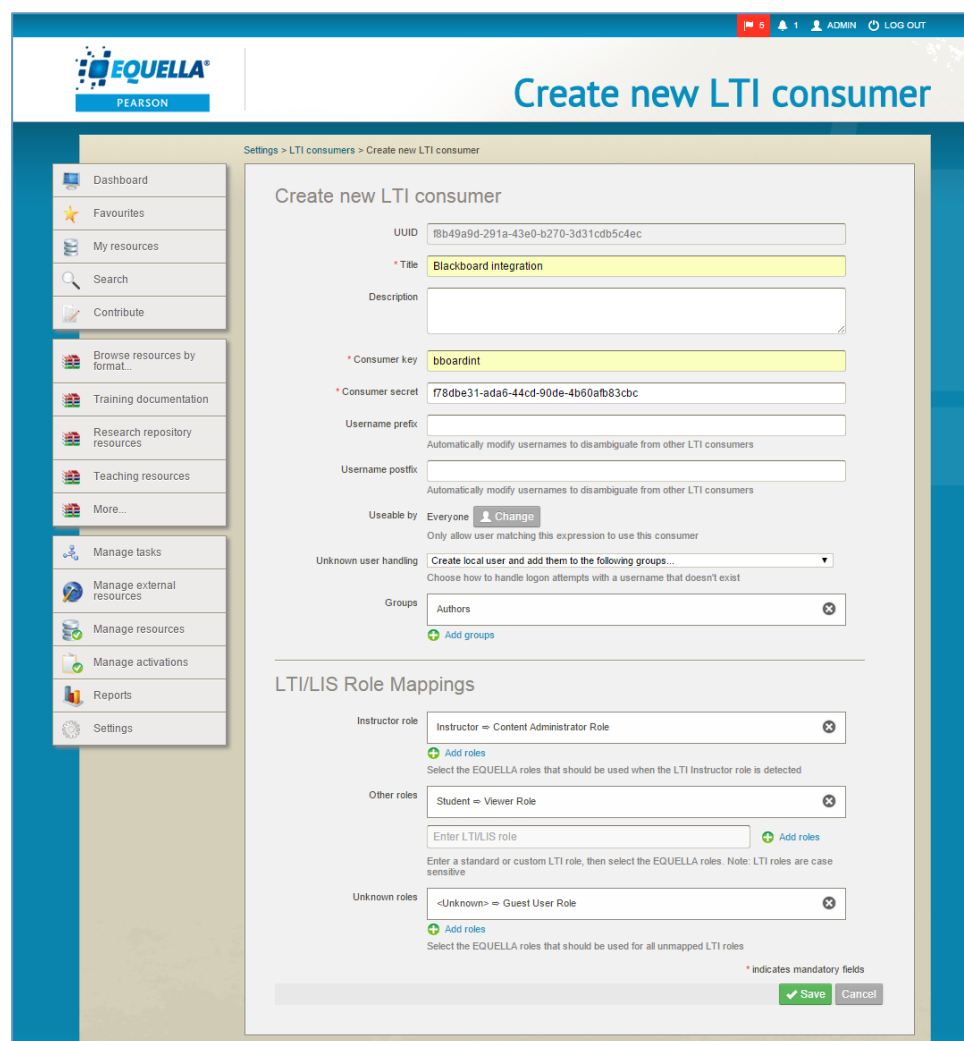

Figure 3 Create new LTI consumer page

3. Enter a **Title** (e.g. *Canvas*) and a **Description** (optional).

4. A default **Consumer key** displays. This can be changed as desired (e.g. *canvas*). Take note as the **Consumer key** is entered in Canvas during integration configuration.

5. A default **Consumer secret** displays. This can be changed as desired. Take note as the **Client secret** is entered in Canvas during integration configuration.

Other options can be enabled as required. Further information on LTI consumers is provided in the *EQUELLA LTI Consumer Configuration Guide.*

LTI/LIS Role Mappings

Canvas roles sent through to EQUELLA via the LTI integration need to be mapped to equivalent EQUELLA roles so that relevant privileges can be applied. This is done from the **LTI/LIS Role Mappings** section of the *Add new LTI consumer* or *Edit LTI consumer pages*.

The **LTI/LIS Role Mappings** section has three areas:

- **Instructor role** – map the 'Teacher' role to EQUELLA role/s.
- **Other roles** –this area is used to map all other roles that might be used in the integration. A list of the standard LTI/LIS roles is supplied. For more information about mapping other LTI/LIS roles and custom roles, see the *EQUELLA LTI Consumer Configuration Guide.*
- **Unknown roles** – use this area to select the EQUELLA roles to default to when an unknown role is sent to EQUELLA. An example is shown in Figure 4.

Figure 4 LTI/LIS Role Mappings

Mapping the Instructor and Unknown roles

In the **Instructor** and **Unknown** roles fields, the **Add roles** link is used to select the EQUELLA roles to be used in the mappings. An example using the Instructor role is used below:

To map to EQUELLA role/s

1. Click the **Add roles** link under the **Instructor role** field. An example is shown in Figure 5.
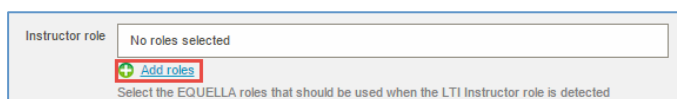
Figure 5 Add roles link

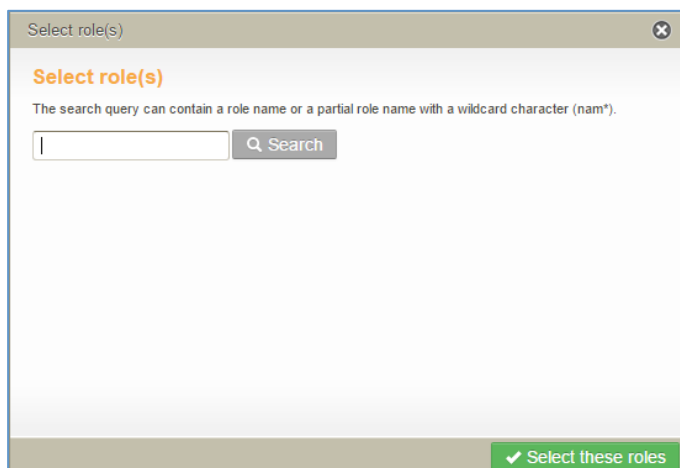The **Select role(s)** dialog displays. An example is shown in Figure 6.

Figure 6 Select role(s) dialog

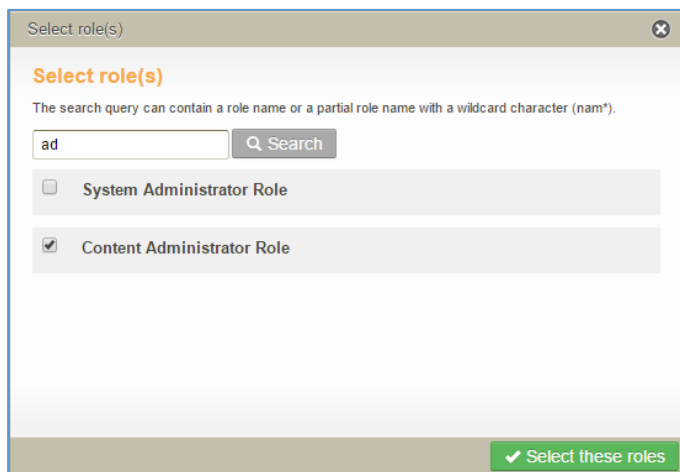2. Enter a search query then click [Q Search]. Matching results display. An example is shown in Figure 7.

Figure 7 Select role(s) dialog – results

3. Select the required role/s, then click [✔ Select these roles]. The mapping/s displays in the Instructor role field. An example is shown in Figure 8.
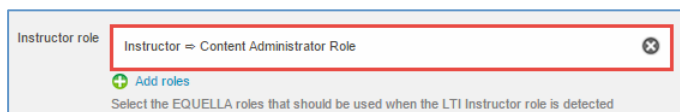

Figure 8 Instructor role field with one mapping

Select the **Add roles** link to add more mappings.

Mapping other roles

The **Other roles** section is used to map LTI/LIS standard roles and other custom roles to EQUELLA roles.

To map other roles

1. In the **Other roles** area, start typing the required LTI/LIS role (e.g. *Student)* in the **Enter LTI/LIS role** field. A list of all the standard LTI/LIS roles displays in a drop-down list. An example is shown in Figure 9.
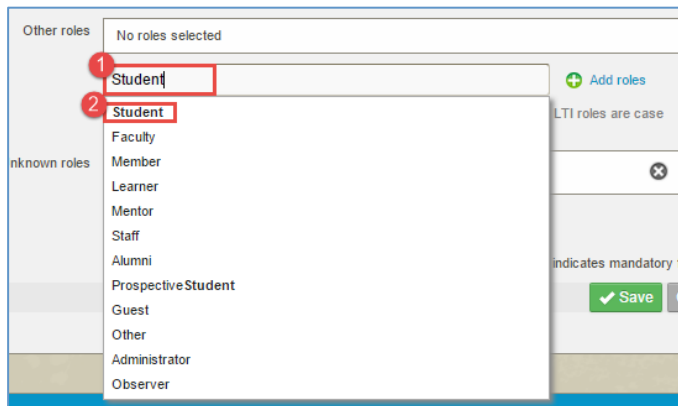

Figure 9 List of standard LTI/LIS roles

2. Select the required value (e.g. *Student*) from the drop-down list.
3. Click the **Add roles** link next to the selected LTI/LIS role. An example is shown in Figure 10.
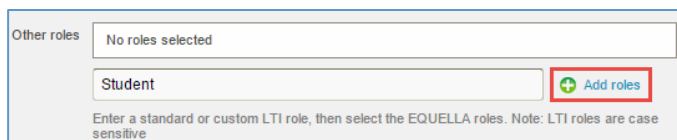

Figure 10 Add roles link

The **Select role(s)** dialog displays. An example is shown in Figure 11.
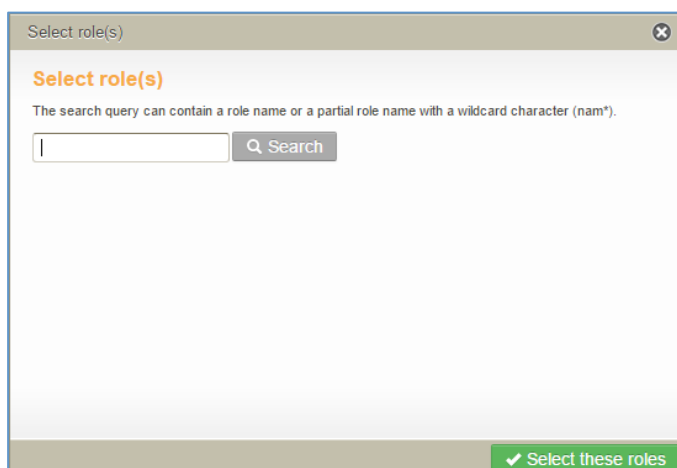
Figure 11 Select role(s) dialog

4. Enter a search query then click [Q Search]. Matching results display. An example is shown in Figure 12.

Figure 12 Select role(s) dialog – results

5. Select the required role/s, then click [✔ Select these roles]. The mapping/s displays in the **Other roles** field. An example is shown in Figure 13.
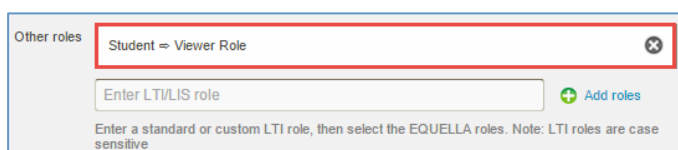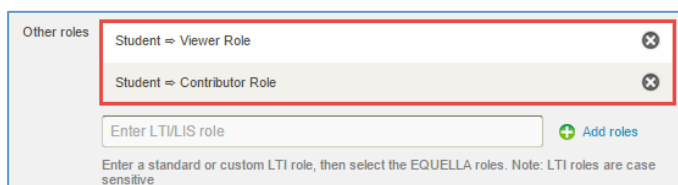

Figure 13 Other roles field with one mapping

To add further EQUELLA roles to the Other roles that have existing mappings or to add another LTI/LIS role mapping, repeat steps 1 to 5.

An example with multiple EQUELLA roles mapped to LTI role '*Student'* is shown in Figure 14.

6. Figure 14 Other roles section with multiple EQUELLA mappings for 'Student' role

Configure a shared secret

Shared secrets are configured in the EQUELLA **Administration Console**.

NOTE: The shared secret is used in the EQUELLA portal functionality outlined on page 23.

To configure a shared secret

1. Open a browser and enter your EQUELLA URL (e.g. '*http://equella.myequellainstitution.edu*').

2. Log in to EQUELLA as an administrator, select **Settings** then **Administration console**, as shown in Figure 15.
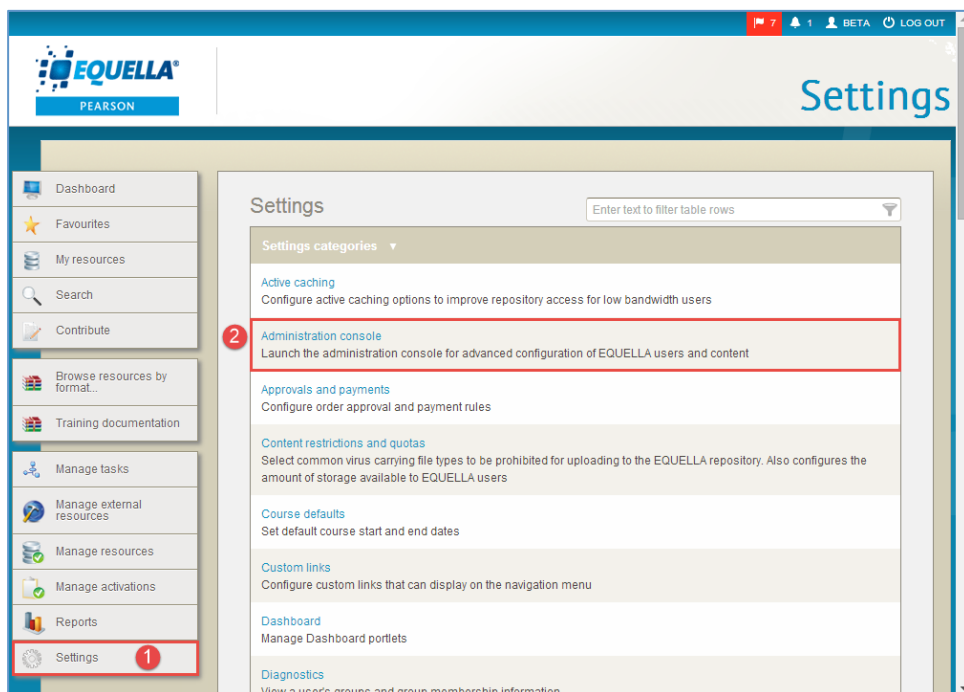

Figure 15 Open Administration console

3. The Administration console displays. Select **User Management** to display a list of plug-ins, as shown in Figure 16.
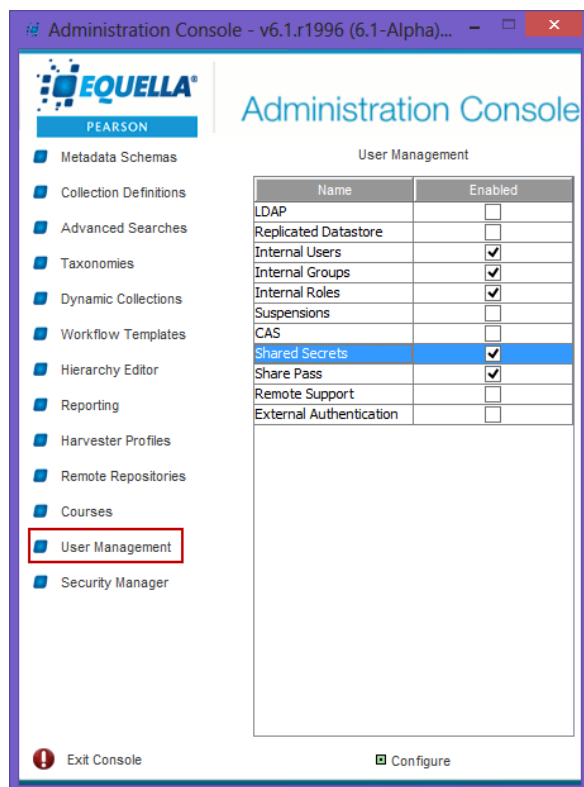

Figure 16 Administration Console—Shared Secrets

4. Highlight the **Shared Secrets** user management plug-in, then click ⊞ Configure . The **Shared Secrets** dialog displays. An example is shown in Figure 17.
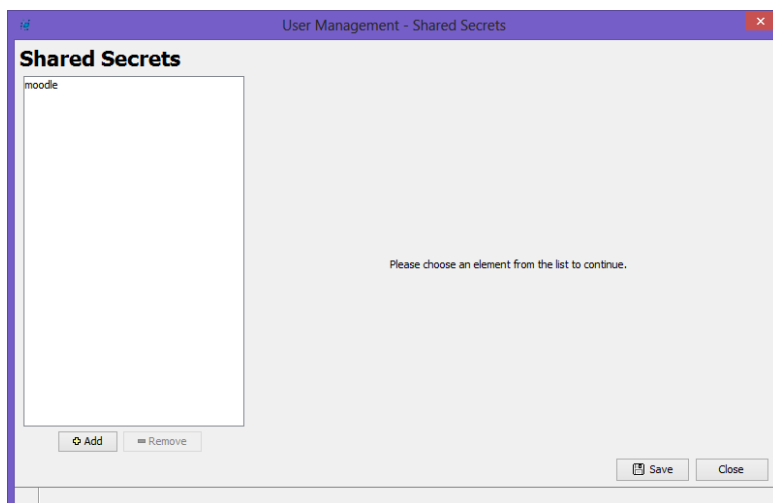

Figure 17 Shared Secrets dialog

5. Click ⊕ Add to create a new shared secret. The Shared Secrets dialog now displays a new shared secret named '*DEFAULT*' in the left hand pane, and the configuration elements to the right of the pane. An example is shown in Figure 18.
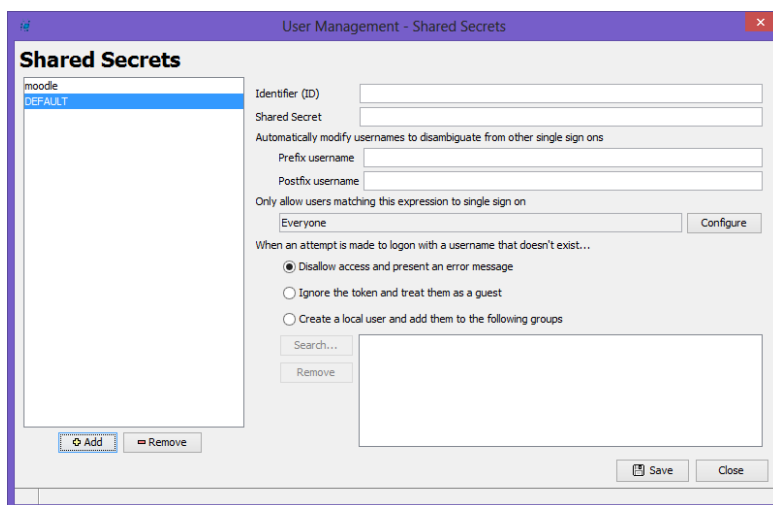

Figure 18 New Shared Secret

6. Enter a unique **Identifier (ID)** (e.g. *blackboard*).

7. Enter a **Shared Secret** (e.g. *bbS3cr3t*). The secret may be any combination of characters and numbers, but strings longer than eight characters consisting of upper and lower case alphanumeric characters are recommended. An example is shown in Figure 19.
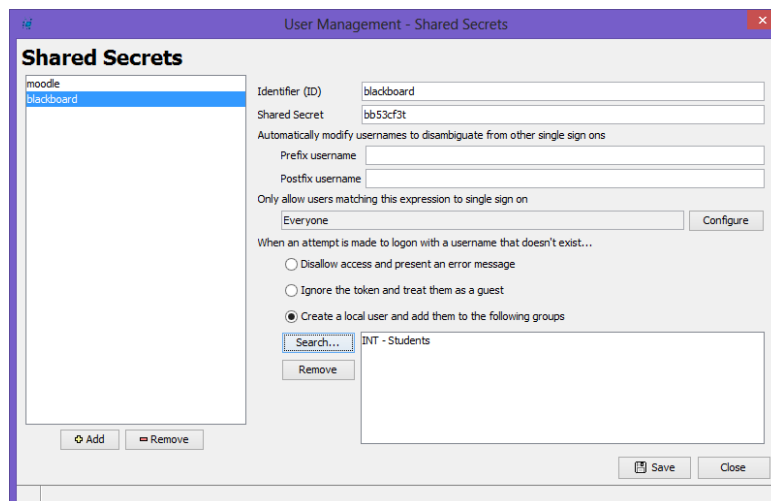
**Figure 19 User Management—Shared Secrets configuration dialog**

8. Make a note of the identifier and shared secret; they will be needed to complete the Enable the EQUELLA Plugin section on page 17.

Other options can be enabled as required. Further information on shared secrets is provided in the *EQUELLA User Management Configuration Guide*.

9. Click [💾 Save].

10. Click [Close] to close the dialog.

The **Shared Secrets** plug-in must be enabled (checked). If not already, enable the plug-in:

1. Check the **Enabled** checkbox for the **Shared Secret** plug-in as shown Figure 16.

2. Click [Yes] to confirm.

3. Click ⛔ Exit Console to close the Administration Console.

(*NOTE: Only trusted users should be able to see the shared secret, as this information can be used to impersonate any user within EQUELLA.*)

The next step in the integration process is to download the Blackboard Building Block.

Configure Blackboard™

This section describes the required configuration changes to Blackboard to support the integration. EQUELLA provides a Building Block tool that allows Blackboard users to easily contribute, search and select EQUELLA content and link them to a course.

Download the EQUELLA Blackboard Building Block

The **Blackboard Building Block** is available from the **Downloads** page accessed from the EQUELLA **Server administration** page.

To open the Server administration page

1. Open a browser and enter the complete EQUELLA **admin.url** URL (as set in the **mandatory-config.properties** file in the **learningedge-config** directory of your

EQUELLA install) with '*/institutions.do?method=admin'* appended (e.g. where your **admin.url** URL is set as '*http://equella.myinstitution.edu/*' the Institution Manager URL would become '*http://equella.myinstitution.edu/institutions.do?method=admin'*).

2. Enter the password used by the EQUELLA server administrator (this is set during installation) to display the **Server administration - Institutions** page, as shown in Figure 20.
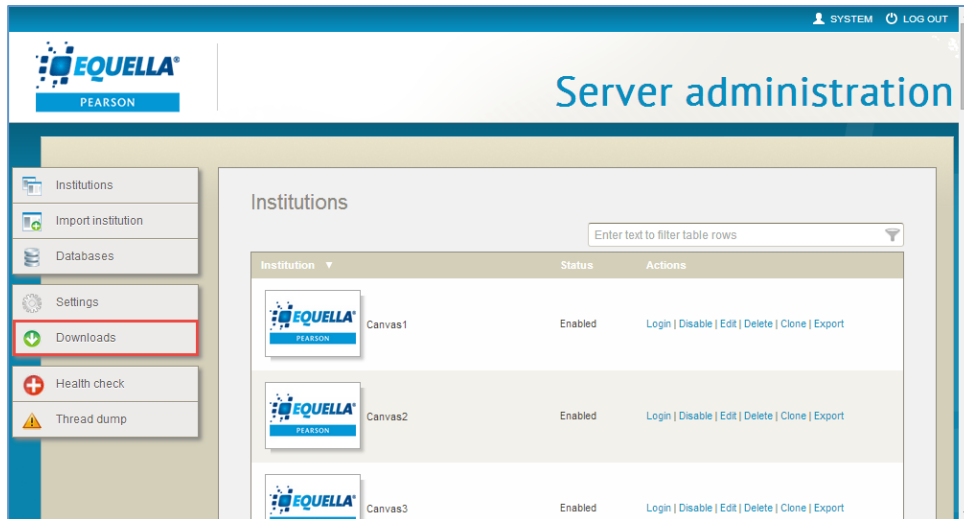

Figure 20 Institution Management page

To download the **Blackboard Building Block**:

3. Select the **Downloads** button to display the **Downloads** page.

4. Select the **Download the EQUELLA Blackboard Building Block** link for your Blackboard version, as shown in Figure 21.
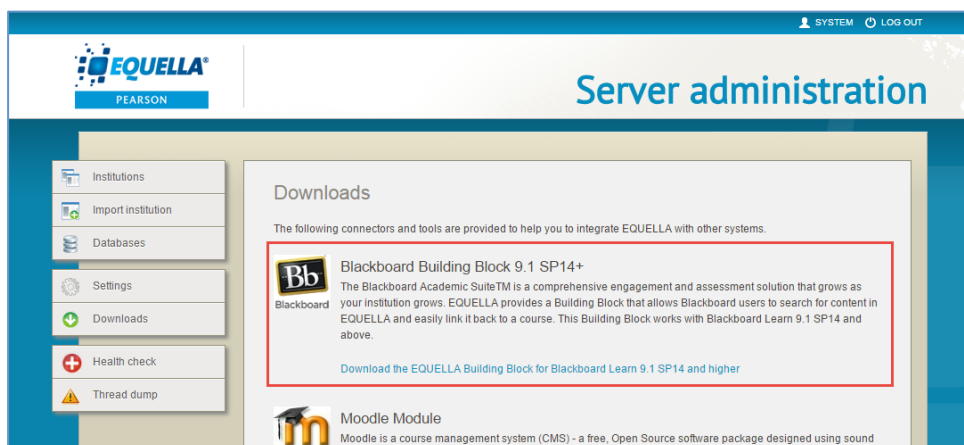

Figure 21 Downloads page—Blackboard Building Block

5. Save the relevant **.war** file (e.g. *equella-building-block-9.1.war*) to your filesystem.

The next step in the integration process is to install and activate the Blackboard Building Block.

Install and activate the Building Block

To access Blackboard Learn

1. Open a browser window and enter your Blackboard URL (e.g. `http://blackboard.myequellainstitution.edu`).

2. Log in to Blackboard as a system administrator to display the Blackboard **My Institution** page.

3. Select **System Admin** to display the **System Admin** page, as shown in Figure 22.
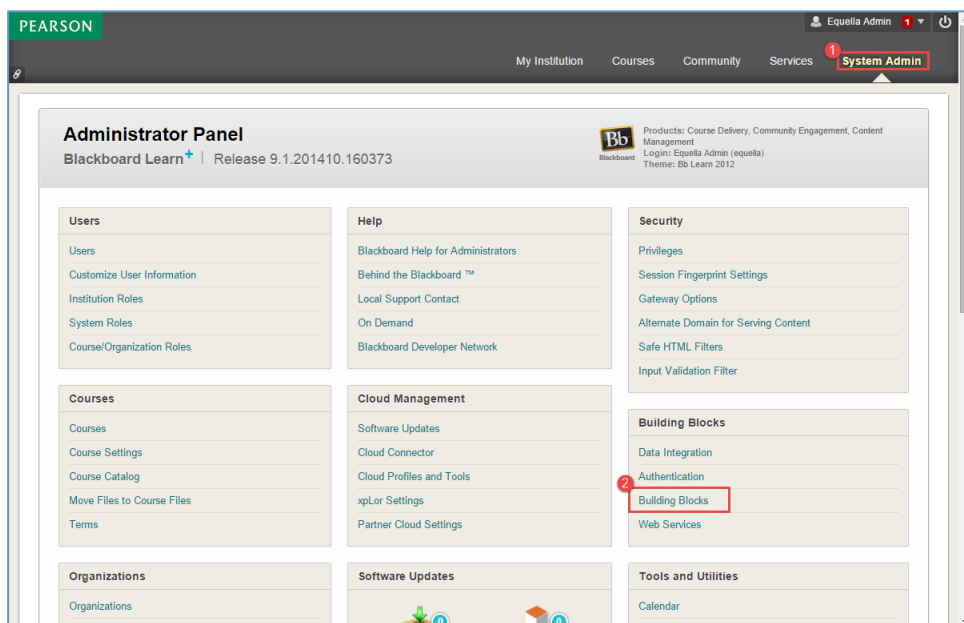

Figure 22 System Admin page

4. Select the **Building Blocks** option from the **Building Blocks** portlet to display the **Building Blocks** page, as shown in Figure 23.
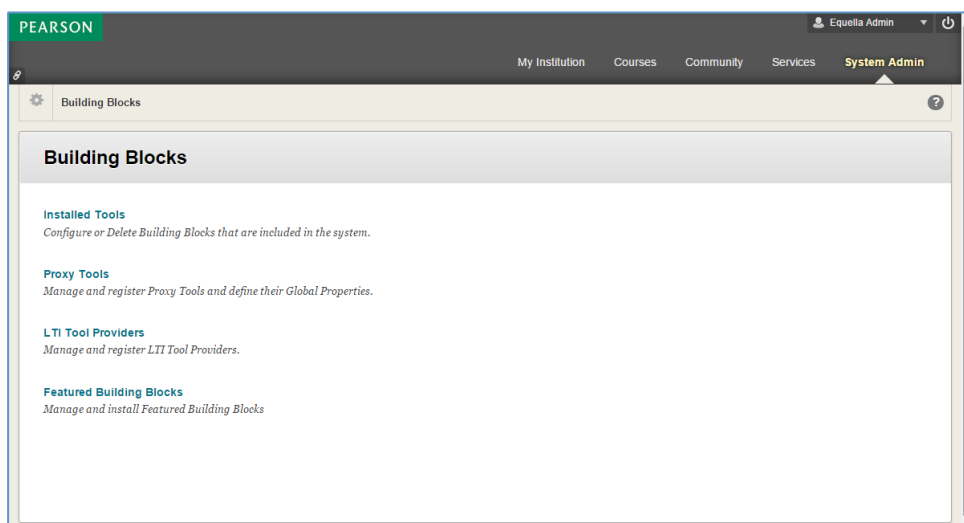

Figure 23 Building Blocks page

5. Select **Installed Tools** to display the **Installed Tools** page, as shown in Figure 24.
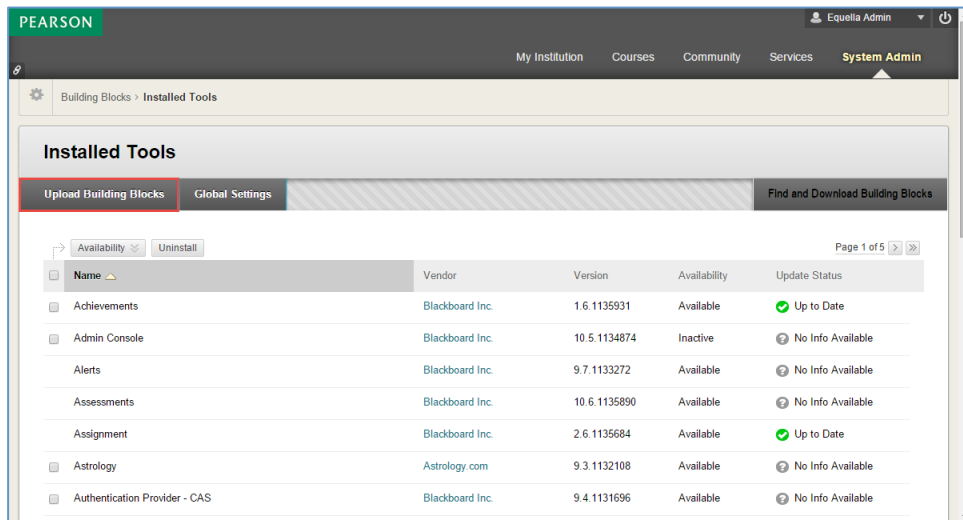

Figure 24 Installed Tools page

6. Click [Upload Building Blocks] to display the **Install Building Block** page. The **Install Building Blocks** page displays, as shown in Figure 25.
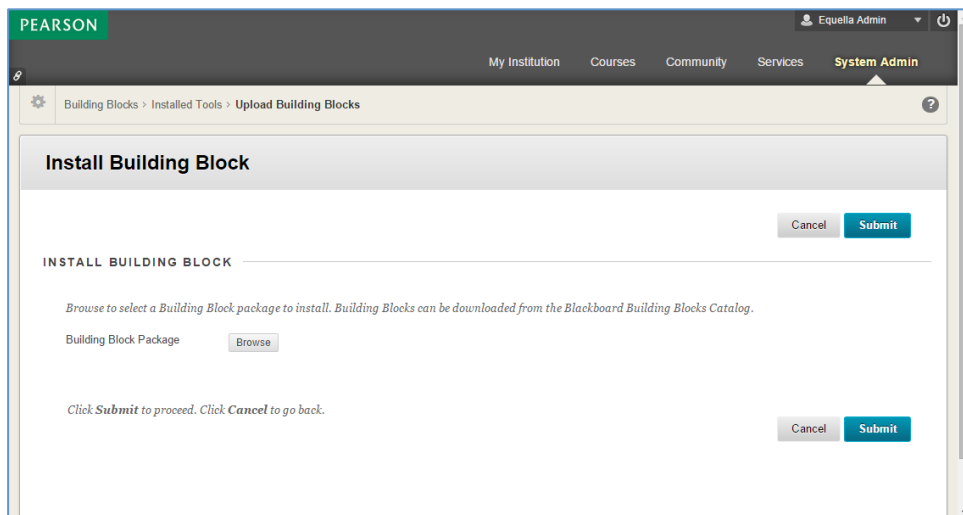

Figure 25 Install Building Block page

7. Click [Browse] and select the **equella-building-block.war** file from your temporary directory. The file name is displayed in the **Building Block Package** field, as shown in Figure 26.
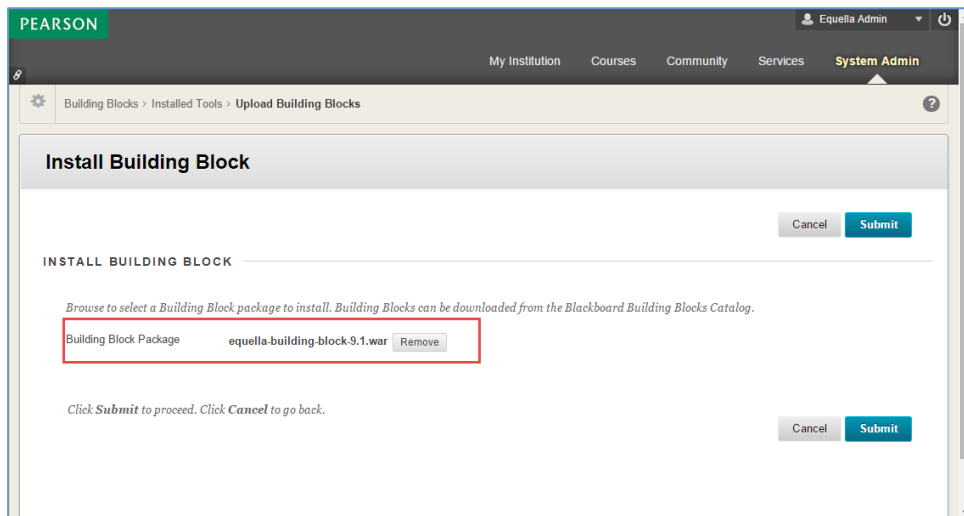
Figure 26 Upload Building Block page

8. Click **Submit** to install the Building Block and save the settings.

The **EQUELLA Plugin** is listed on the **Installed Tools** page, as shown in Figure 27.

The next step in the integration process is to enable the EQUELLA Plugin.
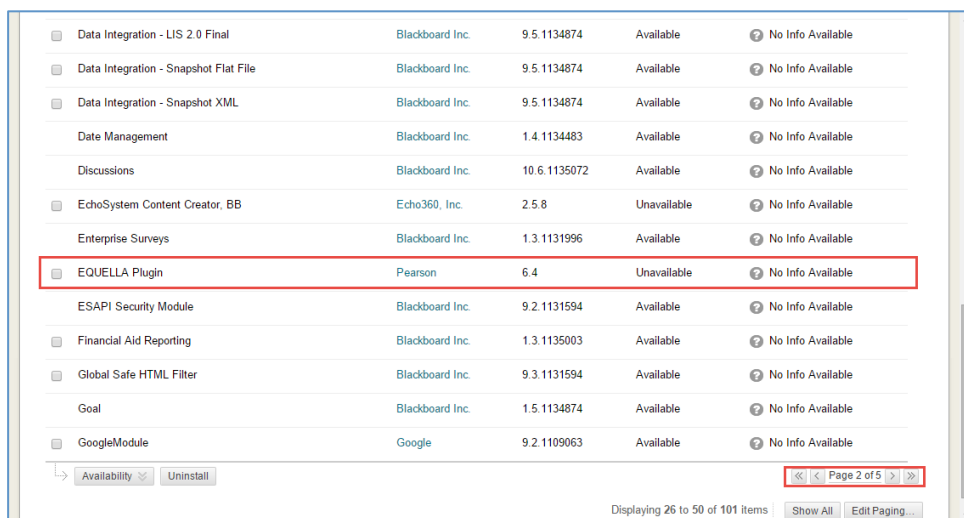
Enable the EQUELLA Plugin

Figure 27 Installed Tools page

To make the EQUELLA Plugin available

1. Click next to **EQUELLA Plugin**, then select **Set Available** from the drop-down list. An example is shown in Figure 28.
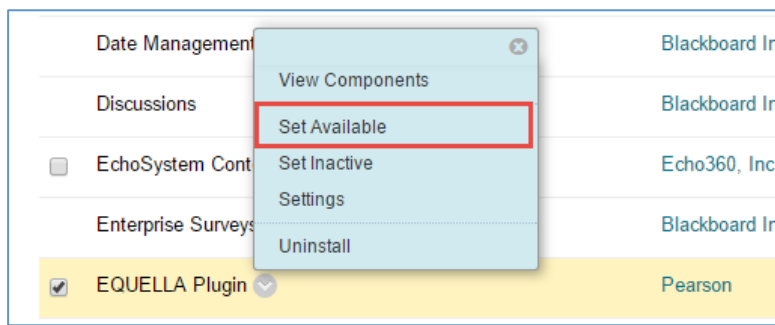
Figure 28 Set Available option

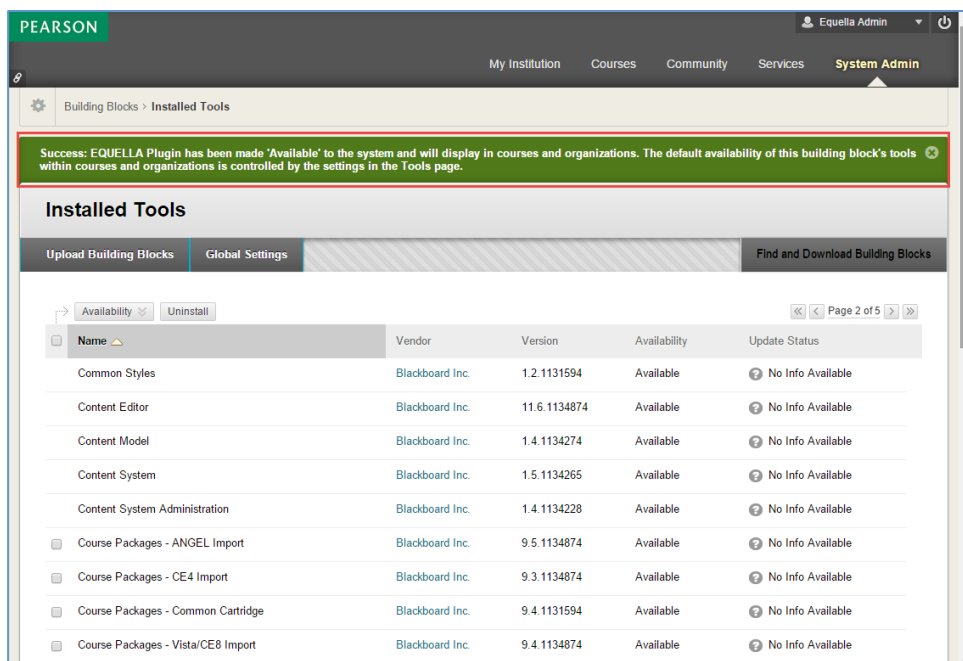The following page displays, as shown in Figure 29.

Figure 29 Make Building Block Available page

The EQUELLA Plugin now displays as *Available*.

To configure the EQUELLA Plugin

1. Click ⌄ next to **EQUELLA Plugin**, then select **Settings** from the drop-down list. An example is shown in Figure 30.
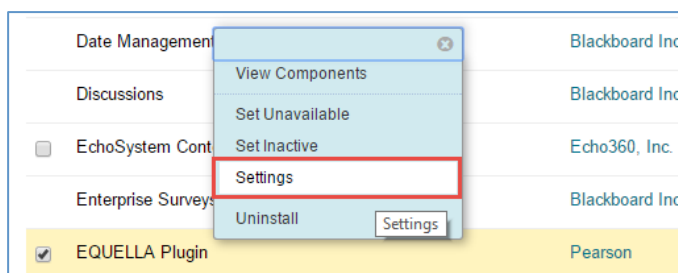

Figure 30 Settings option

The **EQUELLA Server Configuration** page displays. An example is shown in Figure 31.

Figure 31 EQUELLA Server Configuration page

2. Enter the complete **EQUELLA URL** to your institution (e.g. '*http://equella.myinstitution.edu'*).

3. Enter the **LTI OAuth Client ID** (e.g. *bboardint*). This must be the same as previously configured in the Register an LTI OAuth Client section on page 5.

4. Enter the **LTI OAuth Client Secret** (e.g. *f78dbe31-ada6-44cd-90de-4b60afb83cbc).* This must be the same as previously configured in the Register an LTI OAuth Client section on page 5.

5. Enter the **Shared Secret ID** (e.g. *blackboard*). This must be the same as previously configured in the Configure a shared secret section on page 5.

6. Enter the **Shared Secret** (e.g. *bbS3cr3t*). This must be the same as previously configured in the Configure a shared secret section on page 5.

7. From the **Restrict to** drop-down in the **Restrict Selections** section, select from:

   ▪ **Attachments only** – users can select only resource attachments to add to courses.

   ▪ **Items only** – users can select only resource summaries to add to courses.

   ▪ **Packages only** – users can select only packages to add to courses.

   ▪ **No restrictions** – users can select both attachments and resource summaries to add to courses.

8. **Web service download** – this is used for Push to LMS and is not required for the initial Blackboard Learn/EQUELLA integration process. Please see the *EQUELLA Push to LMS guide* for further information.

9. Click [Submit] to complete the EQUELLA Blackboard Learn integration.

To enable the EQUELLA Object option in the drop-down

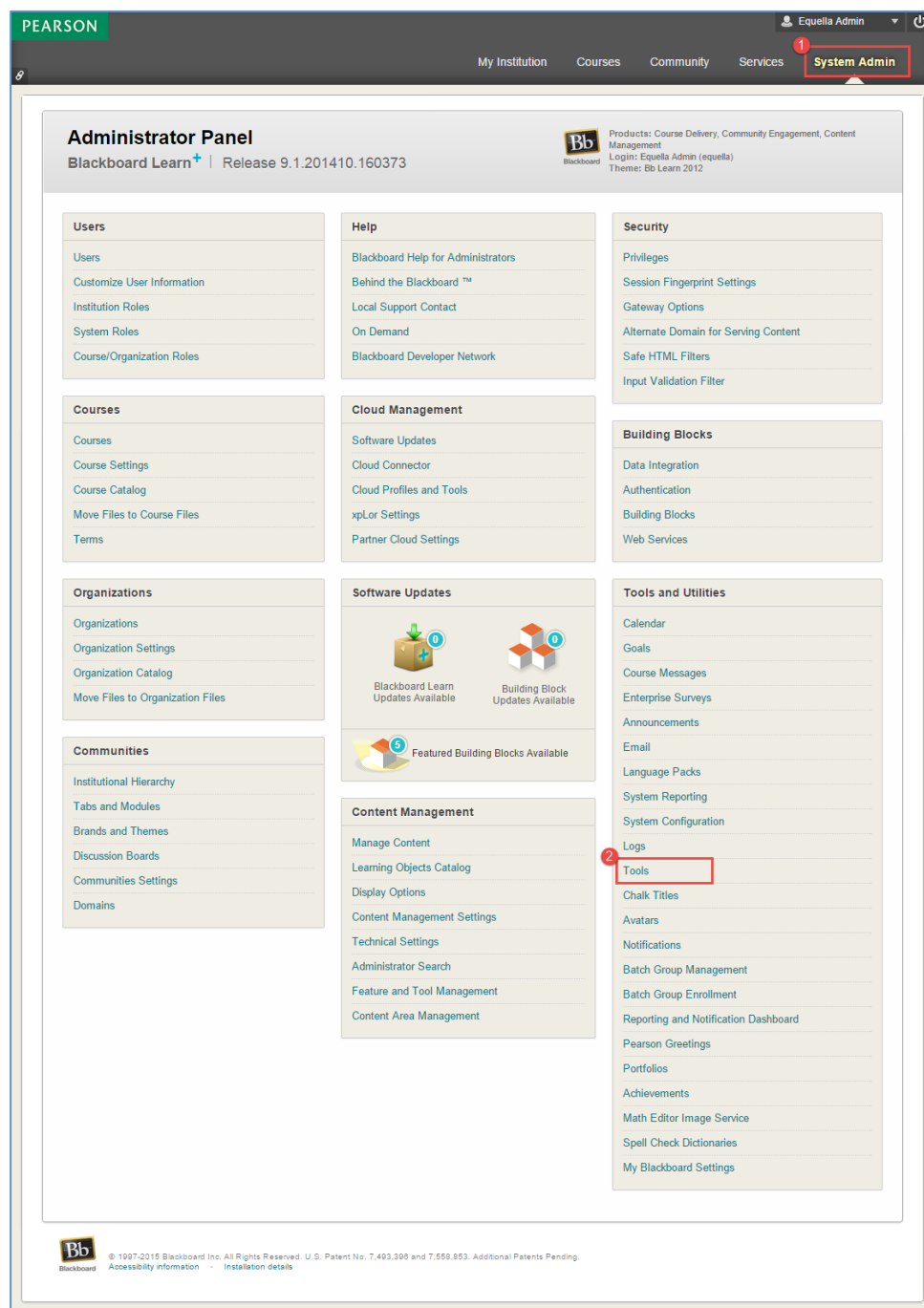1. Select **System Admin,** then **Tools** from the *Tools and Utilities* section, as shown in Figure 32.

Figure 32 System Admin – Tools

2. The **Tools** page displays. Scroll down to **EQUELLA Plugin**, as shown in Figure 33.
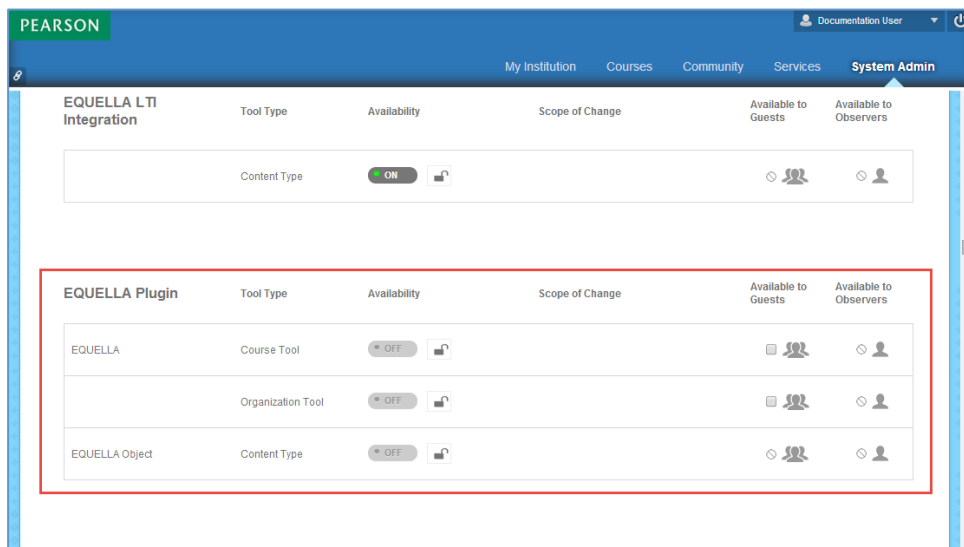
Figure 33 Tools page - EQUELLA Plugin

3. Click `• OFF` beside **Course Tool**. The button changes to `• ON` and a drop-down list displays in the **Scope of Change** column, as shown in Figure 34.
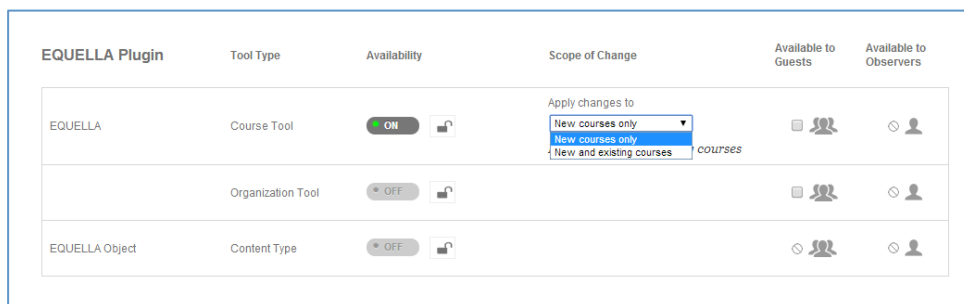
Figure 34 Course Tool options

4. Select **New and existing courses** from the list.

5. Repeat step 3 and 4 for both **Organization Tool (**selecting **New and existing organizations** from the drop-down) and **Content Type** (selecting **New and existing courses and organizations** from the drop-down)**.** An example is shown in Figure 35.
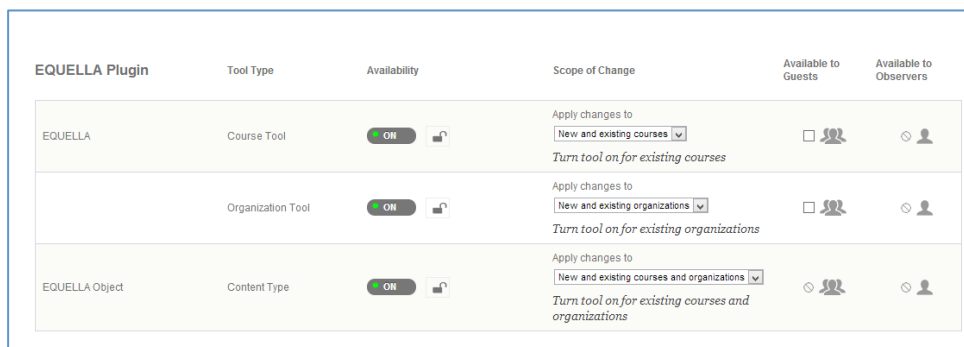
Figure 35 EQUELLA Plugin Tool options

6. Scroll to the bottom of the page and click **Submit**.

Test the installation

To access Blackboard

1. Open a browser and enter your Blackboard URL (e.g. *'http://blackboard.myequellainstitution.edu').*

2. Log in to Blackboard as a user with contribution or administration privileges.

3. Select the relevant course (e.g. *Physiology 101*) from the **My Courses** pane to display the **Course home** page.

4. Select either the **Content** or the **Information** link from the course menu, as shown in Figure 36. *(NOTE: The pages represented by these links are different although they contain the same features. For the purposes of this guide they are interchangeable, and the **Information** page has been used.)* The course **Information** documents page will display.
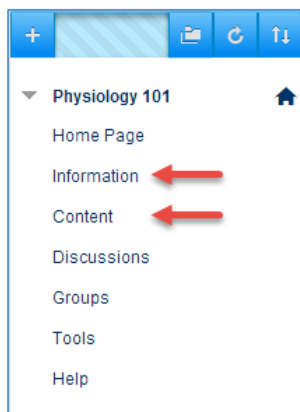
Figure 36 Course navigation menu

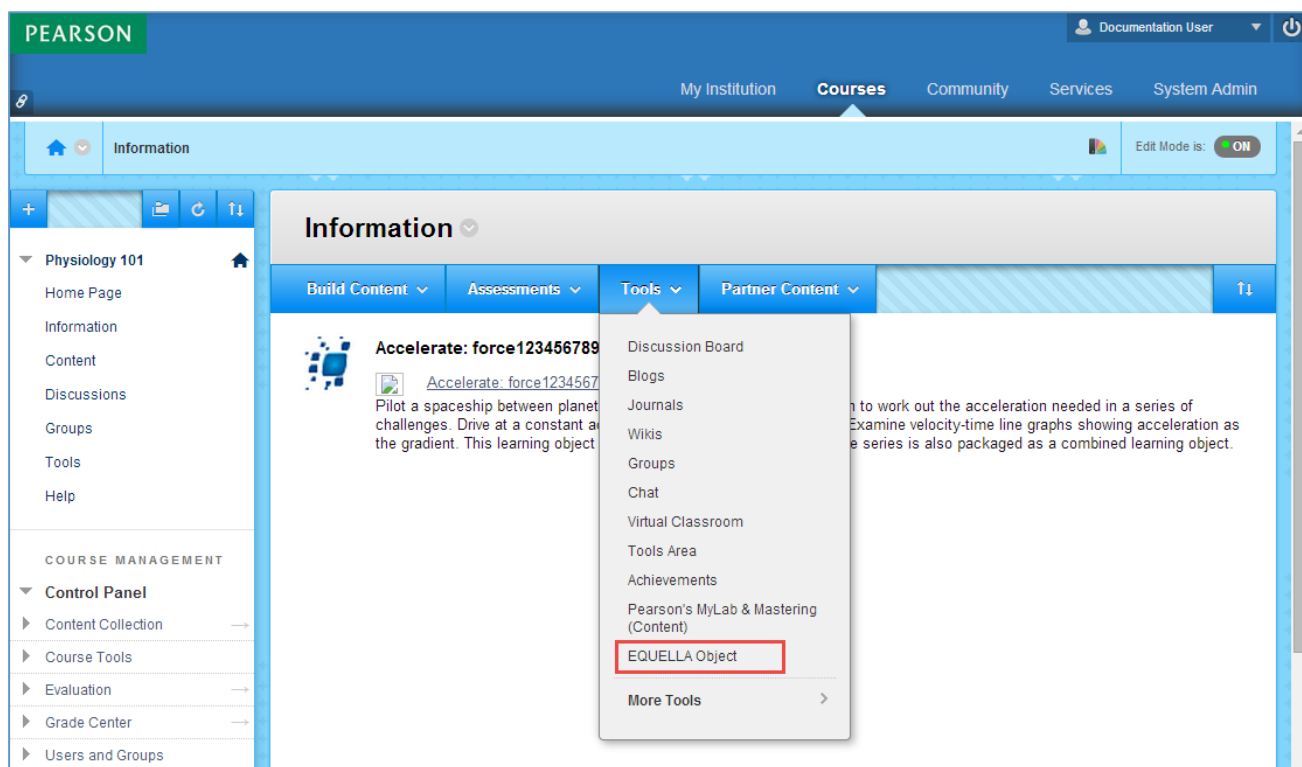5. Click **Tools ∨** to display a drop-down a menu. An example is shown in Figure 37.

Figure 37 Course Documents page

6. Select **EQUELLA Object** to display the **EQUELLA Integration** page. An example is shown in Figure 38. This confirms Blackboard can reach EQUELLA successfully.
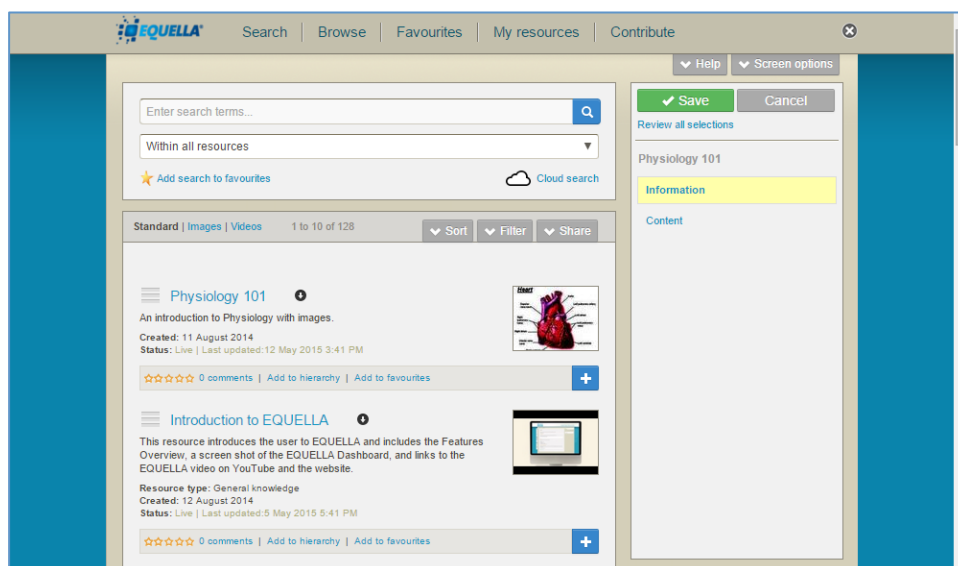

Figure 38 User's view of the EQUELLA Home page

EQUELLA portal

The EQUELLA portal can be displayed on the **My Institution** page in Blackboard, and provides links to EQUELLA functions, including workflow tasks and notifications. See the

EQUELLA Blackboard Learn User Guide for more information. An example is shown in Figure 39.
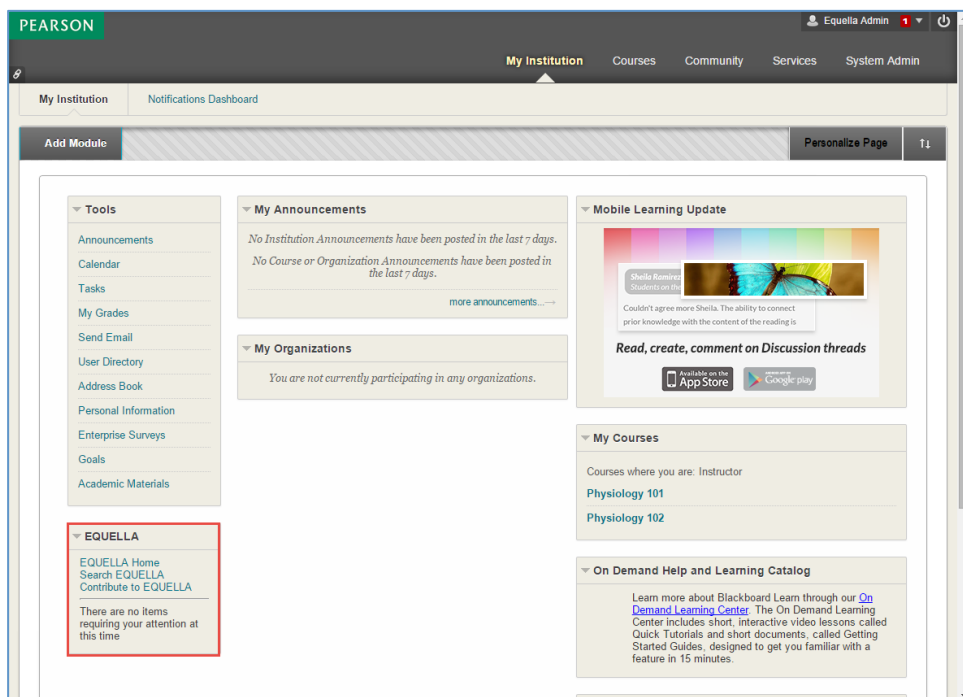
Figure 39 My Institution - EQUELLA portal

To add the EQUELLA portal

1. Open a browser window and enter your Blackboard URL (e.g. '*http://blackboard.myequellainstitution.edu'*).

2. Log in to Blackboard as a system administrator to display the Blackboard **My Institution** page.

3. Select the **System Admin** tab to display the **System Administration** page, as shown in Figure 40.
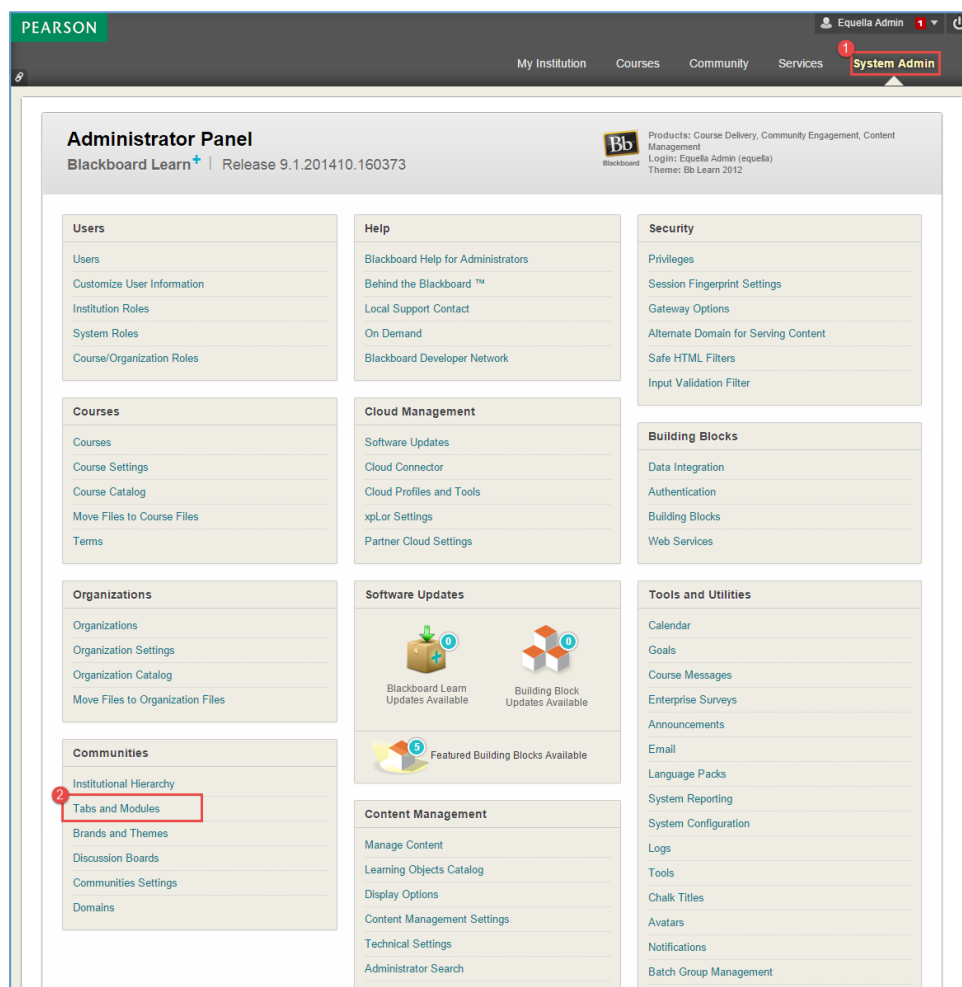
Figure 40 System Admin – Tabs and Modules

4. Select the **Tabs and Modules** link from the **Communities** portlet. The **Tabs and Modules** page displays, as shown in Figure 41.
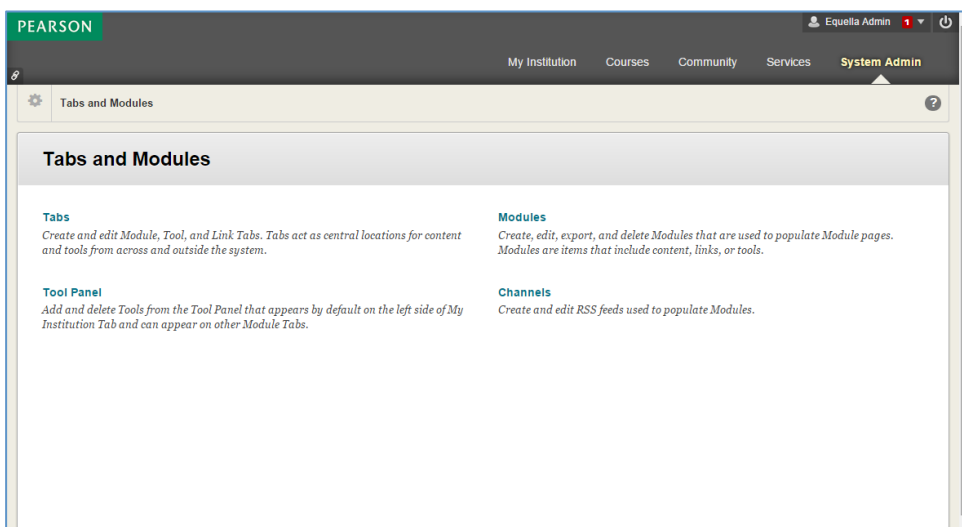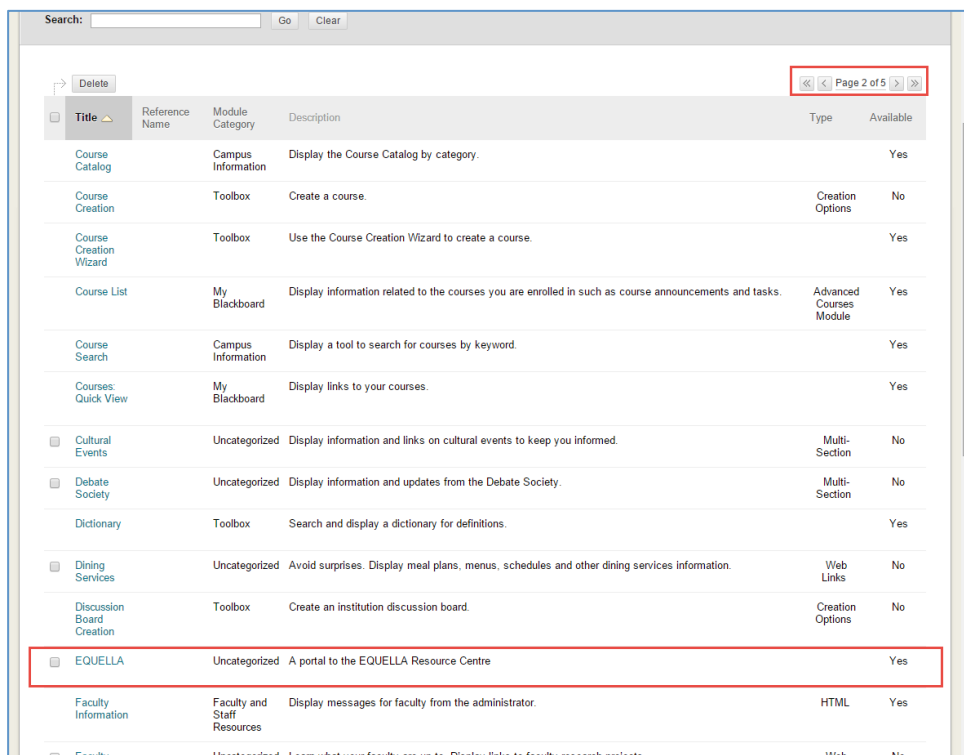
Figure 41 Tabs and Modules page

5. Select **Modules** to open the **Modules** page, then navigate to the page that displays **EQUELLA** in the *Title* column. An example is shown in Figure 42.

Figure 42 Modules - Navigate to EQUELLA

6. Click next to **EQUELLA**, then select **Edit Properties** from the drop-down list. An example is shown in Figure 43.
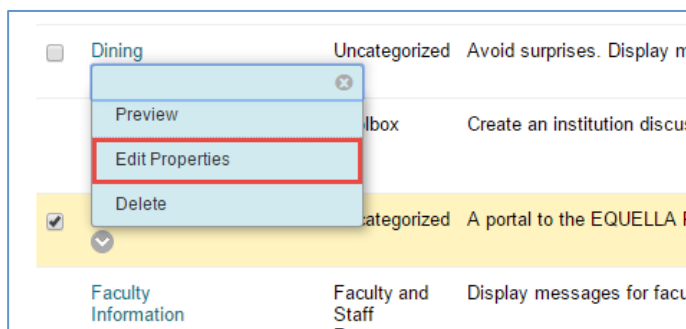

Figure 43 Edit Properties

The **Module Properties** page displays.

7. Select the **System Availability Yes** radio button in the Availability section, then click **Submit**. An example is shown in Figure 44.

Figure 44 Module Properties - System Availability option

The Modules page displays, with the EQUELLA module now set as **Available.**

8. Select **My institution** to display the **My institution** page.

9. Select **Add module,** as shown in Figure 45.

Figure 45 My Institution - Add Module

The Add Module page displays.

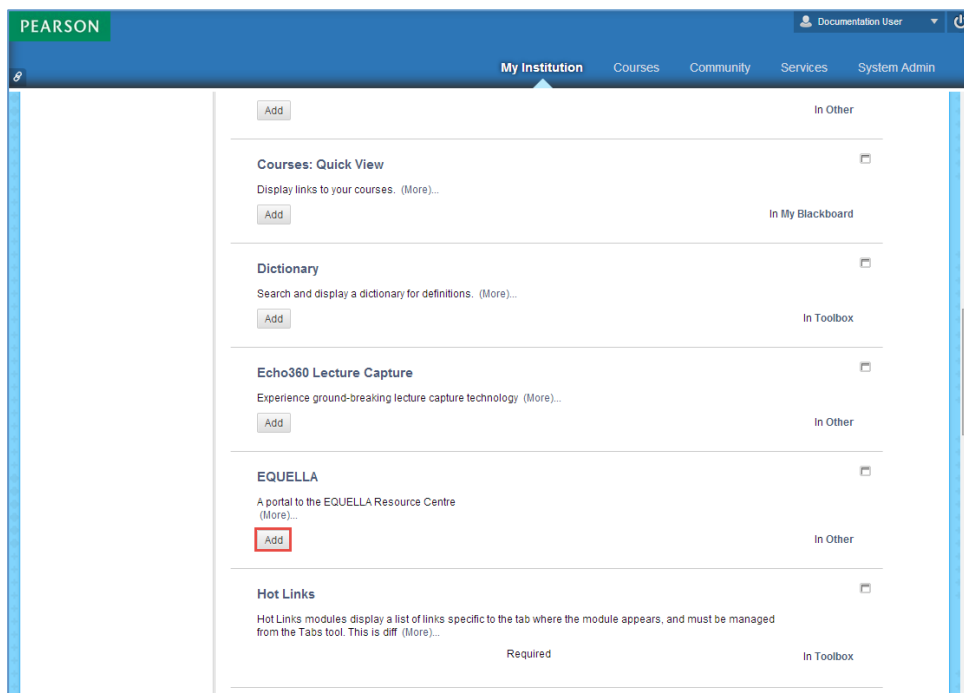10. Scroll down to **EQUELLA** and click Add . An example is shown in Figure 46.

Figure 46 EQUELLA Module

The **My Institution** page now displays the EQUELLA portal, as shown in Figure 39.

Updating existing EQUELLA 6.1 or earlier/Blackboard integrations to EQUELLA 6.4

EQUELLA 6.2 and above uses LTI to replace Shared secrets for selection sessions. This is due to the introduction of QTI 2.1 quizzes being able to be linked to Blackboard courses from EQUELLA, then launched and submitted. Quiz answers are stored in the EQUELLA database, and a score is calculated on submitting the quiz. The score is passed back to the Blackboard gradebook, and can be viewed by users with the appropriate permissions.

Once an EQUELLA system (version 6.1 or earlier) integrated with Blackboard is updated to 6.4, the following steps must be followed.

Configuring an EQUELLA/Blackboard integration after an EQUELLA 6.4 upgrade

An **LTI consumer** must be configured after an EQUELLA 6.4 upgrade (where the EQUELLA version being upgraded was 6.1 or earlier).

To configure Blackboard with an LTI consumer

1. Create an LTI OAuth Client record in EQUELLA. See Register an LTI consumer on page 5 for details.
2. Map the LTI roles. See LTI/LIS Role Mappings on page 7 for details.

3. Log in to Blackboard as a system administrator to display the Blackboard **My Institution** page.

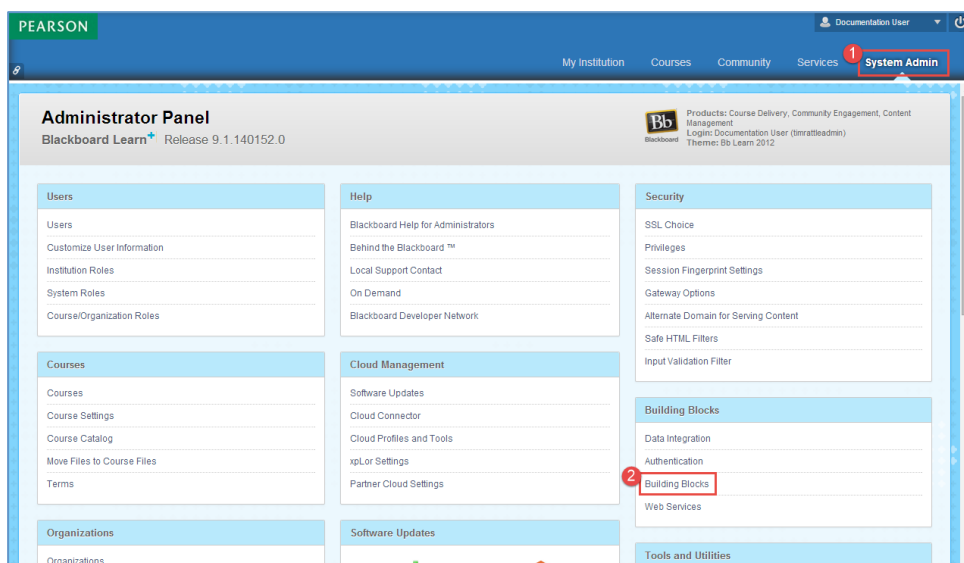4. Select **System Admin** to display the **System Admin** page, as shown in Figure 47.

Figure 47 System Admin page

5. Select the **Building Blocks** option from the **Building Blocks** portlet to display the **Building Blocks** page, as shown in Figure 48.
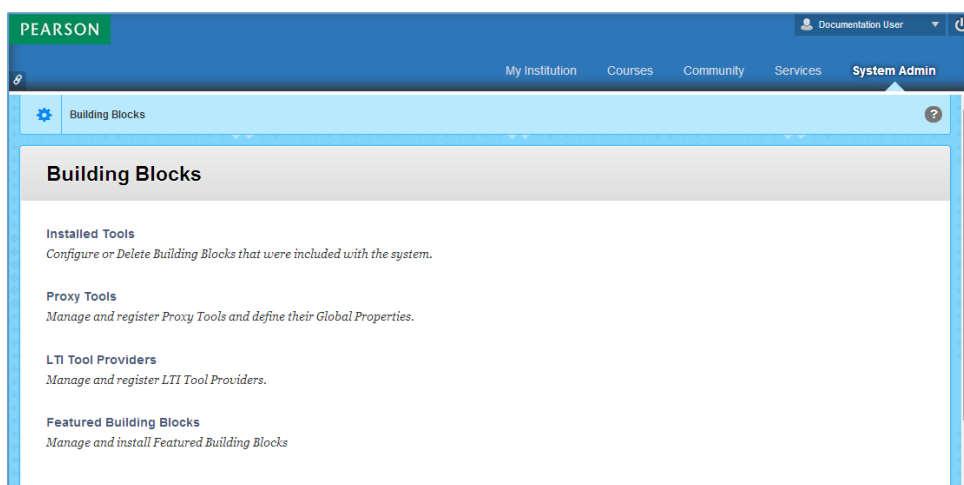

Figure 48 Building Blocks page

6. Select **Installed Tools** to display the **Installed Tools** page. Locate the **EQUELLA Plugin** then click 🔽 next to the label. Select **Settings** from the drop-down list. An example is shown in Figure 49.
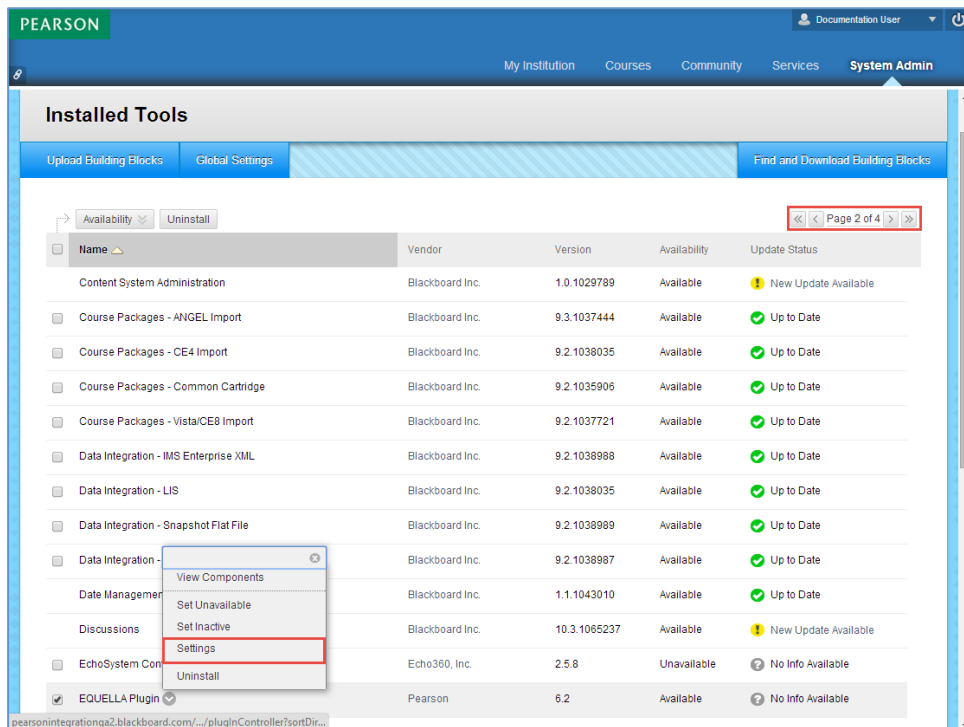
Figure 49 Settings option

The **EQUELLA Server Configuration** page displays. An example is shown in Figure 50.

Figure 50 EQUELLA Server Configuration page

7. Enter the **LTI Consumer ID** (e.g. *bboardint*). This must be the same as previously configured in the Register an LTI consumer section on page 5.

8. Enter the **LTI Consumer Secret** (e.g. *cfcdbd72-b319-4c83-9de4-4a814a90e7c9)*. This must be the same as previously configured in the Register an LTI consumer section on page 5.

9. Click Submit .

Troubleshoot an unsuccessful integration

If the integration is unsuccessful, these are the points to check first:

1. Check that both the Blackboard server and the EQUELLA server have synchronised time settings.
2. Ensure that the Shared Secret plugin in the EQUELLA User Management tool is enabled.
3. Check that the EQUELLA Blackboard Building Block file is installed.
4. Check that the EQUELLA Plugin is available in Blackboard.
5. Check the configuration data in Blackboard.

Contact Client Support

We are always happy to help.

If your organisation has a support agreement with EQUELLA then help is available at http://equella.custhelp.com.