Customisable reports

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Customisable reports - introduction

Customisable reports provide the ability to create and run detailed reports on key components of the CLS system.

To create a report

1. select the entity you wish to report on (e.g. Users)
2. optionally apply a filter to precisely define parts of that entity (eg users with the role of Basic User who are also inactive)
3. select the information that you wish to see (e.g. names and email addresses) and optionally change the order that this is displayed
4. run the report and view its results
5. optionally name the report and save it so that you can run it again later
6. optionally save its results in various formats (e.g. as an Excel file)

There is also an option such that when a report is run it pauses to allow a filter value to be entered on the spot (see Filter Items).

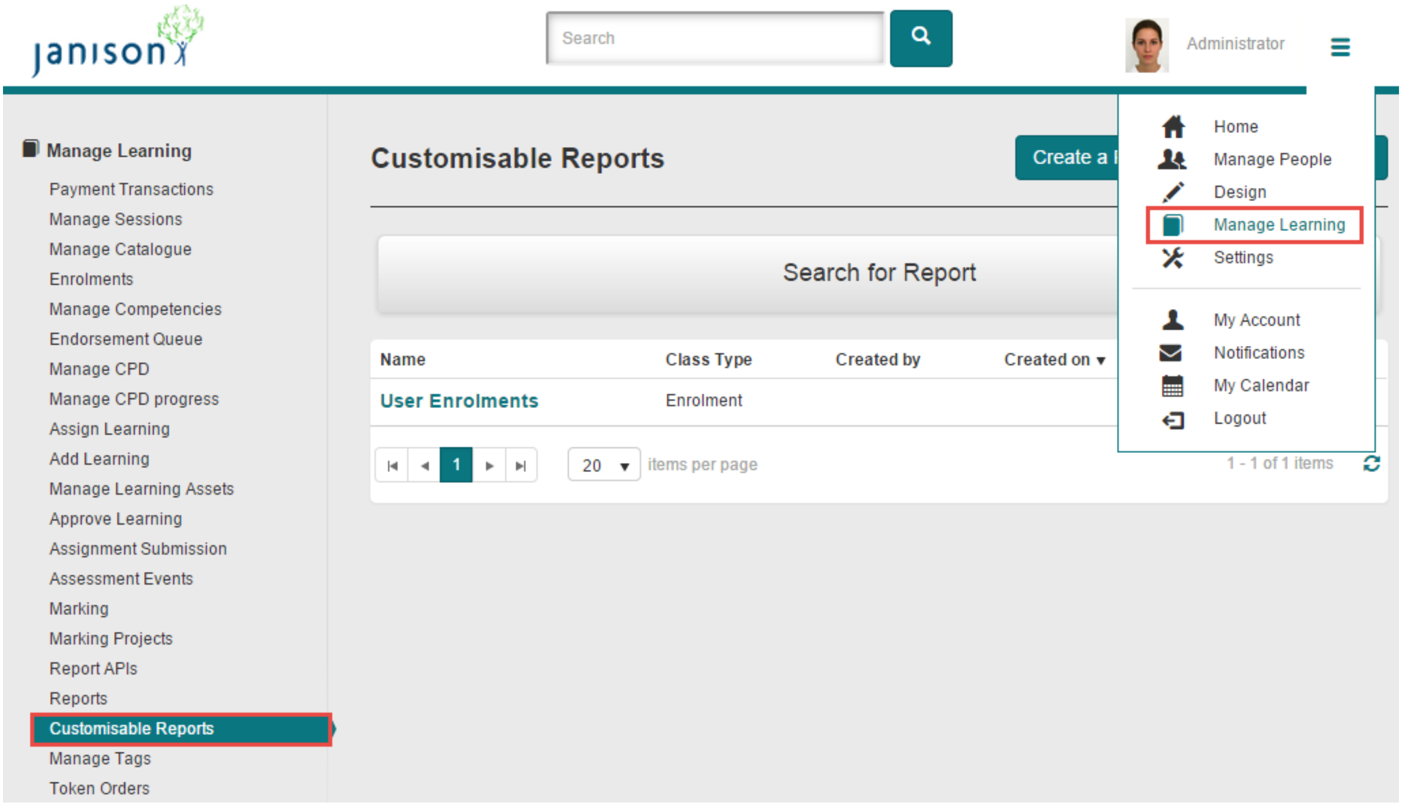
Thus a report is actually a compilation of instructions: a set of filters applied to a particular component of the system (or entity) and a selection of the information in that entity to be displayed. When you run the report the results are shown on the screen and can be saved. The report itself can be named and saved so that it can be run (and optionally edited) later on.

Note that not many users are authorised to use the Customisable Reports tool, so they would not see this menu item. Thus reporting is 'wired' into Janison's Security framework, which ensures that users cannot see information that they're not authorised to see.

The key features of Customisable Reports are:

- sophisticated filters (including Custom Attributes with limitations)
- selection of the details to show (including Custom Attributes)
- in-grid view of data
- exporting of the report results to Excel and PDF file formats
- saving and modifying the report for re-use at a later date
- security
- the use of Excel Templates to order the data reported

To access Customisable Reports navigate to **Manage Learning > Customisable Reports**. You will see a list of previously saved Reports.

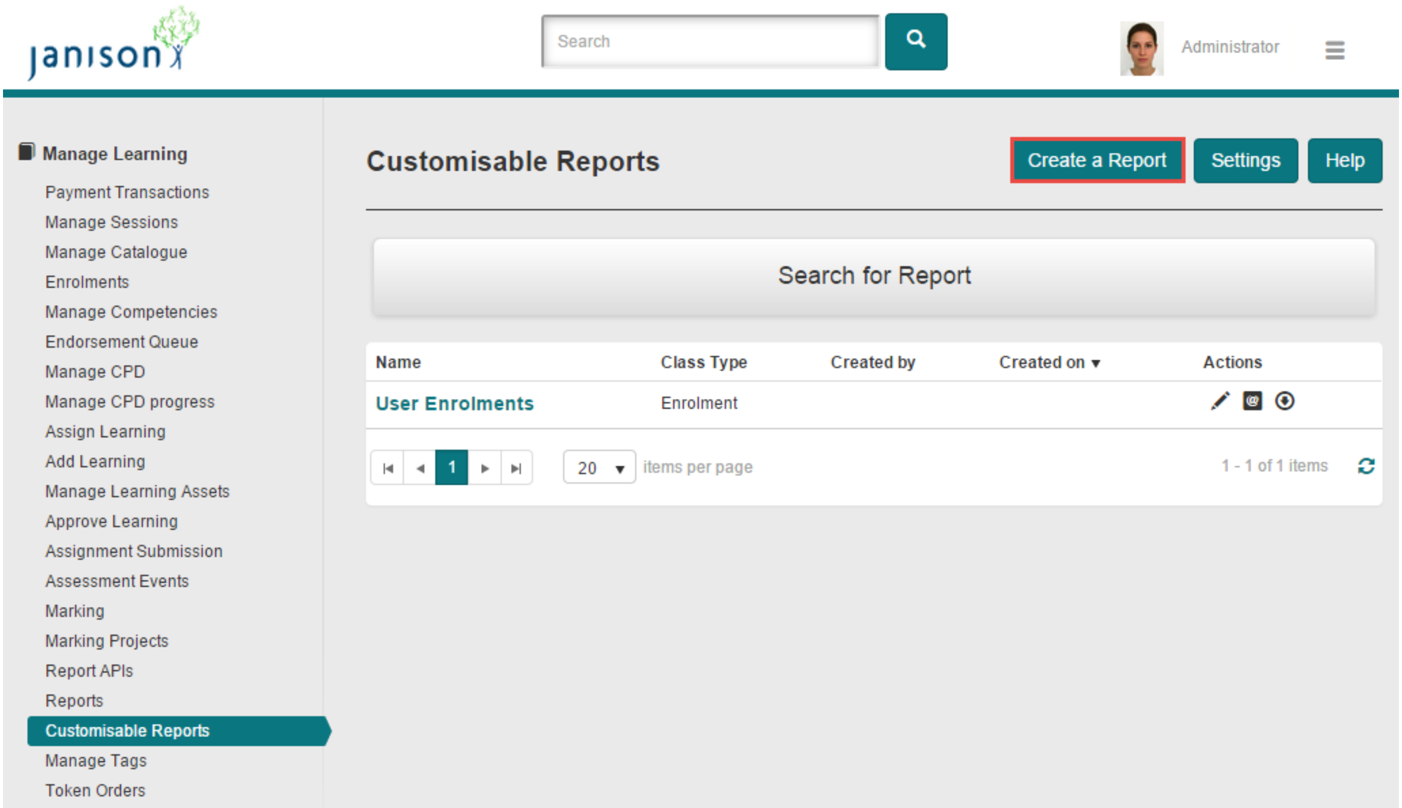


Create a Custom Report

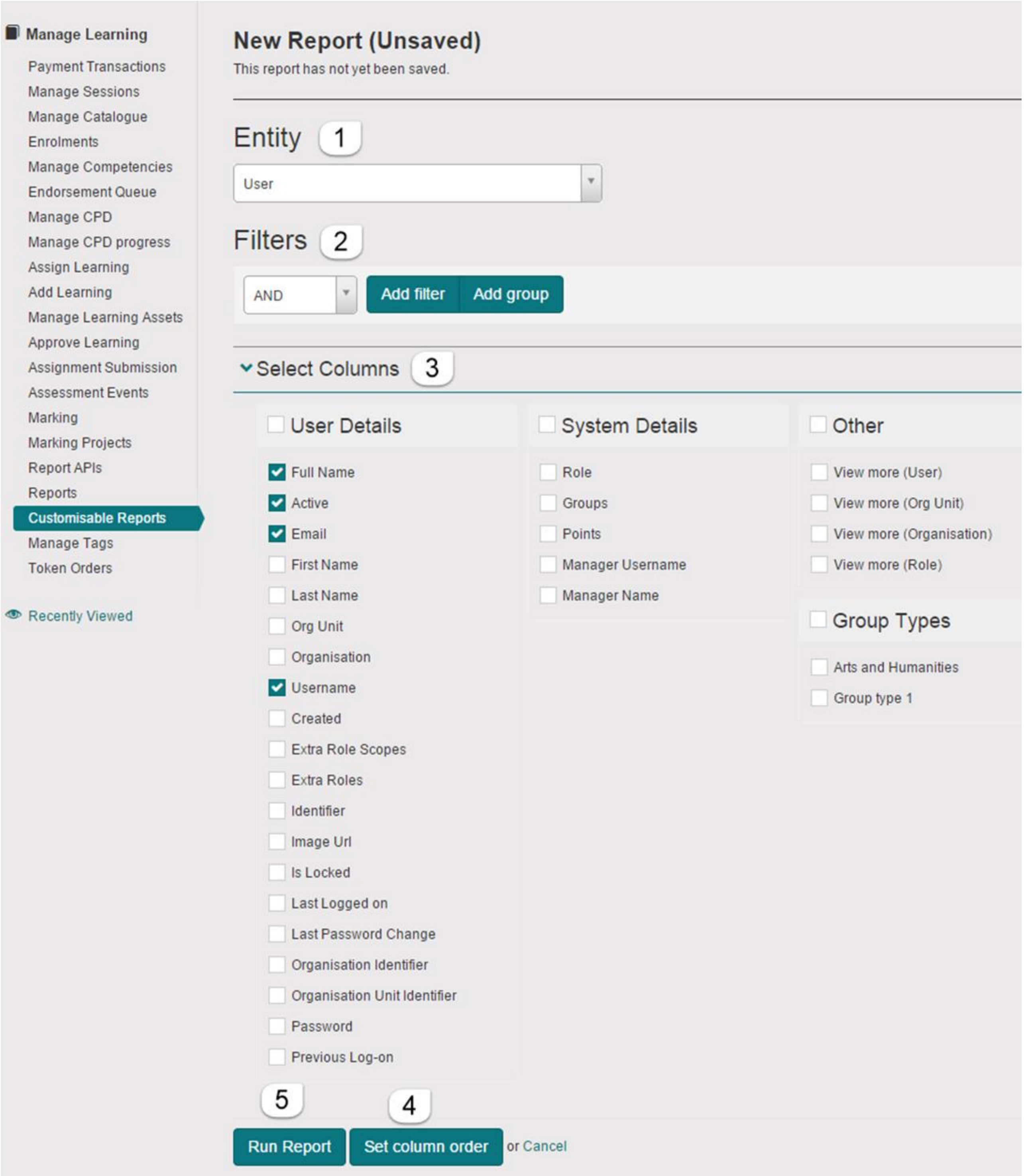
There are two ways to make a new Report: you can create one from scratch or you can refine an existing Report and save it as a copy (see Inspect a Custom Report).

To create a new Report select **Manage Learning** > **Customisable Reports**.

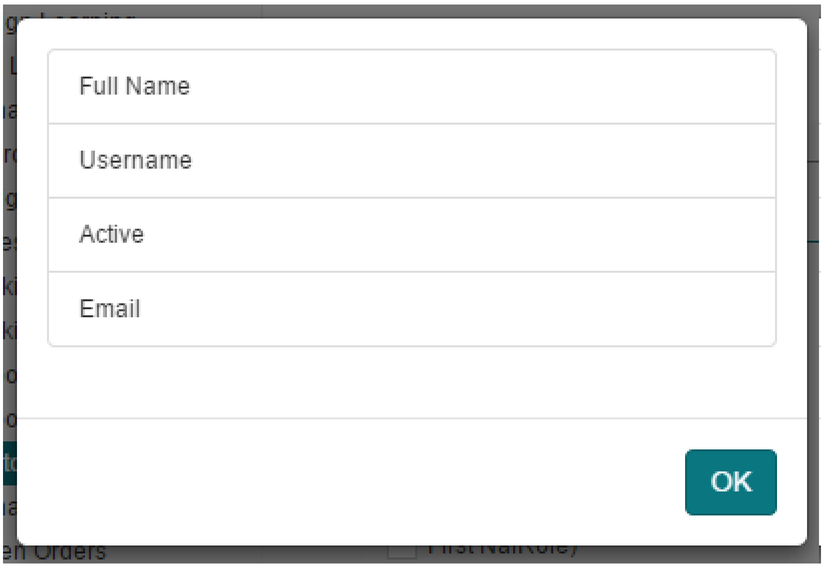
Click **Create a Report**



1. Click on the arrow to the side of **Entity** and a drop-down box will appear. Click the desired entity and it will appear in the Entity menu. You can only select one entity at a time.
2. Build **Filters** to apply to that entity (if desired). See notes below for instructions.



3. In **Select Columns** you click the boxes next to the details (fields) that you want included in your report. The options that you can select are different for each entity.
   Note that these options also give you a useful sense of the information that is stored for each entity.
4. Click **Set column order** if you want to customise the order of the rows of details. Change the order by dragging rows (see below) up or down in the list. Click **OK:**



5. Click **Run Report** to see the results

Notes on building filters

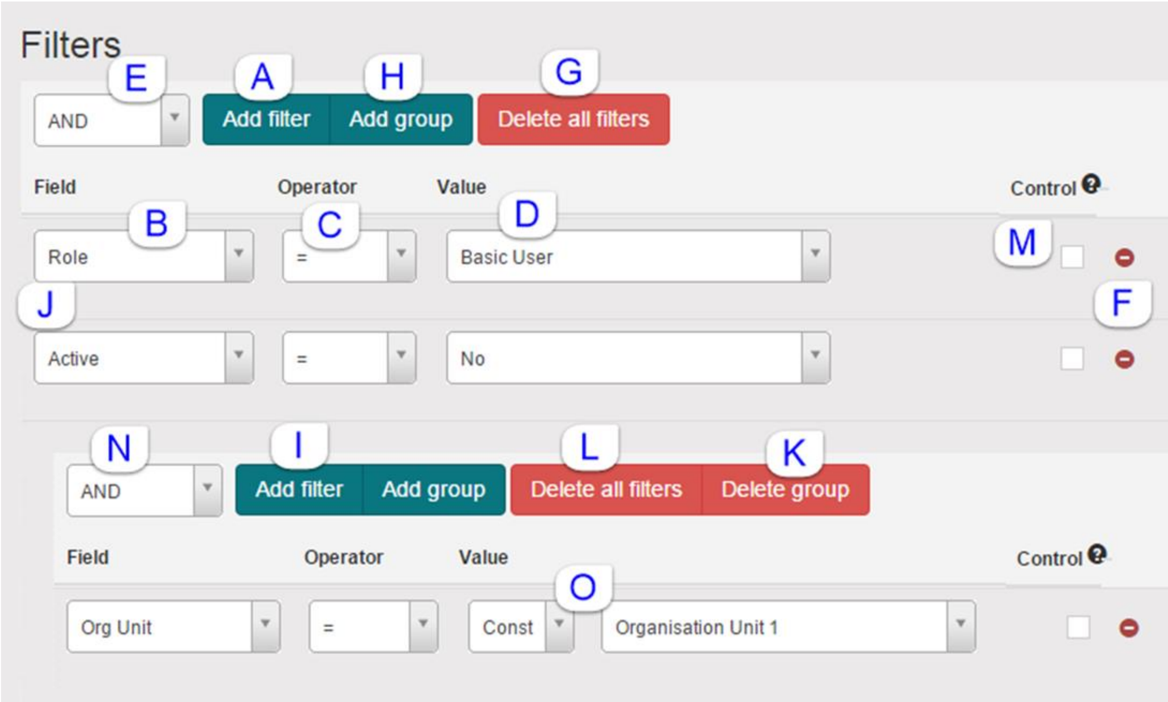
You can set up rules to precisely define parts of an entity that you want to report on. These rules are called filters here. They can be quite targeted and are combined using Boolean logic. This will be best understood by someone who is comfortable with

- Boolean operations (AND, OR, NOT),
- its language (e.g. "!" means "NOT"), and
- how nesting these rules limits their scope

Note that if this technical expertise is not available, an Export to Excel of the *results* of a report makes further filtering and data manipulation available in an application that most people are familiar with. This is a viable alternative to building a filter.

To build a filter as part of the report, at the simplest level you follow this process:

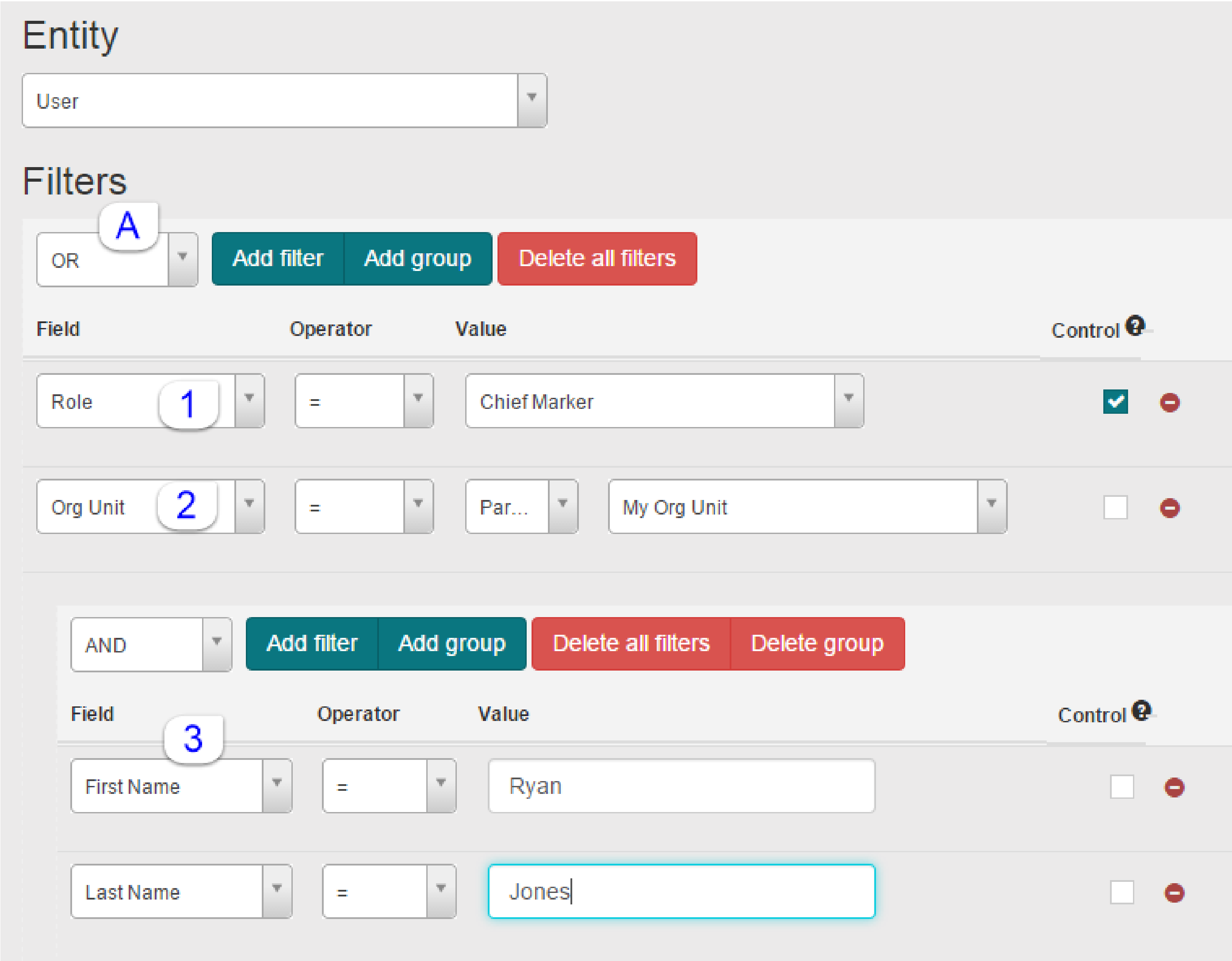
A. Click **Add filter** to set up a rule
B. Choose a **Field** (for example, Full Name, Active, etc) from the drop-down box at the left
C. Choose an **Operator** from the drop-down box in the middle
D. Type a value in the box at the right.
    a. In some cases, for example when you have specified that "Active =", you will be provided with drop-down choices, in this case "yes" or "no".
       In other cases, for example when you have specified that "Org Unit = " (see O), an additional drop-down box will appear with Const and Param as choices. You select "Const" to indicate that you are specifying a value in the right hand box; you select "Param" to indicate that you are specifying a characteristic in the right hand box. In this example, choosing Const means that the box displays actual Org Units to select. Selecting Param means that you can choose a relationship, i.e. your own Org Unit.
E. You can add another rule (filter) to add to this top-level rule Group by clicking the top **Add filter** button (see A) again. Notice that this new rule (Active = No) lines up with the first rule. Depending on what is selected in the drop-down field at the top (see E), you are now specifying Users for whom both of these rules are true (AND) or else Users for whom either of the rules is true (OR). For example, in the image below the rule specifies Users with the role of "Basic User" who are also inactive Users (AND).



F. You delete a single rule (filter) by clicking the **minus** icon at its right hand side.
G. You can delete all the rules by clicking **Delete all filters**
H. You can further combine new rules into sub Groups by clicking **Add group** (H). This makes it possible to logically build a complex set of filters (but this does require a technically-oriented person).
I. After you have clicked **Add group** (H), new fields and buttons will then appear. You can then click the local **Add filter** button (I) to start creating a new rule Group made of logical combinations of rules. In the example below the rules will be logically combined using AND (N), that is, they must all be true for the whole Group of rules to be true
J. The outcome of this rule Group will be logically combined with the other rules listed just above it (at J), i.e those rules at the same level
This functionality, which can be repeated and combined numerous times and ways, means that rules can be nested in rules that are nested and combined in rules, and so on, leading to highly detailed specifications
As discussed, these are best set up by people, such as programmers, who can design the nested IF statements required.
K. You delete a Group of rules by clicking **Delete Group**
L. You can delete all the rules (filters) in a Group by clicking **Delete all filters**
M. Click the Control Checkbox next to a rule, if you want the report to pause when it is run to allow this value to be entered

To give an example of a targeted set of rules (filters), the image below specifies the reporting of all Users who:

1. have the role of Chief Marker, OR
2. are in the Org Unit of the user requesting the Report OR
3. have the first name “Ryan” AND the last name of “Jones”



Note that if the top level field (marked **A**) was set to "AND" instead of "OR", then the only User(s) selected would be people named "Ryan Jones" in the Report requestor's Org Unit with the role of Chief Marker

More details:

Filter Items

A Filter item takes a Property, an Operand and a Value to compare with. The Property is either a property available directly on the entity (e.g. User's Last Name), or a Custom Attribute. The following properties are available to participate in filtering at the user level (note that for brevity, standard built-in properties are not included):

- Organisation (select from drop-down or match on Organisation name).
- Organisation Unit (select from drop-down or match on Organisation Unit name).
- Main Role (select from drop-down or match on main role name).
- Last logged on, Last Active, Created – Date Fields related to the user's account and activity.
- Custom Attributes – note that it's possible to specify filters against custom attributes, including Boolean values, string values etc. This makes it possible to create reports targeted at specific demographics.

Operands

Operands are the logical operations. Depending on the datatype of the Filter Property, different operands are available. For example 'contains' cannot operate on a Date Type, but it can operate on a Text String. Below are the operands available:

- = - Equals, available on all data types.
- != - Does Not Equal, available on all data types.
- Greater than, available on String (alphabetical order) and Numerical types

- Contains - Contains operator, only available for Text String Data Type.
- After - Same as Greater than operator for Data Type.
- Before - Same as Less than operator for Data Type.

Value to Compare with

The Value to compare with appears in the third column, and changes its input control depending on the data type. For example, for Date Types, it would show a date picker, and for Text it would show a text box. This is the value that the report will use in the filter item to compare with.

Parameters

Some data types support parametric comparison values rather than explicit values. For example, it's often useful to run a report of users that logged on during the last week. Rather than selecting a 'hard' date (which would need to be updated each time a report is run), it's possible to select a parameter: "during the last week". At the time of writing, parametric comparison values are only available for Date Type properties, with the following parameters supported:

- Today
- Yesterday
- This Month
- This Year
- Last Month
- Last Year

Security Filtering

Note that in addition to the filters specified by the user creating the report, the system will append further filters based on Security roles. This makes the customisable reporting functionality available to a wider range of users (as it doesn't need to be restricted to administrator users). It also leverages existing security settings about who can see who (i.e. no special or separate configuration are required for a Supervisor to see just their staff, or a Teacher to see just their students). It makes it impossible for someone to accidentally be granted too many permissions at the reporting level and improves performance (as most users will only be able to see a subset of total results). The security filtering applied is the same as for the User List Form (under **Manage Users** menu item) – the same Security filtering also applies to reports on enrolment entities.

A humorous moment.

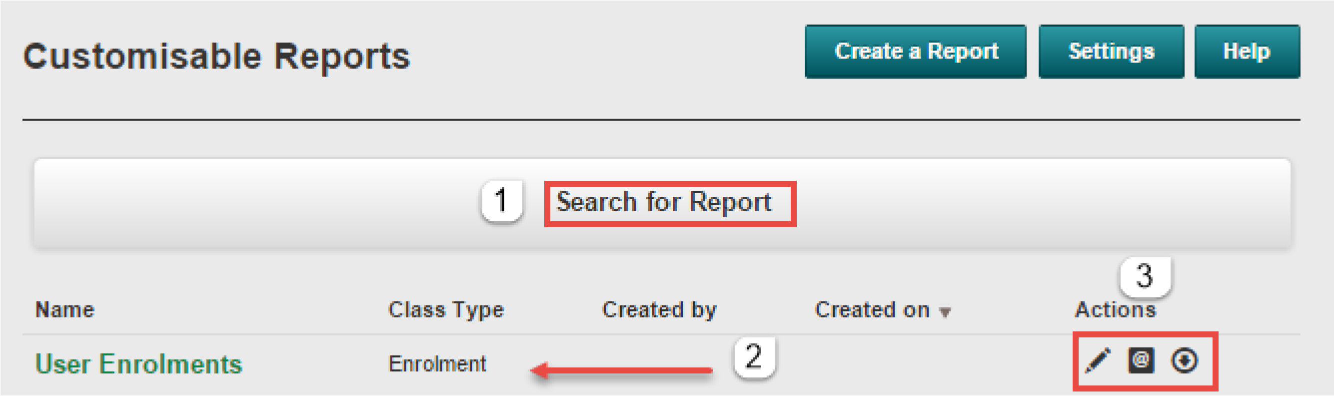
The following joke helps understand the Boolean OR, which has a different meaning from the everyday usage of the word:

A logician has a baby. Her workmate phones and asks if it's a boy or girl. The logician replies "Yes."

Inspect a Custom Report

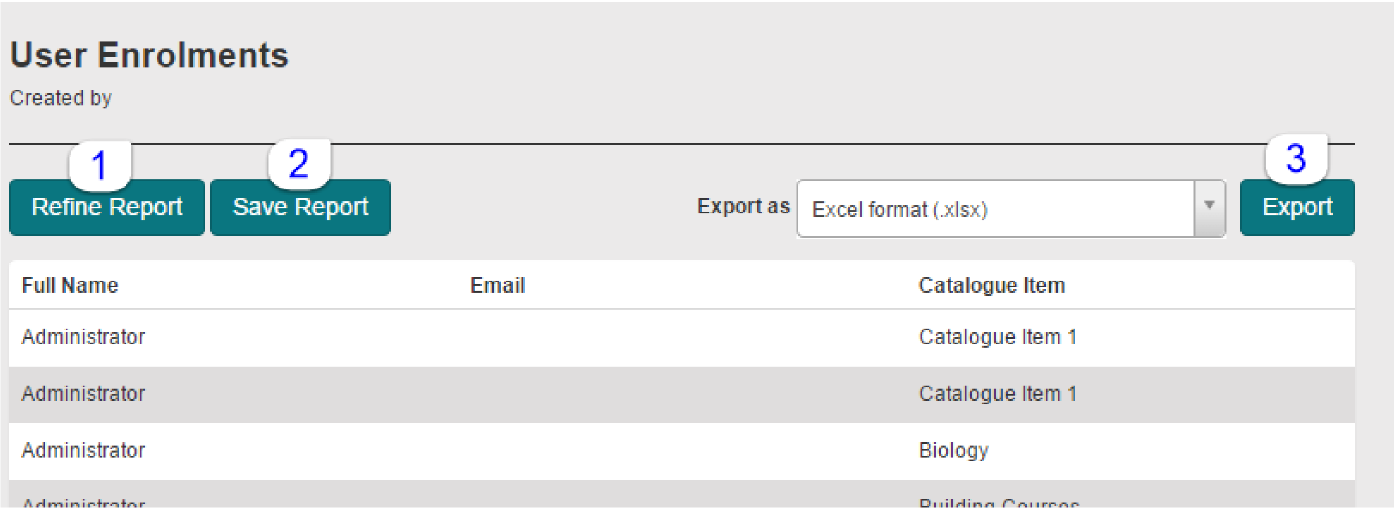
To locate a Custom Report that has previously been created, select **Manage Learning > Customisable Reports**.

1. Search for Custom Report using the **Search** menu, or
2. Locate the Custom Report from the **Display Name** list as shown by the arrow in the screenshot below
3. The three options at the right allow you to:
    - Edit the Report specifications. Clicking this icon leads to a screen where you can change the components of the report. See [Create a Custom Report](#) for details.
    - Schedule a Report to be run and emailed. Clicking this icon takes you to **Schedule a Job** in **Settings** where you can specify when the report should be run and who is emailed the result
    - Schedule a Report to be run and saved to a File. Clicking this icon takes you to **Schedule a Job** in **Settings** where you can specify when the report should be run.



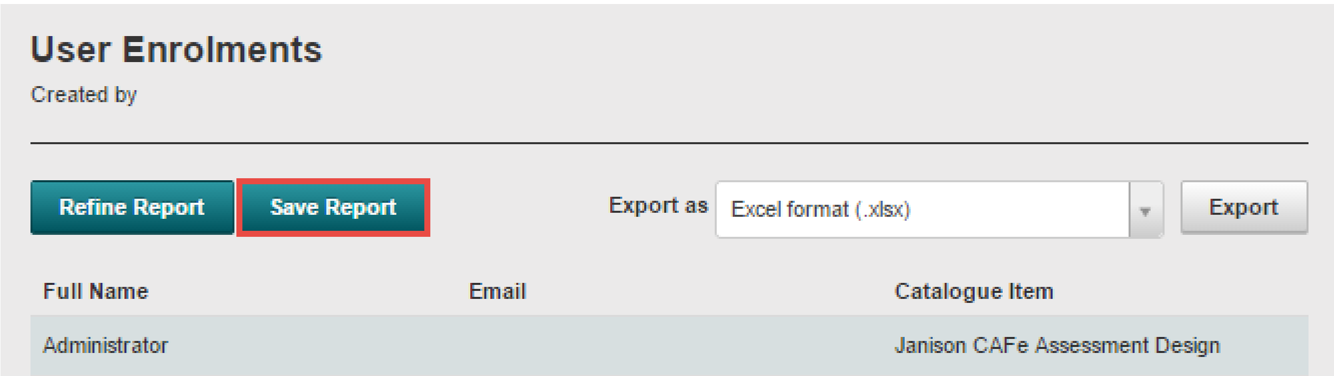
If you click one of the Reports, it runs and the next screen shows its results. You then have three options:

1. click **Refine Report** to refine the specifications (e.g. modify the columns selected for viewing or change filters). You can make the required changes (see [Create a Custom Report] for details).
2. click **Save Report** to save the report. If you have not made any changes this is not necessary
3. click **Export** to export the results of your report to your computer's Downloads folder. The default format is an Excel file (.xlsx). If you click the box to the left you can also select Comma-separated vales (.csv) and an Acrobat reader document (.pdf)

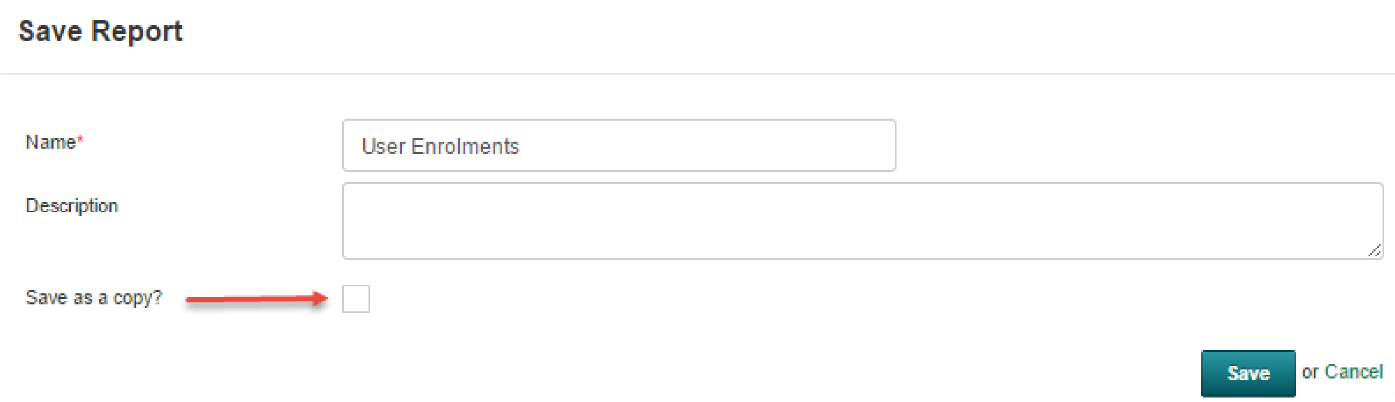


Save the Report

Once you have reviewed any refinements to the report, it can be saved. Select Save Report as seen in the screen below.



It is possible to Save the Refined Report as a copy (rather than overwriting the existing one) by selecting the Save as Copy checkbox.

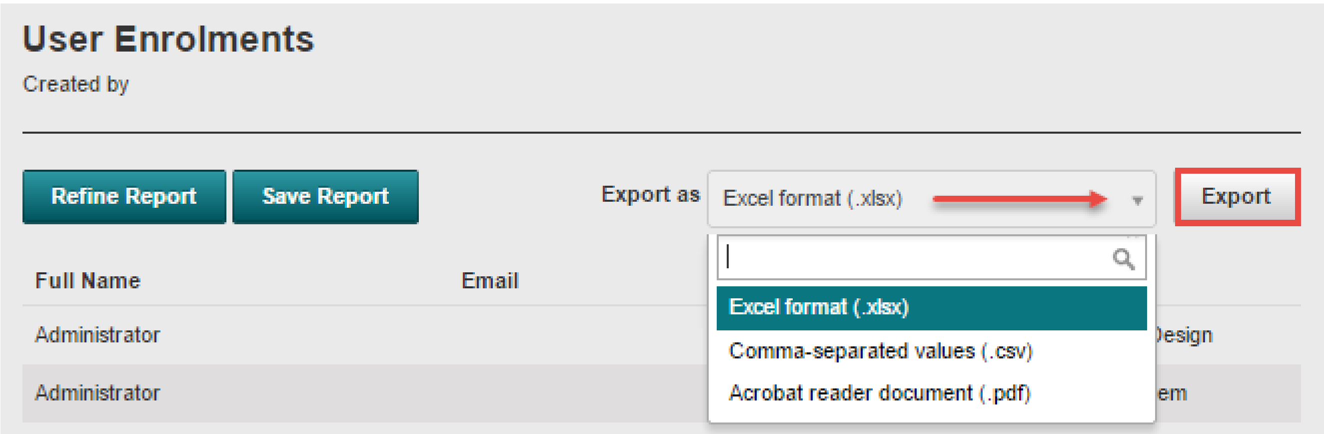


Export the Report Results

Results of a report can be exported to the following formats:

- PDF
- Microsoft Excel
- CSV (comma separated)

To do so select the format you wish to export the report in and click **Export**.



Uploading a Custom Report Template

To upload a customisable report template, enable Excel Template based reports in Tenant Settings (**Settings > Tenant Settings**).