



Sample Management System

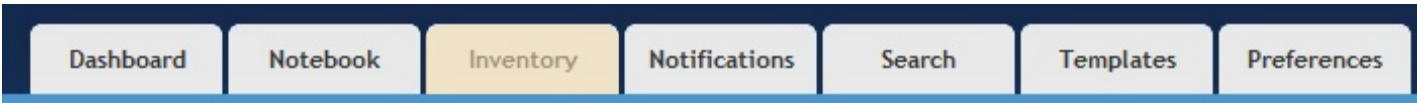
# User Guide

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# INVENTORY MANAGEMENT

eCAT provides a complete sample management solution. Across the top of eCAT are a series of tabs. To get started with samples, go to the Inventory tab.



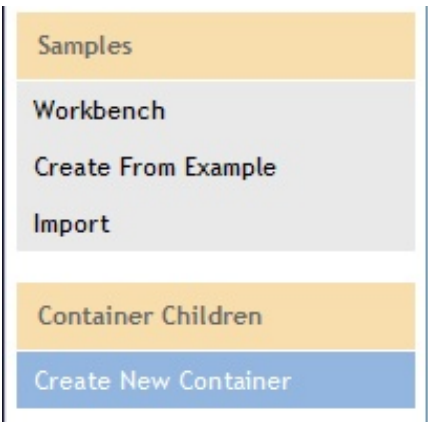
*eCAT tab menu*

Before you can create samples, you will generally need to first create a container, or a nested series of containers, which describe the location of your samples. The exception to this is the procedure for creating samples on the workbench, a "holding area" where samples can be worked with before it is known in what container they will ultimately be stored.

## CREATING LOCATION CONTAINERS

In order to create samples in a location other than the workbench, you need to first create a container to store the samples in. Containers may be nested within each other, such as storeroom, freezer, shelf, box, etc. This topic explains creation of location containers that may contain other types of containers.

Begin by clicking on the Inventory tab. On the menu on the left hand side, shown below, click "Create New Container".



*The container menu on the inventory page*

You can create a variety of container types in eCAT. The most simple of these is a "Location Container". This is simply a container that can hold other containers, but cannot hold samples. An example of this is a Freezer that contains Shelves. The Freezer is a location container that holds other location containers, which are the shelves. The shelves are also location containers that contain sample containers.

Next, select Location from the drop down at the top of the page. The screen updates and now looks like the following:

**Step 1 of 2**

Please select a container from the list on the left hand side of the page. An image of the container plus additional information will be presented on the right hand side.

Select container type : Location ▼ - All the containers that hold other containers.

Box Rack Horizontal 2x3

Box Rack Vertical 4x4

Freezer

Freezer Shelf


Test Fridge

Well plate Rack Horizontal 3x3

Well plate Rack Vertical 7x1

Name Freezer

Description Stores samples and containers. eCat does not restrict what can go into a freezer.



*Creating a location container*

Select the template type you wish to create. In the above example we have selected "Freezer". Click Next at the bottom of the page. The following page is displayed.

**Step 2 of 2**

Now that a container has been selected please enter the name and description of the container which will be added to Inventory

Name

Main Freezer

Description

The main freezer in the lab.

Cancel

Finish

*Naming a container*

Give the container a name and description and click Finish to create it. You will be returned to your newly created container.

## Main Freezer

[Inventory](#) -> Main Freezer



The main freezer in the lab.

No items found.

Name	Description
Nothing found to display.	

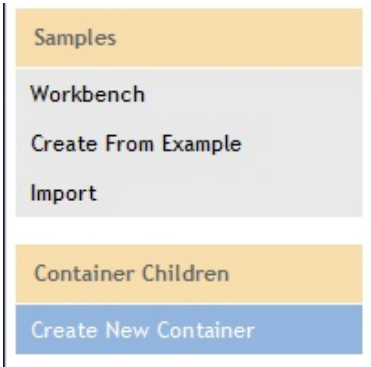
*The created location container*

As you can see the newly created container is empty. You can create a new sample container in this container, or you can create more location containers such as shelves.

## CREATING SAMPLE CONTAINERS

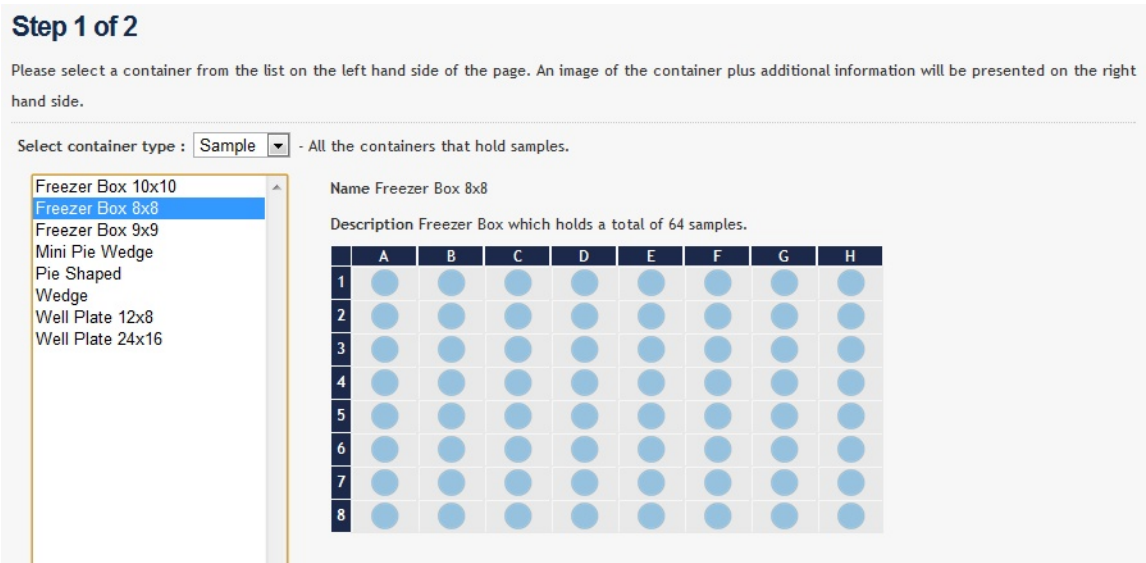
In order to create samples in a location other than the workbench, you need to first create a specific container to store the samples in. This topic explains creation of sample containers that store samples, which have different capabilities than location containers already described.

Begin by clicking on the Inventory tab. On the menu on the left hand side, shown below, click "Create New Container".



*The container menu on the inventory page*

Next, select Sample from the drop down at the top of the page. The screen updates and now looks like the following:



*Creating a sample container*

Select the template type you wish to create. In the above example we have selected "Freezer Box 8x8". Click Next at the bottom of the page.

The following page is displayed.

Step 2 of 2

Now that a container has been selected please enter the name and description of the container which will be added to Inventory

Name

New Sample Container

Description

A container for new samples

Cancel

Finish

Naming a sample container

Give the container a name and description and click Finish to create it. You will be returned to your newly created container.

New Sample Container

Inventory -> New Sample Container

A new container for samples

?

Aliquots and samples

?

Buttons on sample containers more...

	A	B	C	D	E	F	G	H
1	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
2	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
3	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
4	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
5	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
6	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
7	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
8	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>

The created sample container

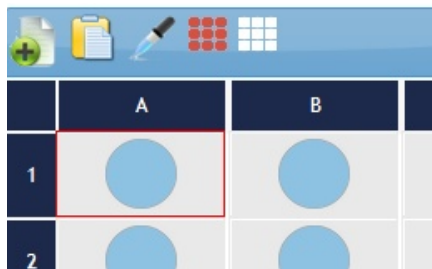
As you can see the newly created container is empty – it contains no samples. You can create new samples in this sample container.

# CREATING SAMPLES IN THE SAMPLE CONTAINER

You can create samples in two places – a sample container or the workbench. This topic deals with sample creation in a sample container.

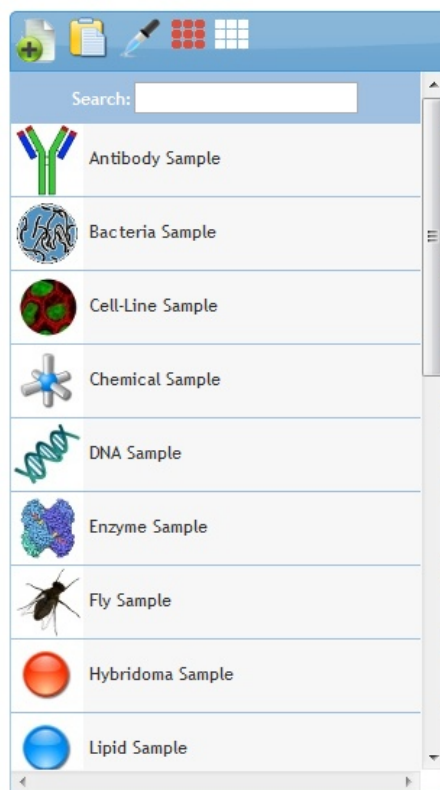
## • *Creating A Sample*

When you create a new freezer box, it is created empty. When you left click on an empty cell, the cell is selected and the button bar at the top of the container changes to look like the following:



*Creating new samples*

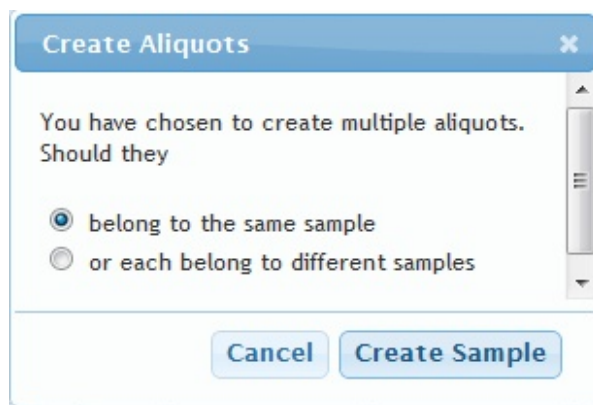
The most left hand icon is used to create a sample. When you click it the following drop down appears. You can now select a sample template to create. When you select a sample template and then confirm the creation, it will be created in the selected location in the sample container.



*The sample templates*

## ● **Creating Multiple Samples And Aliquots**

To create multiple samples or aliquots, you need to select multiple locations in the sample container. This can be done by simply clicking on more than one location. When you have multiple locations selected and then use the create button and select a template, you are presented with the following dialog:

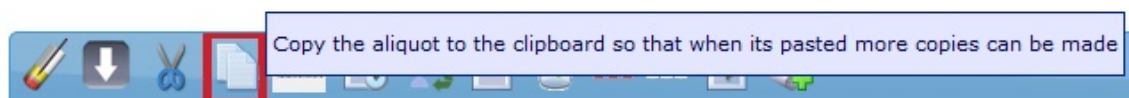


*Creating multiple*

You now need to choose whether the aliquots you are creating belong to the same sample or to different samples. If they belong to the same sample, then you are in effect creating a set of aliquots. If they belong to different samples then you are creating a set of distinct samples.

## **COPYING SAMPLES IN THE SAMPLE CONTAINER**

You can copy samples in the sample container. To do so simply select the sample or samples you wish to copy and then click the following button:



*Copying a sample*

The samples you selected will now be stored in memory. You then need to decide how you wish to paste the samples.

## ● **Pasting Into A New Sample**

The two buttons shown below control the pasting of the copy.



*Pasting*



The left hand button will create a new sample in the selected location. If you selected more than one sample to copy you need to select the same number of locations to paste into. Each created sample will be a unique sample – they will NOT share sample data.

The right hand button will create aliquots of the selected sample. If you selected a single sample, you can select as many destination locations as you wish and an aliquot of the copied sample will be created in each location. If you selected multiple aliquots then the same number of aliquots as was selected will be pasted into the destination locations.

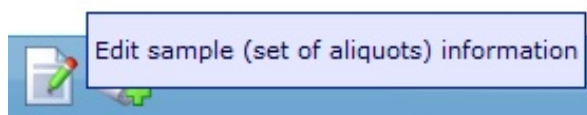
## EDITING SAMPLES IN THE SAMPLE CONTAINER

eCAT stores sample data in two distinct ways depending whether the data is unique to an aliquot or common across a set of aliquots. Because there are two ways of storing the data there are also two ways of editing the data.

### ● *Editing Sample Record Information*

When you define a new sample template or use an existing one to create a new sample, you can then edit all the fields provided by that template. This data is called the sample information. When you create aliquots of the sample all the aliquots share the same sample information.

To edit this information, you click the following icon when you have a single sample or aliquot selected.



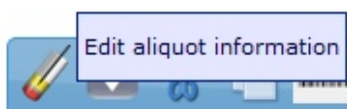
*Editing sample data*

You are then taken to the editing screen.

Remember that if you have multiple aliquots of this sample, then all of the aliquots share this sample information that you are currently editing, so any changes will be reflected in all the aliquots.

### ● *Editing Data For A Single Aliquot*

The second type of information, aliquot information, is unique to each aliquot. You can edit that information by selecting an aliquot and clicking the button shown below.



*The aliquot button*

The following dialog is shown:

Edit Aliquot Information

Name

DNA Sample

Container Label

Barcode

Generate Barcode

Concentration

0

ml

Buffer Name

Buffer Volume

0

ml

cancel

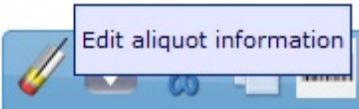
save

Editing single aliquot data

Enter the new values that you wish to see updated in the aliquot and click save.

• Editing Data For Multiple Aliquots

If you have multiple aliquots selected you can use the same edit aliquot button (shown below again) to edit the information for all of the selected aliquots at once.



The aliquot button

The following dialog is shown:

Edit Aliquot Information

You have chosen to edit multiple aliquots, to update a value check the checkbox next to it and enter the new value.

<input type="checkbox"/> Edit	Name	Value
<input type="checkbox"/>	Name	
<input type="checkbox"/>	Container Label	
<input type="checkbox"/>	Concentration	<input type="text"/> ml
<input type="checkbox"/>	Buffer Name	
<input type="checkbox"/>	Buffer Volume	<input type="text"/> ml

cancel

save

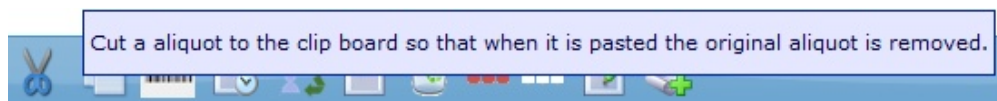
Editing multiple aliquot data

Here you need to check the fields that you wish to edit. The values that you enter into the checked fields will be updated in **ALL** the selected aliquots when you click save. Values in the fields that are not checked will be retained in **ALL** the selected aliquots.

## MOVING SAMPLES IN THE SAMPLE CONTAINER

Moving a single sample or aliquot in a sample container is very easy. Just drag the sample you wish to move and drop it into its new location. Moving multiple samples is almost as simple.

First, you need to select the samples or aliquots that you wish to move. Then click the "Cut" icon as shown below.



*Moving samples*

The two buttons shown below control the pasting of the moved samples.



*Pasting*

You need to first select the same amount of target locations as samples you are moving. Because you are moving multiple samples or aliquots there is no difference between the two paste operations. Either button will simply move the samples or aliquots to the new location.

## DELETING AND RESTORING

### • *Deleting Samples*

Deleting samples from a sample container is very easy – just select the samples you wish to delete and click the delete button as shown below:



*The delete button*

When you confirm the deletion, the samples will be deleted. Like everything else in eCAT a deleted sample can be restored. Restoring samples is explained at the bottom of this topic.

## • Deleting containers

Deleting containers is done by clicking the "Delete" menu entry in the container menu on the left hand side when viewing a container. The following page is displayed:

.....

☐ Delete all the samples in this container, but leave the container.

☐ Delete this container and all of its samples.

*Container deletion*

You now have two options – you can delete the container and all of its samples, or you can just delete all of the samples and leave the container. The option you choose affects how the deleted samples and/or container will be restored. If you delete the container then if you want to restore it you need to restore the container (and its deleted samples) using the restore container options in your preferences. If you delete the samples you can restore them or a subset of them in the restore samples page in the Preferences tab.





## • Restoring Samples

You can restore deleted samples by going to Preferences and then clicking on "Restore Deleted Samples". The following page is displayed.

Select the deleted samples that you want to restore. When you click restore they are restored to the Workbench. You can move them into containers from there.

### My deleted samples

One item found.

	Name	Template	Deleting User	Delete Time
<input type="checkbox"/>				
<input type="checkbox"/>	Antibody Sample	Antibody Sample	admin	02-Apr-11 16:26:15
<input type="button" value="Recover"/> <input type="button" value="Cancel"/>				

*Restoring samples*

You can select the samples you wish to restore and then click "Restore". Samples are always restored to the Workbench. You can then move them from the Workbench into other containers.

## • Restoring Containers





If you have deleted an entire container, you can restore it (and all its samples) by using the "Restore Deleted Containers" menu option in your preferences.

The following page is displayed.

Select the deleted containers that you want to restore and specify a destination container to restore to.

## My deleted containers

One item found.

	Name	Template	Num Samples	Deleting User	Delete Time
<input type="checkbox"/>					
<input type="checkbox"/>	Box2	Freezer Box 8x8	7	admin	02-Apr-11 16:25:53

## Destination

Select a destination container by clicking here and then on a container in the popup that appears.

### Restoring containers

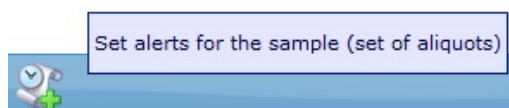
Here you need to select the containers you wish to restore, then click on "Select a destination container by clicking here and then on a container in the popup that appears" to select a target container to restore your container to.

When you have chosen a container to restore and a destination location, click "Restore" to perform the restore.

## ALERTS

eCAT allows for the setting of alerts on a sample. Alerts only work at the sample level and apply to the set of aliquots for that sample.

To set alerts for a sample select the sample you wish then click the sample alerts button as shown below.



*The alerts button*

The following dialog is displayed showing the different alerts you can set.

Add Alerts to Sample

Alert when the total number of vials is less than:

5

Alert when the sample expires:

☒

Alert when the total volume in all vials is less than:

100

ml

Alert when the freeze-thaw cycle count (in any vial) is greater than:

2

cancel

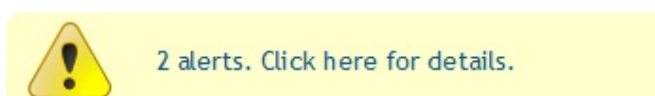
ok

*The sample alerts dialog*

You can set four kinds of alert. If the value in the alert is zero, the alert is not set.

- **Alert when the total number of vials is less than:** This warning will fire if aliquots are deleted and there are less than the required amount of aliquots of this sample.
- **Alert when the sample expires:** If this checkbox is checked then the alert will fire if the sample expiry date field of the sample has a date in the past.
- **Alert when the total volume in all vials is less than:** This warning will fire if the total volume summed across all aliquots of the sample is less than the given value.
- **Alert when the freeze/thaw count (in any vial) is greater than:** This warning will fire if any aliquot of the sample has a freeze thaw count greater than the given value.

When an alert fires, a warning is displayed at the top of the sample container as shown below:



*An alert fires*

If you click on the warning, you are taken to a detailed display of all the alerts.

Select	Sample Name	Type	Vials	Container	Locations	Last User	Last Updated	Alerts
<input type="checkbox"/>	Antibody Sample	Antibody Sample	1	Inventory/Freezer Box	A1	admin	02-Apr-11 14:34:38	There are 1 vials of this sample. A warning was set for less than 5 vials.
<input type="checkbox"/>	Antibody Sample	Antibody Sample	1	Inventory/Freezer Box	A1	admin	02-Apr-11 14:34:38	The sample has volume 0ml when it should have at least 100ml.

Export options: CSV | Excel | XML

*The alerts report*

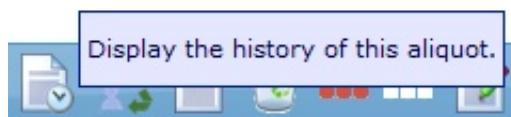
This page shows a detailed summary of all fired alerts. You can select individual alerts and then check the "Remove Selected Alerts" button to stop that alert from being displayed. If you do this the alert will not be displayed again until you next use the sample alerts dialog for that sample and save the alert value again.

## SAMPLE HISTORY

Everytime a change is made to aliquot or sample data, a new version of that aliquot is created. This means that you can always see all of the changes made to any sample, and which user has made the change.

This is very useful for regulatory purposes as well as just for keeping track of what has been done to samples.

To see the history of a sample select the sample you wish to see and then click the sample history button as shown below.



*The history button*

The following page is displayed showing the list of previous versions of the sample.

Versions			
Record Name	Version Number	Last Saved	Saved By
Antibody Sample	4	02-Apr-11 14:34:38	admin
Antibody Sample	3	02-Apr-11 14:34:38	admin
Antibody Sample	2	02-Apr-11 14:34:32	admin
Antibody Sample	1	02-Apr-11 14:34:27	admin

*The history of a sample*

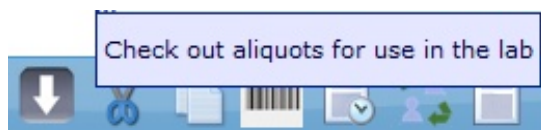
If you click any of these previous versions, the sample is displayed as it was at the time of that edit. You can then choose to restore that previous sample version to the current version. This will create a new sample version. So for example if you were to select version 3 of a sample record which is currently on version 5, you would create a new version 6 which was identical to version 3.

## CHECKING IN AND CHECKING OUT SAMPLES

Sometimes samples are removed from sample containers and used in the lab. When this happens eCAT maintains a record of which samples are checked out, and the total freeze/thaw count for each sample.

### ● Checking out samples

To check out samples, select the samples you wish to check out and then click the check out button as shown below.

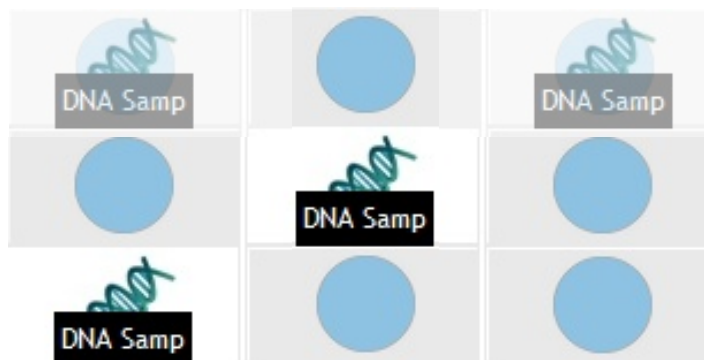


*The check out button*



The checked out samples will be displayed differently so that it is easy to see what is checked out.

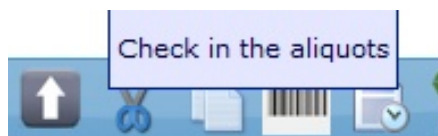
Here the samples in the top left and top right are checked out, with the samples in the middle and bottom rows not being checked out.



*Checked out samples*

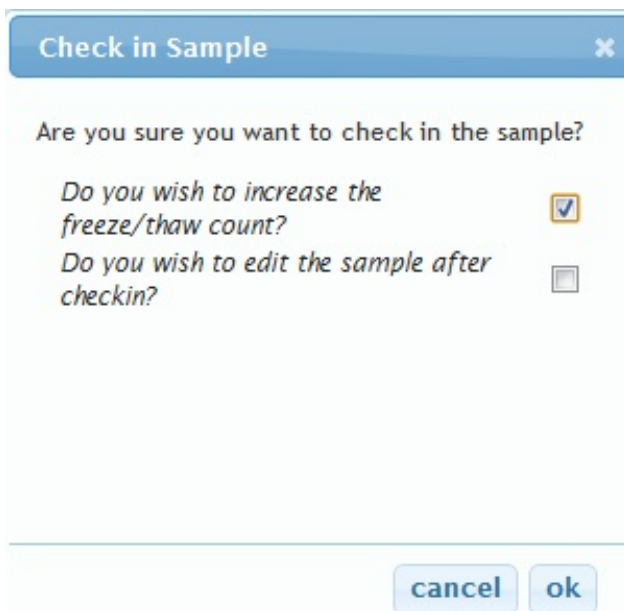
### • Checking in a sample

To check in samples, select the samples that are checked out you wish to check in and then click the check in button as shown below.



*The check in button*

You are prompted to increase the freeze thaw count (checked by default) or to automatically edit the record (not checked by default) as shown below.



*Check in options*



## • Viewing the freeze thaw count

You can use the sample summary button to view the details of a selected sample – the freeze thaw count is shown there.

The screenshot shows a sample grid with columns A, B, C, D, E, F, G and rows 1-8. A 'DNA Samp' label is visible in the grid. A 'Sample Summary' pop-up window is open, displaying the following details:

Volume	0ml
Volume	0ml
Barcode	
Created By	admin
Creation date	2011-04-01
Freeze Thaw Count	1
Related Aliquots	DNA Sample DNA Sample DNA Sample DNA Sample DNA Sample DNA Sample

Below the summary is a 'Sample Information' section with fields for Field Name, Value, Description, Expiry Date, and Sample.

*Sample summary*

## • Viewing all checked out samples

When viewing the sample container, you can quickly see a report of all checked out samples. You can view the samples checked out by anyone, or just the samples checked out by you. You can do this by clicking the two report options in the left hand menu as shown below.

The screenshot shows a 'Reports' menu with the following options:

- My Samples
- All Samples
- My Checked Out Samples
- All Checked Out Samples
- Expired samples
- All Containers

*Reports*

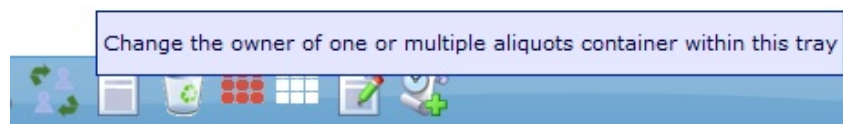
- **Freeze Thaw Counts for Well Plates**

For sample containers, each sample has its own freeze thaw count. For well plates, the entire container must be defrosted at once to access a sample, so when you check in a sample in well plate the freeze thaw count is incremented for EVERY SAMPLE in the well plate, not just the sample you are checking in.

## SAMPLE OWNERSHIP

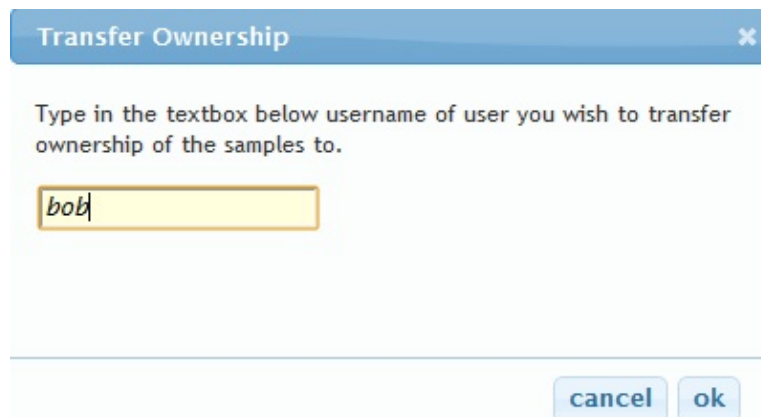
Each sample has an owner. Normal inventory users of eCAT can only see samples that they own themselves, so it is sometimes necessary to transfer the ownership of samples to another user. An example of this being useful would be if the lab manager was preparing a set of samples from a solution that the lab members would then use. The lab manager would create the samples, and then transfer ownership of them to the lab users that needed them. When the lab users next logged in they would be able to see all of the new samples.

To transfer ownership, select the samples you wish to transfer and then click the ownership button as shown below.



*The ownership button*

The following dialog is displayed:

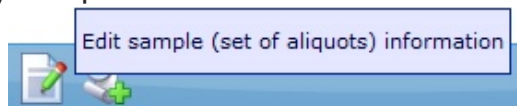


*Changing ownership*

Type the name of the user you are transferring ownership to. If the username does not exist you will not be allowed to keep typing it. When you have selected the user to transfer to click Save to perform the transfer of ownership.

# LINKING SAMPLE SOURCES TO SAMPLES

Sample records have a field called Sample Source. This is used to define a link to the source material from which this sample was created. To set the sample source for a sample, you use the edit sample button as shown below. You can set a sample source for the sample to be a notebook entry or an inventory sample.



*The edit sample button*

The following page is displayed – the sample source is the top field in the list as shown below.

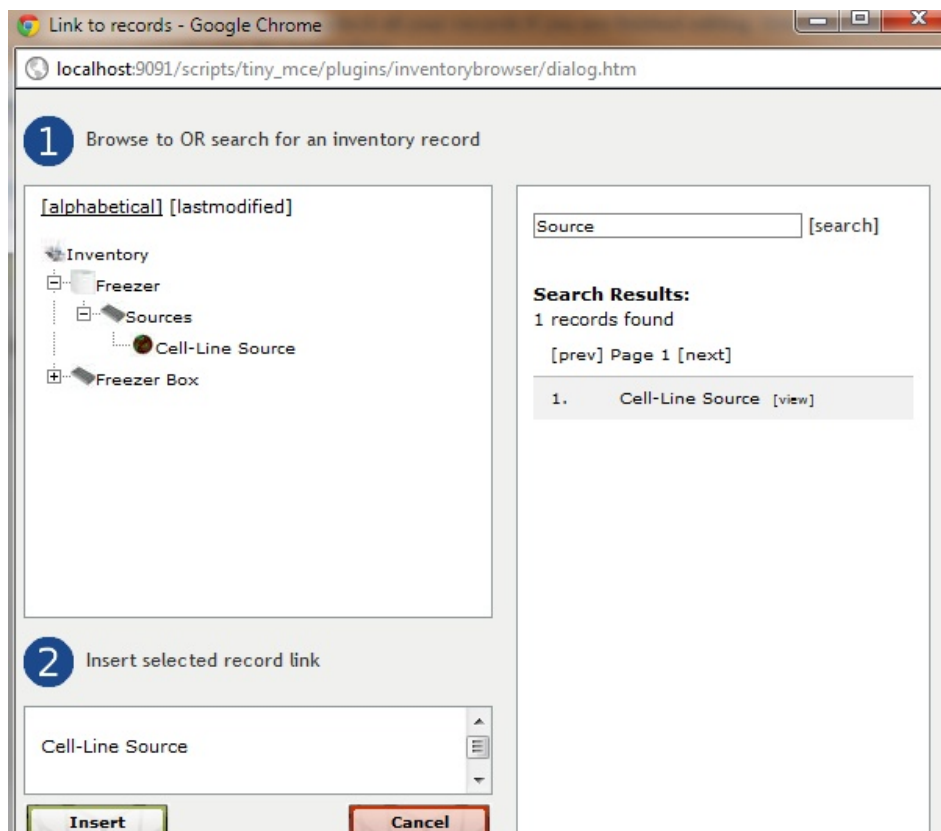
## Edit Cell-Line Sample

You can edit and rename a record here.



*The sample source field*

Click on the small green “I” icon to link to another sample in the inventory section as your sample source. The following dialog is displayed.



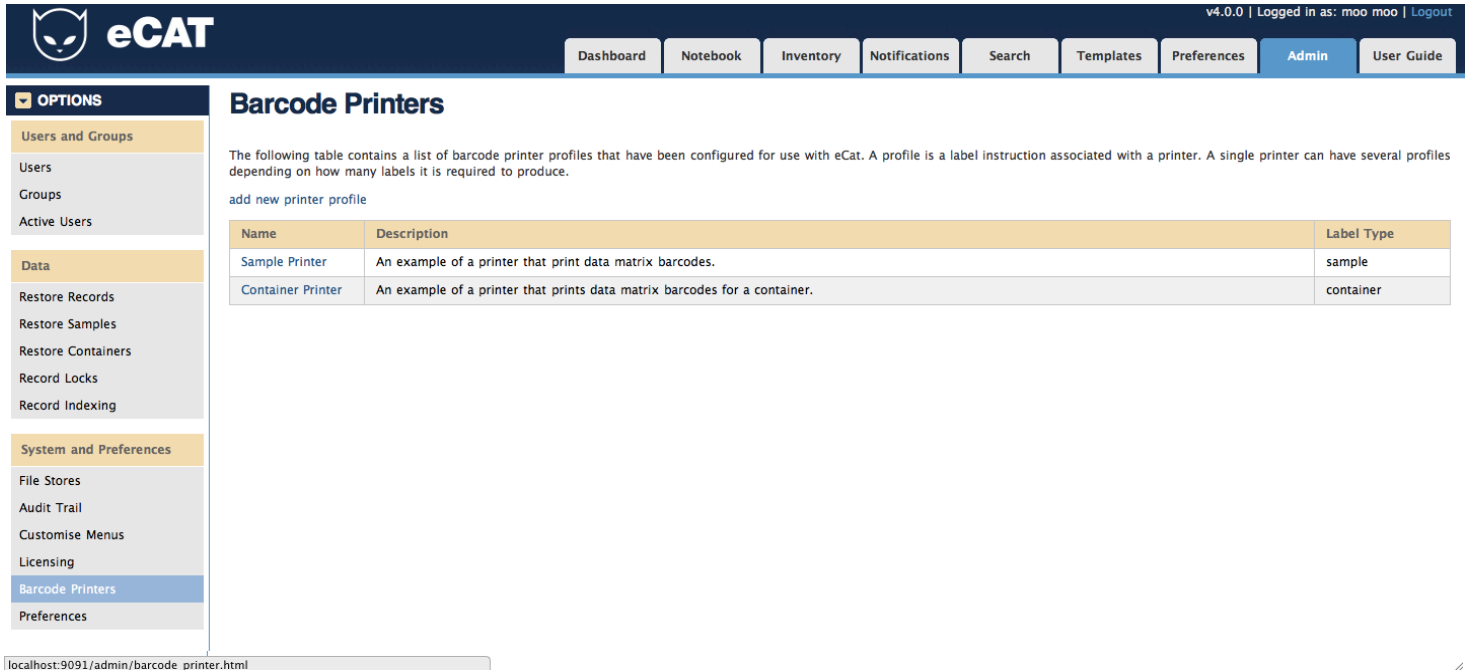
*Choosing a sample source*

Here you can browse the inventory section and choose any sample as the sample source.

# PRINTING AND BARCODING

## • Create a Barcode Label

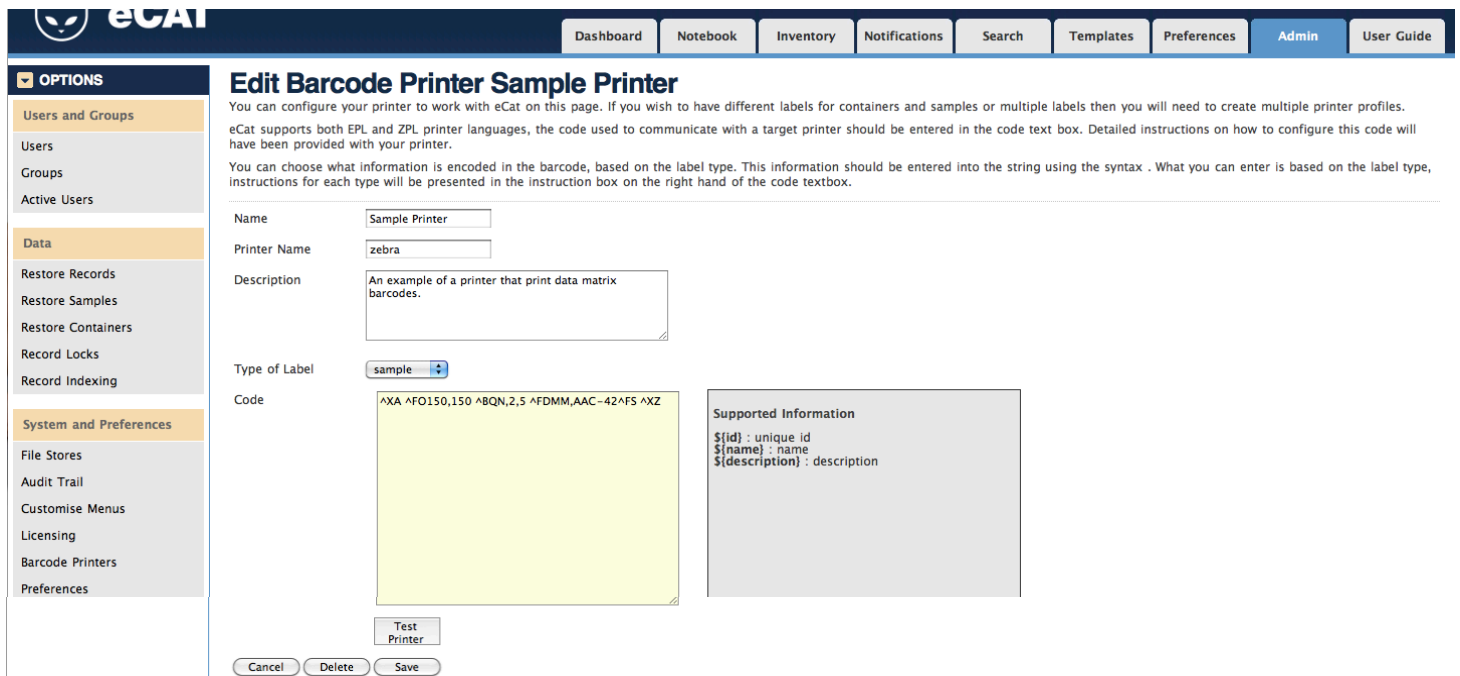
You will need to be logged in as an administrator to set up a label printer. Barcode printing can be found within the admin section under system preferences.



The screenshot shows the eCAT interface with the 'Barcode Printers' section selected in the left sidebar. The main content area displays a table of configured printer profiles. The table has three columns: Name, Description, and Label Type. Two profiles are listed: 'Sample Printer' and 'Container Printer'.

Name	Description	Label Type
Sample Printer	An example of a printer that print data matrix barcodes.	sample
Container Printer	An example of a printer that prints data matrix barcodes for a container.	container

eCAT works with profiles. A profile is basically a specific label command associated with a specific printer. A single printer can have multiple profiles within eCAT -- each profile will represent a different label. eCAT comes pre-loaded with an example container label profile and a sample label profile. You can easily test these by selecting a profile from the table.



The screenshot shows the eCAT interface with the 'Edit Barcode Printer Sample Printer' page. The page contains a form for editing a printer profile. The form includes fields for Name, Printer Name, Description, Type of Label, and Code. The 'Type of Label' is set to 'sample'. The 'Code' field contains a sample command: ^XA ^FO150,150 ^BQN,2,5 ^FDMMAAC-42^FS ^XZ. The 'Supported Information' section shows the syntax for the code: \${id} : unique id, \${name} : name, and \${description} : description.

Change the name of the printer in the label profile form to the name that your operating system uses to identify the printer. Then select the test print button, and your label printer should produce the example label. Don't be concerned if the label is unreadable or not positioned correctly. Due to the large variety of labels and the various ways printers are built its impossible to provide examples that will suit all printers. As long as the printer prints then that means you are ready to create your own labels.

To create a new profile select add new label profile in the barcode printing section. You will need to fill the following fields in the printer form.

- **Name** – Used to identify the printer/label code.
- **Printer Name** – The name that your operating system uses to identify the printer.
- **Type of Label** – There are 3 types of label sample, container and both. These represent the different sections within eCAT's inventory system where you can print labels. If you select sample then you will only be able to print that label from within the sample container interface. If you select container then you can only print that label from within the container view. If you select both then you can print the label from either view. Because sample records have more information than containers if you select a sample label you can insert more sample information into the label code.
- **Code** – This is the ZPL command used to generate the barcode label. Your printer will have been supplied with either a programming guide or label printing software. You should be able to design a label command with those. All you need to do is insert the code into this text box. The variables that are shown in the grey box on the right hand side of the page represent what sample or container information that can be inserted into the label. So if you add \${name} into a line of code when you then print a label for a sample named 'antibody', 'antibody' will appear instead of \${name} in the new label.

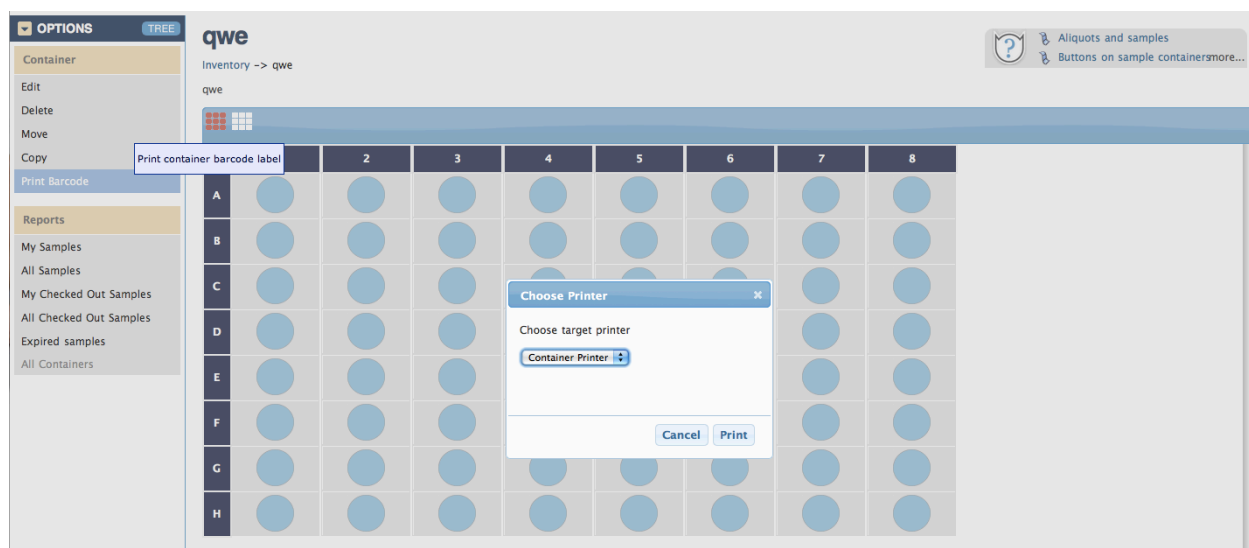
## • **Printing a Container Label**

Before you can create any container labels you must first create a container within eCAT and also have a container label profile setup and ready to be printed to. The profile will need to have the print type "container" or "both".

First select the target container from the inventory section.

On the left hand menu under the heading container you will find the "Print Barcode option".

Select this and the following popup will appear.



The drop down list allows you to select a target profile for the container. Select a profile and then select print. You should notice that your label printer has produced a label for that container.

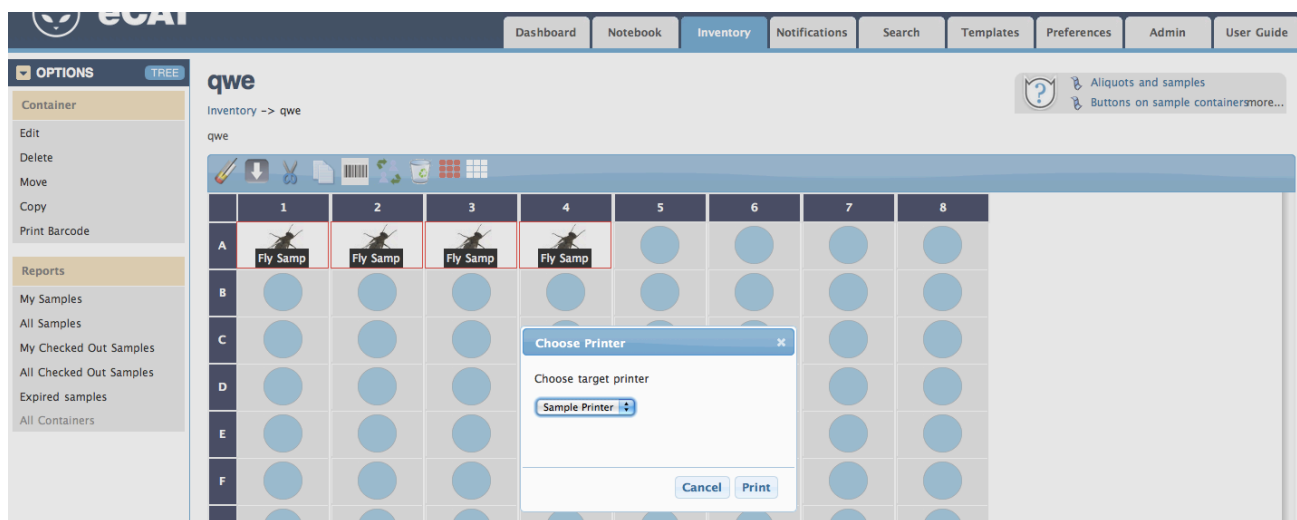
## • Printing a Sample Label

Before you can print a sample label you must create them in eCAT, and they must also be assigned to a parent container. The profile will need to have the print type "sample" or "both".

Select one or more aliquots from the sample container, then select the print barcode icon from the toolbar which runs along the top of the container. The icon looks like this:



The following popup will appear.



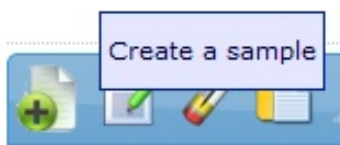
The drop down list allows you to select a target profile for the sample. Select a profile and then select print. You should notice that your label printer has produced a label for that sample. If multiple samples are selected a label will be produced for each selected sample.

# THE WORKBENCH

Samples normally live in sample containers, but sometimes you need to create or work with a sample before you know what container it is going to live in. To help with this, eCAT provides the Workbench, a "holding area" which can be considered similar to a sample container except that the samples do not have a location inside the container – they are instead presented as a flat list.

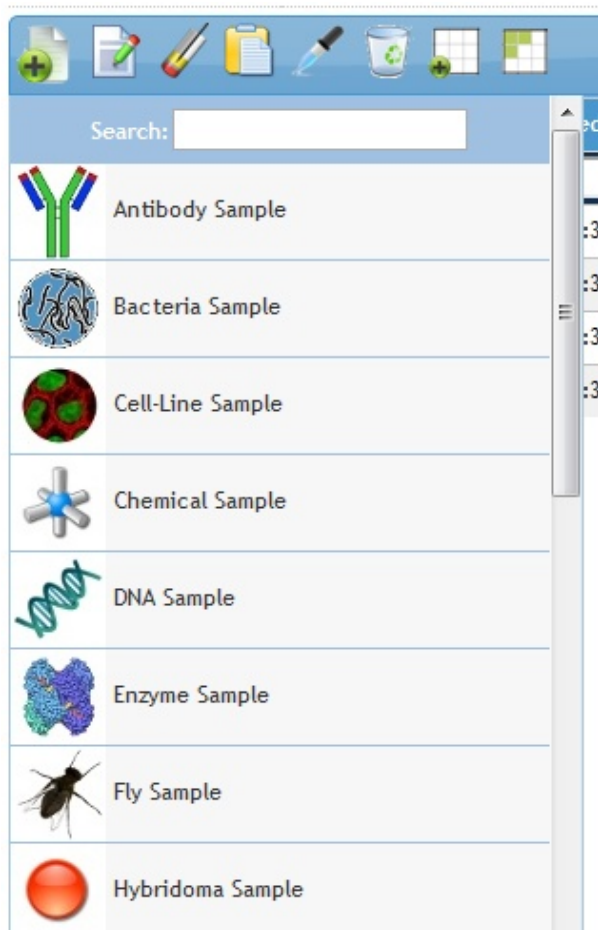
- ***Creating samples on the Workbench***

To create a sample on the Workbench click the icon shown below.



*Creating new samples*

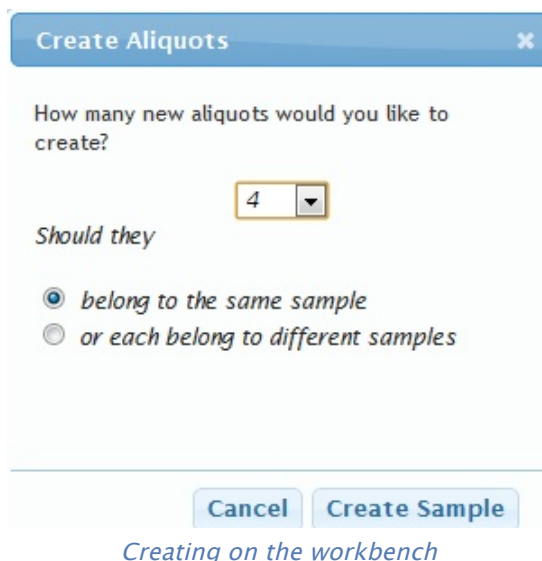
The following drop down appears. You can select a sample template to create.



*The sample templates*



When you have selected a sample template, you are presented with the following dialog.



The dialog box is titled "Create Aliquots" with a close button (X) in the top right corner. It contains the text "How many new aliquots would you like to create?" followed by a text input field containing the number "4" and a dropdown arrow. Below this is the text "Should they" followed by two radio button options: "belong to the same sample" (which is selected) and "or each belong to different samples". At the bottom, there are two buttons: "Cancel" and "Create Sample". Below the buttons, the text "Creating on the workbench" is displayed.

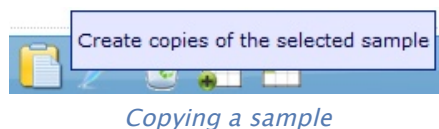
When you create samples on the Workbench you need to decide how many samples you are going to create, and whether or not you are creating a set of aliquots (i.e. where all created data belongs to the same sample) or a set of separate samples (i.e. where all created data belong to different samples). When you click Create Sample the samples are created and you are returned to the Workbench.

- **[Editing sample and aliquot data on the Workbench](#)**

Samples created on the workbench can be edited in the same fashion as samples created within a sample container. See the section, "Editing Samples in the Sample Container", for full instructions

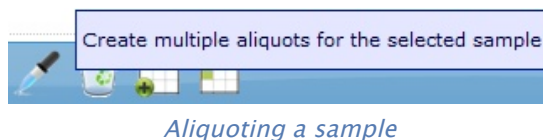
- **[Copying and aliquoting samples on the Workbench](#)**

To create a copy of a sample on the Workbench select a single sample and then click the copy icon as shown below.



You are asked how many copies you wish to make and, on confirmation, the copies are created. These samples all have different sample information – they are not aliquots of each other.

To create a set of aliquots on the Workbench select a single sample and then click the copy icon as shown below.

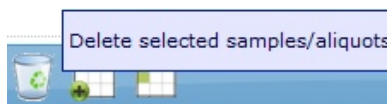




You are asked how many aliquots you wish to make and, on confirmation, the aliquots are created. These samples all share a single set of sample information – they are a set of aliquots.

- **Deleting samples on the Workbench**

To delete samples on the Workbench select a set of samples and then click the delete icon as shown below.



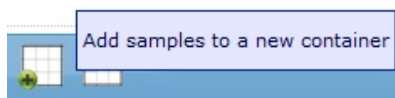
*Deleting samples*

After confirmation the samples will be deleted.

- **Moving samples from the Workbench to containers**

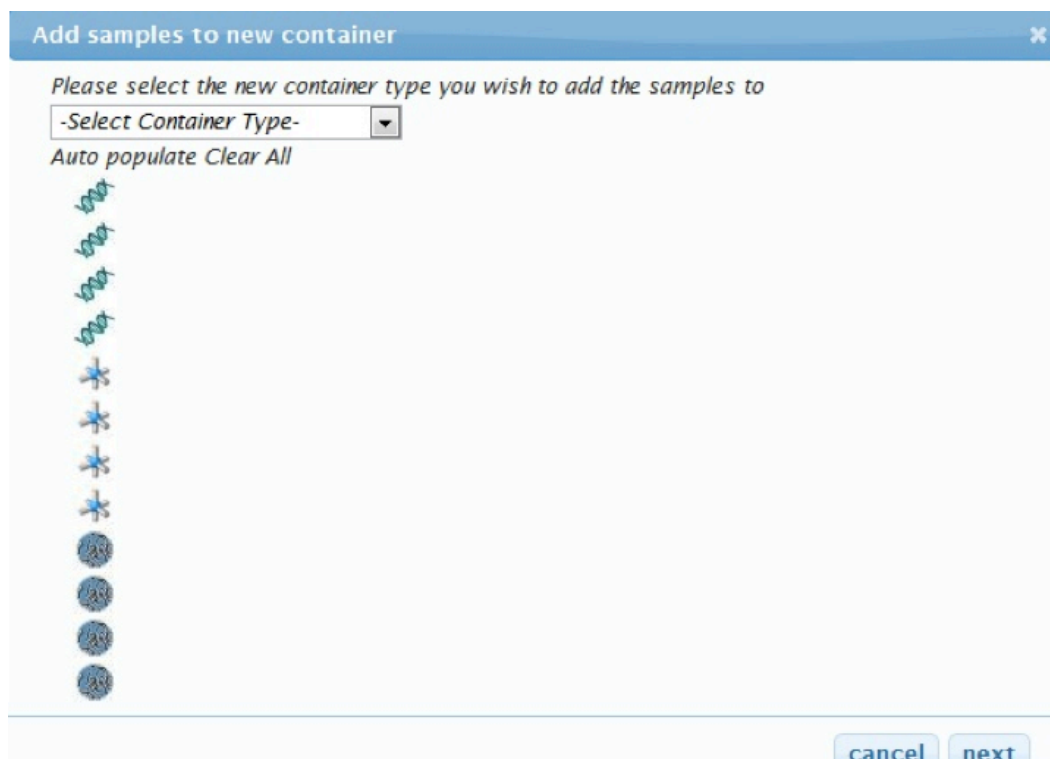
When you have finished preparing your samples on the Workbench you will then probably want to move them to sample containers. You have two ways of doing that from the Workbench – you can move the samples into a new container, or into an existing container.

To move the samples into a new container, select all the samples you want to move and then click the following icon.



*Moving samples to a new container*

The following dialog is shown.



*Choosing a container type*

You need to decide what sort of container you are creating here from the drop down. When you select a container type it is displayed in the dialog as shown below.

Add samples to new container

Please select the new container type you wish to add the samples to

Freezer Box 8x8

Auto populate Clear All

1

2

3

4

5

6

7

8

A

B

C

D

E

F

G

H

cancel

next

Populating the container

You can then move the samples on the left into the locations you require or click the "Auto populate" link to have eCAT place all the samples in the tray for you. When you are done deciding on locations, click on "Next". The following dialog is shown.

Add samples to new container

Enter a name and description for the new container

Name :

New Box

Description :

The new box from the workbench

You are creating a new container, but still need to decide what container to put that new container in. Select a destination container for the new container by clicking here and then on a container in the popup that appears.

cancel

finish

Naming the container

Give the container a name and description. You are then asked to provide a destination container for your new container to be created in. Select a destination (by clicking on the text under the description) for your new container. Your container will be created complete with all of its samples already in place.

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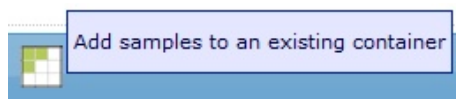
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Adding samples to an existing container is very similar. Just select the samples you wish to add, then click on the following icon.



*Moving samples to an existing container*

You then need to choose an already existing sample container to move the samples into. After you have selected a sample container you use similar population controls to adding to a new container. When you are finished, click "Finish" and the samples will be moved to the existing container.

## INVENTORY ROLES

There are two roles available for accessing the inventory system in eCAT – inventory manager and inventory user.

An inventory manager has full control over the inventory system. They can create container templates, sample templates, containers and samples. They can also perform any editing action on any sample or container.

An inventory user is by default only allowed to create samples in pre-existing containers – they cannot create containers or container templates. Administrative users, however, can set a preference that allows inventory users to create their own containers.

In addition an inventory user cannot see or edit the aliquot or sample data from a sample that they do not own. Every sample has an owner, and inventory users can only access samples that they own themselves. Any user can transfer ownership of a sample that they currently own to any other user, [as explained here](#). This is how inventory managers can allow inventory users access to certain samples – they change ownership of those samples to that user.

Note that Manager and Administration User roles have all the inventory power of Inventory Managers, as well as more control over the notebook aspects of eCAT.

Note also that as a normal eCAT user you cannot control your role – your administrator does that for you when your account is set up. You can view your current role by looking at the User Information section of the Preferences page.

## IMPORTING SAMPLE DATA FROM SPREADSHEETS

In many labs sample data is stored in spreadsheets. You can use eCAT to import your sample spreadsheet data. Each line in your spreadsheet will be created as a sample or aliquot. Before you can import your spreadsheet into eCAT you first need to save your spreadsheet in a format called "Comma Separated Values" or CSV for short.

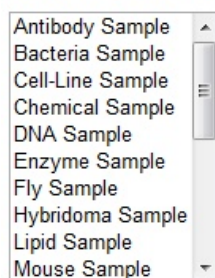
To do this in Excel, you just need to open the spreadsheet you want to import, then save it again. In the Save dialog, set the Save as type dropdown to CSV(Comma delimited)(\*.csv). You then have a CSV file ready for import. From now on this document will talk about a CSV file instead of a spreadsheet. If you are using Open Office or some other spreadsheet package, there will be a very similar option.

There are two ways to import data into the inventory system.

## ● **Importing samples without container or location information**

The simplest way to get sample data imported from a CSV file into eCAT is to use eCAT's Workbench. You just browse to there, and click "Import". You can then browse your local machine for the CSV file to import. Clicking next shows you the following screen:

Select a template to import into:



Provide the column title that will name the records:

*Importing a CSV*

Here you need to choose a sample template to import to, and specify which column in the CSV file is going to provide the name of the record. The sample template is very important here. The field names in the sample template must match the field names in the CSV file. Here is an example of a valid CSV file.

```
Name,Volume,Barcode,Sample Source,Description,Expiry Date,Extra Information,Locked
DNA1,10,123456,Project:1295360076458:record:sample,Some Text Here,12/10/2010,No Details,true
DNA2,11,123456,Project:1295360076458:record:sample,Some Text Here,12/10/2010,No Details,false
DNA3,12,123456,Project:1295360076458:record:sample,Some Text Here,12/10/2010,Extra,true
```

*A valid CSV file*

This will import into a template with the same field names – an example of this is shown below:

Name	Type
Volume	number
Barcode	string
Sample Source	reference
Description	text
Expiry Date	date
Extra Information	text
Locked	checkbox

*Field names*

Note that the field names in the template have the exact same values as the top row of the CSV file – this is how the importer determines which value to place in which field. You must have an exact match of field name to column name in the CSV file.

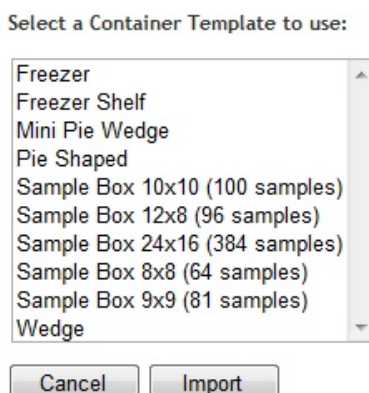
In addition to making the names match, the data in the cells of the CSV must be of the correct type to import into that field type. So if the field in the class is a number, the data in the CSV file must be numerical, and so on. Details of each of the supported field types and the formats required are given in the [Field types](#) section below.

When the sample data has been imported you can use the normal controls in the Workbench container to move them into freezer boxes.

## ● [Importing sample data with location information](#)

It is also possible to import samples with location information specified in the CSV file – this means that the CSV file specifies the name of the container and the location in which the sample is stored for every sample. This import involves creating new containers for the imported samples – it is not possible to import directly into existing containers.

To do this kind of import, choose "Import" in the inventory section in any container except the Unallocated Samples container. The bottom of the second page of the import wizard has an extra control which looks as follows:



*Choosing a container template*

You need to use this to specify what kind of container you are going to create in this import.

Each row in the CSV file must contain two extra columns – container name and container location. The name of the container can be whatever you wish the container to be called when it is created. The location in the container is the row/column index of the container using its notation. So if you are selecting a 10x10 sample tray, valid locations would be 1/A, 2/A, 5/B etc as shown below:

```
date,container name,container location
12/10/2010,Test Box,1/A
12/10/2010,Test Box,2/B
12/10/2010,Test Box,3/C
12/11/2010,Second Box,1/A
12/11/2010,Second Box,2/A
12/11/2010,Test Box,3/A
```

*Container information*

The section of the CSV file shown above has the container name and container location columns to the right of the final data column (date). This CSV will create three samples in a container called Test Box, then two samples in a container called Second Box, then a final sample in the first Test Box. The locations are specified using X, Y co-ordinates split by a /.

On completion of the import you are returned to the destination container.

## • *Importing aliquots*

You can also import samples as aliquots. Aliquots have only the freeze thaw cycle count and volume as unique properties. All other elements of the sample are shared between all aliquots. Aliquots are specified by having an aliquot id column in the CSV file. This is a numerical indicator – rows with the same aliquot id will be treated as a set of aliquots. Note that you must specify data for each column in the CSV file for an aliquot – but because the data is taken from the first aliquot row then the data stored will be the data present in the first aliquot in the CSV. The image below shows a CSV file with the aliquot id column at the end.

```
,date,reference,container_name,container_location,aliquot_id
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,1/A,1
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,2/A,1
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,3/A,1
One:Two,string value,true,Five,123,12/10/2010,Project:1295360076458:record:sample,Test Box,4/A,1
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,5/A,1
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,6/A,1
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,7/A,1
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,8/A,1
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,1/B,2
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,1/C,3
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,1/D,4
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,1/E,5
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,1/F,6
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,2,1/A,7
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,2,2/A,8
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,2,3/A,9
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,2,4/A,10
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,2,5/A,11
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,2,6/A,12
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,3,1/A,18
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,3,2/A,14
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,3,3/A,15
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,3,4/A,16
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,3,5/A,17
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,3,6/A,18
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,3,7/A,18
One:Two,string value,true,Four,123,12/10/2010,Project:1295360076458:record:sample,Test Box,3,8/A,18
```

### *Location information*

Here you can see that the first 8 samples in “Test Box” will all be the same aliquot. In addition the 5 samples in “Test Box 3” that have an aliquot id of 18 will be the same aliquot (but different to the 8 in “Test Box”). All other rows represent samples.

## FIELD TYPES

eCAT support CSV import into a variety of different field types. The types are listed below with details on the text format required to successfully import to them.

## CHECKBOX

Use the value "true" for checked, and "false" for unchecked.



## CHOICE

Choice fields have a list of string values in the class definition. To select multiple values specify the string values delimited by colons. So if the class has values One,Two,Three a valid entry would be One:Three

## DATE

Date fields support standard date representations – dd/mm/yyyy for example. So 14/10/2010 would be a valid date.

## NUMBER

Number fields must be numerical data. No text data is allowed, so 1.2 is fine, as is 1.20, but \$1.20 is not.

## RADIO

Radio fields have a list of string values in the template definition. To select a radio item just enter the string value in the CSV.

## REFERENCE

References are the most complicated type of field to import. To set a reference in the CSV file, the record you are referring to must already exist in eCAT. You need to browse to the record you are referring to and look at the URL bar. It will have a URL something like "/record.html?oid=1295365308624". The long number on the end will change. You will need this number. You also need to know the name of the record, and what you are linking from. The value you need to enter into the CSV is recordname:longnumber:destinationtype:sourcetype. So a valid value would be Project:1295365308624:record:sample. This means that you are linking to a record called Project with an OID of 1295365308624. The record you are linking to is a record, and the record you are linking from is a sample.

## TIME

Time fields have two possible value types. You need to look at the class definition to work out which type to use. Valid values are either HH:mm in 24 hour format (so 16:23) or hh:mm AM/PM so (4:23 PM).

## TEXT

Text fields accept any text. You can also insert HTML here.

# REPORTS

It is very easy to view reports in eCAT for any container. If you are viewing a container or a sample container, the menu on the left hand side has a section called Reports, as shown below.



*The reports menu*




Here you can view a variety of reports by just clicking the links. If you are viewing a sample container the report is a report of just that container's samples. If you are viewing a generic container then the reports contain details of samples in all sample containers in that container. So if you have a freezer with three freezer boxes in it, the reports for the freezer will contain information on samples in all three boxes. If you are viewing one of the actual freezer boxes then the report will only detail the samples in that box.

- **My Samples:** This report lists all the samples owned by the current user in the current container.
- **All Samples:** This report lists all the samples in the current container.
- **My Checked Out Samples:** This report lists all the samples owned by the current user in the current container that are checked out.
- **All Checked Out Samples:** This report lists all the samples in the current container that are checked out.
- **Expired Samples:** This report lists all the samples in the current container that have an expiry date set which is in the past.
- **All Containers:** This report is only available for normal containers (not sample containers) and shows all the containers in the current container.



When you click a report you are taken to the report page. The All Samples report looks like the following.

#### All samples in this container

Last Updated	Sample Name	Description	Location	Volume	Thaw Count	Type	Last User
							
03-Apr-11 11:30:18	Bacteria Sample		B1	0	0	Bacteria Sample	admin
03-Apr-11 11:30:18	Bacteria Sample		B2	0	0	Bacteria Sample	admin
03-Apr-11 11:30:18	Bacteria Sample		B3	0	0	Bacteria Sample	admin
03-Apr-11 11:30:18	Bacteria Sample		B4	0	0	Bacteria Sample	admin
03-Apr-11 13:08:08	Chemical Sample		A5	0	0	Chemical Sample	admin
03-Apr-11 13:08:08	Chemical Sample		A6	0	0	Chemical Sample	admin
03-Apr-11 13:08:08	Chemical Sample		A7	0	0	Chemical Sample	admin
03-Apr-11 13:08:08	Chemical Sample		A8	0	0	Chemical Sample	admin
03-Apr-11 13:09:00	DNA Sample		A1	0	0	DNA Sample	admin
03-Apr-11 13:09:00	DNA Sample		A2	0	0	DNA Sample	admin
03-Apr-11 13:09:00	DNA Sample		A3	0	0	DNA Sample	admin
03-Apr-11 13:09:00	DNA Sample		A4	0	0	DNA Sample	admin

Export options:  CSV |  Excel |  XML

#### *The all samples report*

When viewing a report you can use the filters at the top of the table columns to further restrict the data. You can also export the reports using the controls at the bottom of the table.