



SampleWare 3.2

Quick Start Guide

Simple Steps to Get You Up and Running with
SampleWare

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Introduction

SampleWare is an easy-to-use, customizable laboratory management database to store and organize sample data. It allows a lab to store and track sample data with ease. Data is stored in a hierarchical structure that can map sample data to its physical location in the lab. This allows samples to be located and retrieved efficiently.

How This Guide Is Organized

This guide provides an overview of the basic functionality of SampleWare. These are presented in an order that corresponds to the steps that a first time user needs to take in order to start using the application software.

The next step in applying Sampleware to your research requirements is to refer to the Use Case Tutorial, in which five common Use Cases are introduced.

- Aliquot Adjustment
- Chain of Custody
- Contract Research Management
- Inventory Management
- High Throughput and Auto-Attach

Basic Definitions and Actions

Sampleware mirrors the organization of samples in your lab.

Containers are the highest level unit of data.

Directory Tree is used to organize data within a Container, corresponding to physical lab locations (Lab1>Freezer1; Lab2>Dry Storage Cabinet> Rack3)

Data Templates give you the flexibility to describe your specific sample data

Data lists are predefined lists for data entry and sample searching

Summary of Basic Actions

Add a Directory: Tools>Directory Tree; right-click directory> Add Directory

Add a Container: Right-click appropriate directory > select Add Container

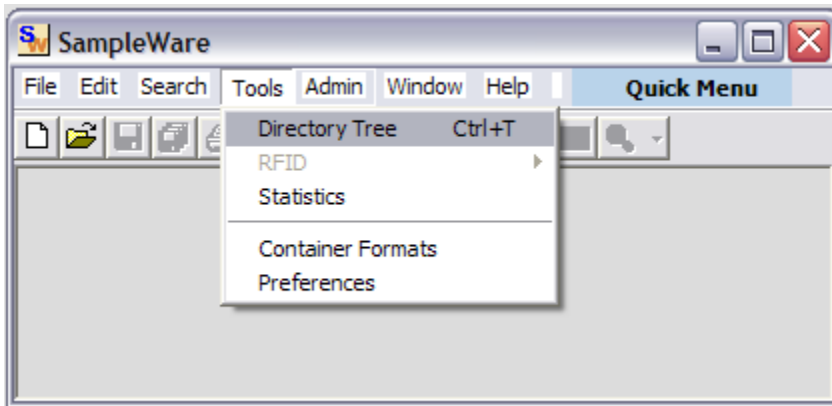
Add a Data Template: Admin > Data Templates > Add/Edit/Remove

Add a Data List: Admin > Edit Data Lists

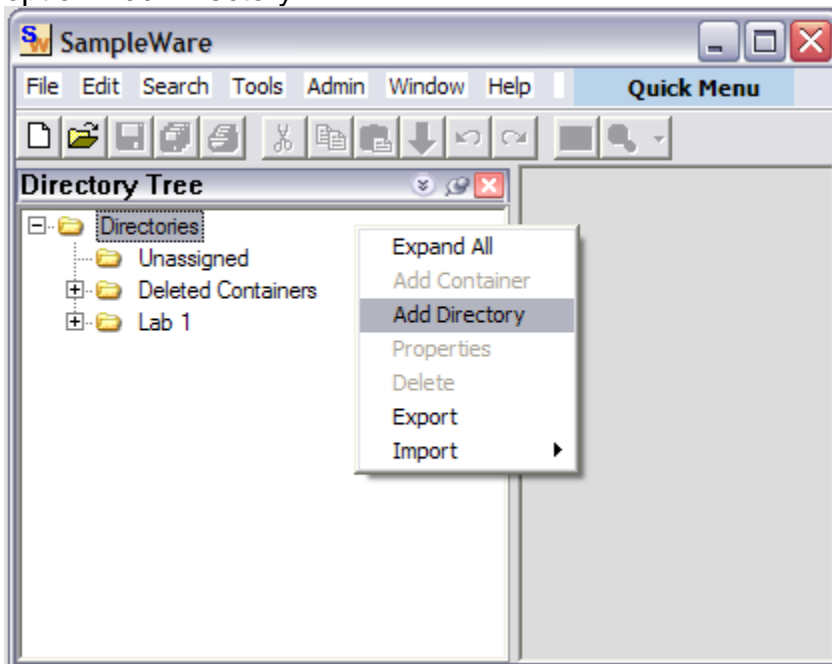
Detailed Steps for Basic Actions

1. Add a Directory

To access the directory tree, select menu item Tools > Directory Tree

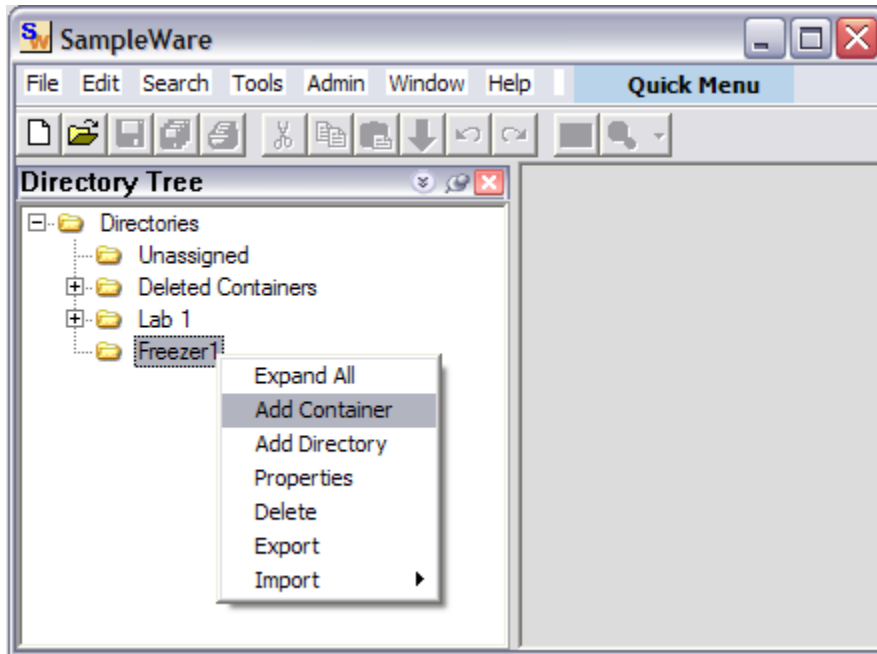


To add a new directory, right click the directory under which to add it and select option Add Directory

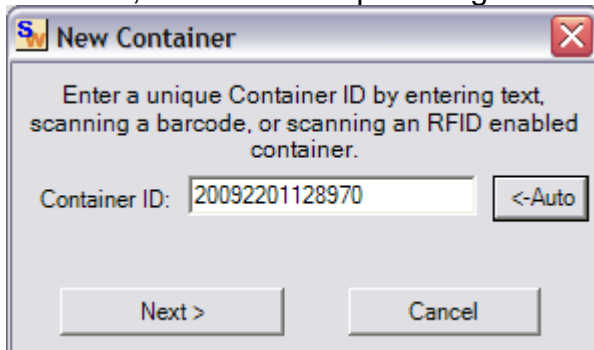


2. Add a Container

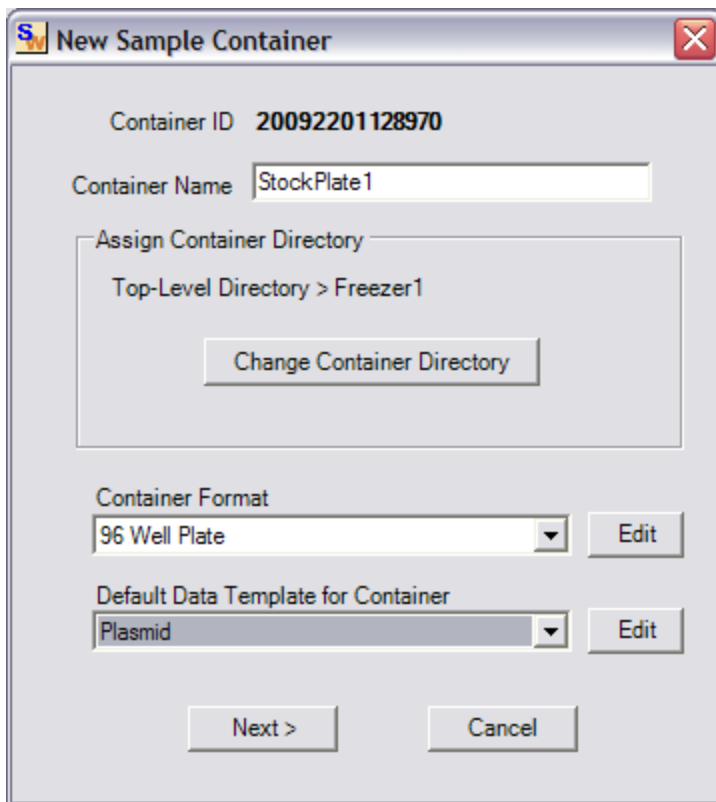
To add a container, right click the appropriate directory and select option Add Container.



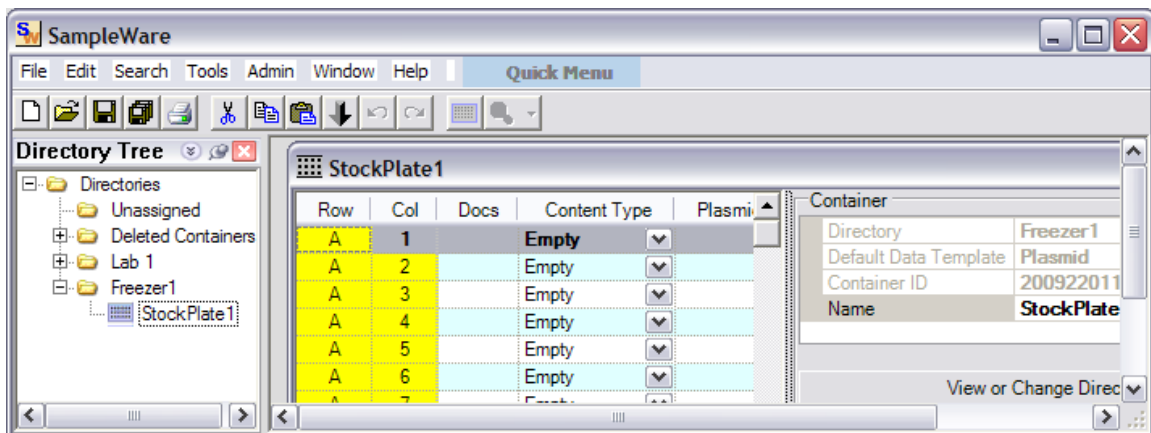
To enter a unique container ID, read the barcode or RFID tag. If neither is available, use the Auto option to generate a unique id. Click Next to continue.



In the following window, assign a unique name to the container and select a container size. Also, select a default Data Template to be associated with the container. You will not be limited to this Data Template when adding samples to a container.



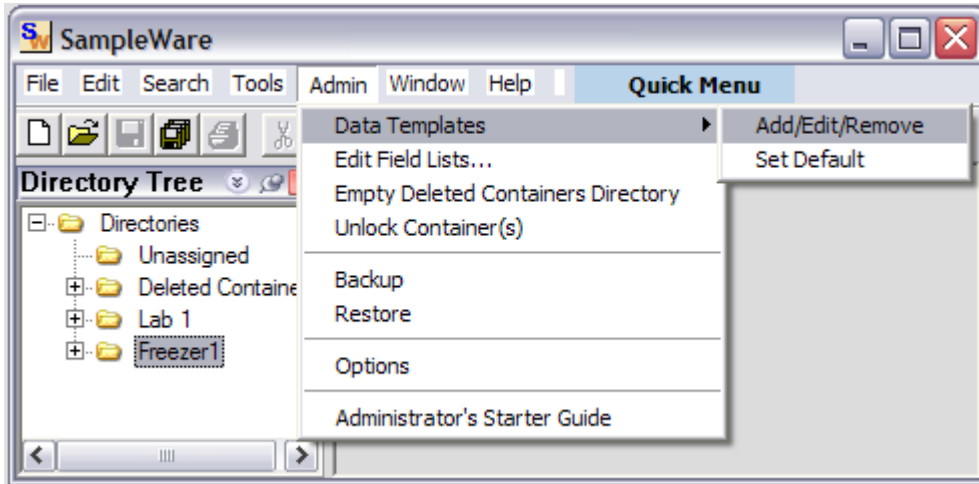
You will see the following Data Grid View



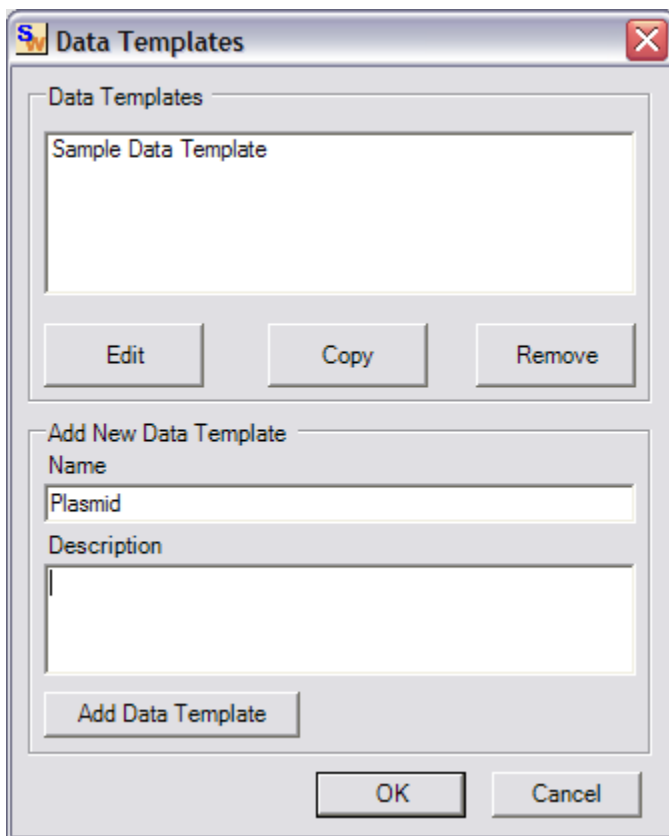
3. Add/ Edit a Data Template

SampleWare stores data based upon user defined Data Templates. These Data Templates are used to describe the columns of data that are stored for specific sample types.

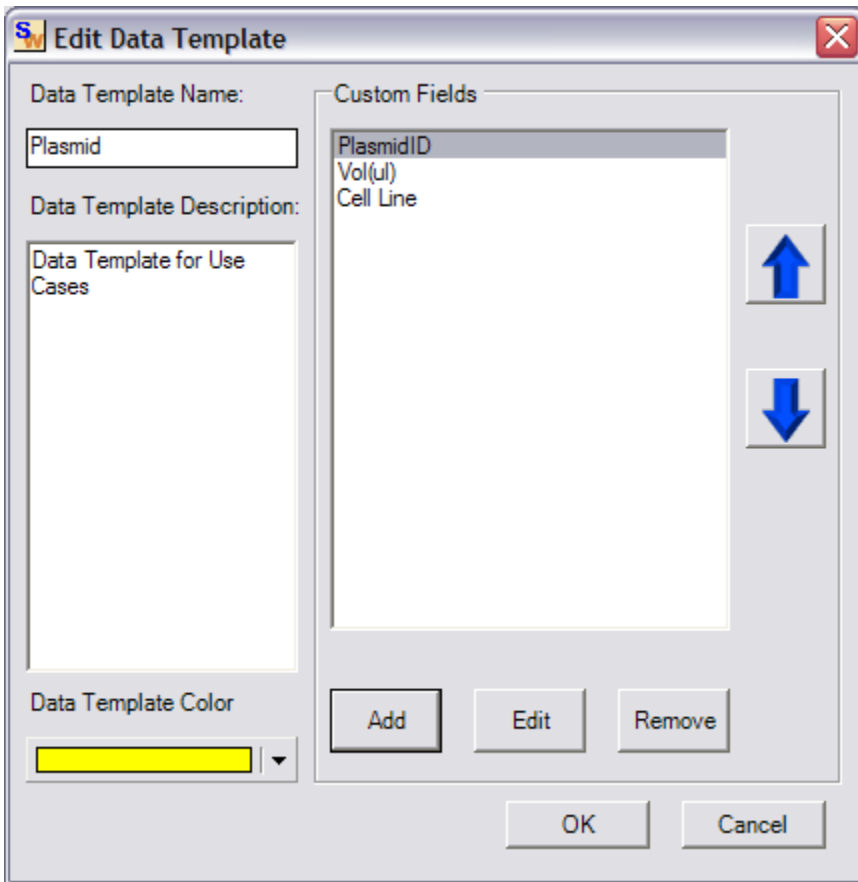
SampleWare provides a sample Data Template for the user. To begin adding custom Data Templates that can be used to store specific sample data, click the menu item Admin > Data Templates > Add/Edit/Remove. This functionality is limited to SampleWare Administrators.



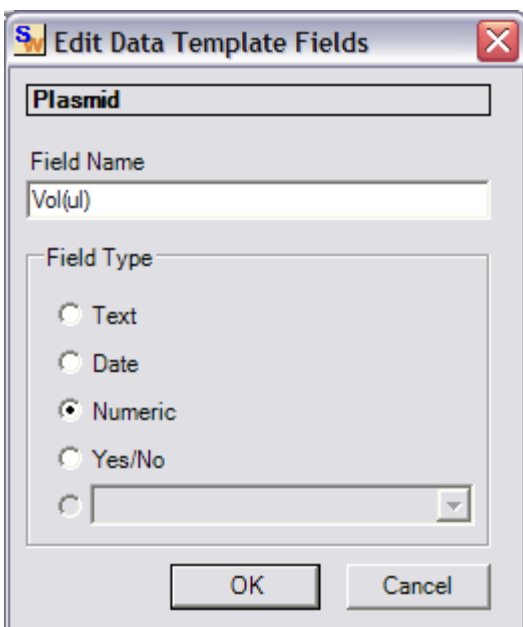
The Data Templates dialog allows Data Templates to be selected for editing or deletion. To create a new Data Template, enter the template name and select Add Data Template.



When editing a Data Template, the user can enter a description of the sample template and select a color. Samples of this data type will be colored according to this selection in the plate view. Custom fields can be added to the Data Template. In this example, add three fields, PlasmidID, Vol(u) and Cell Line of numeric type.

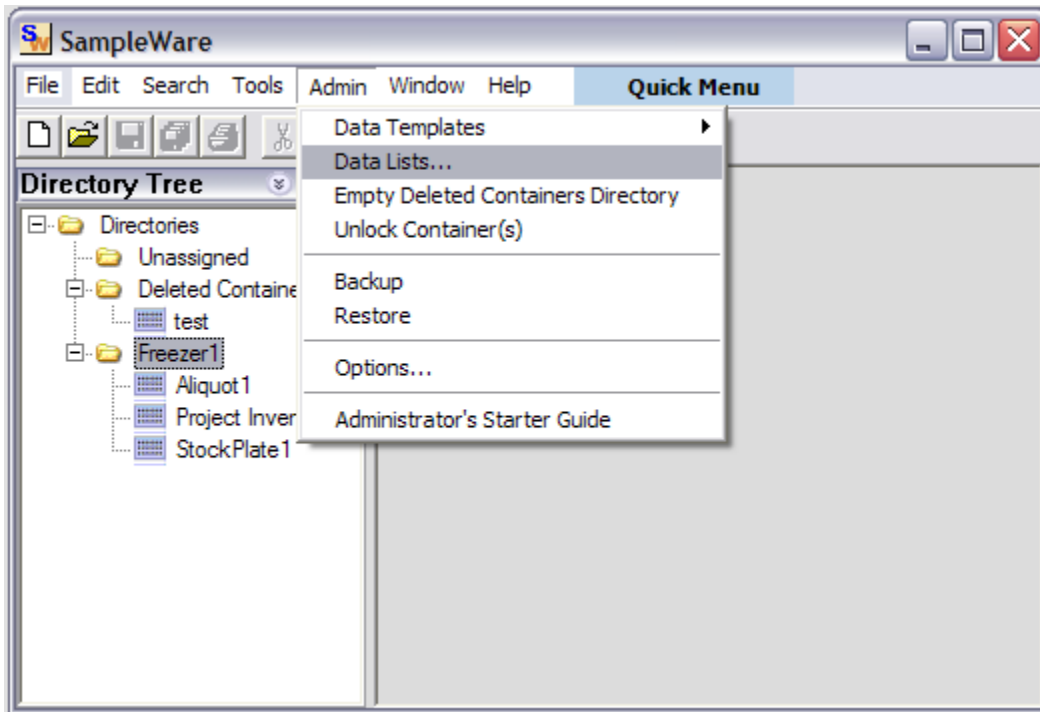


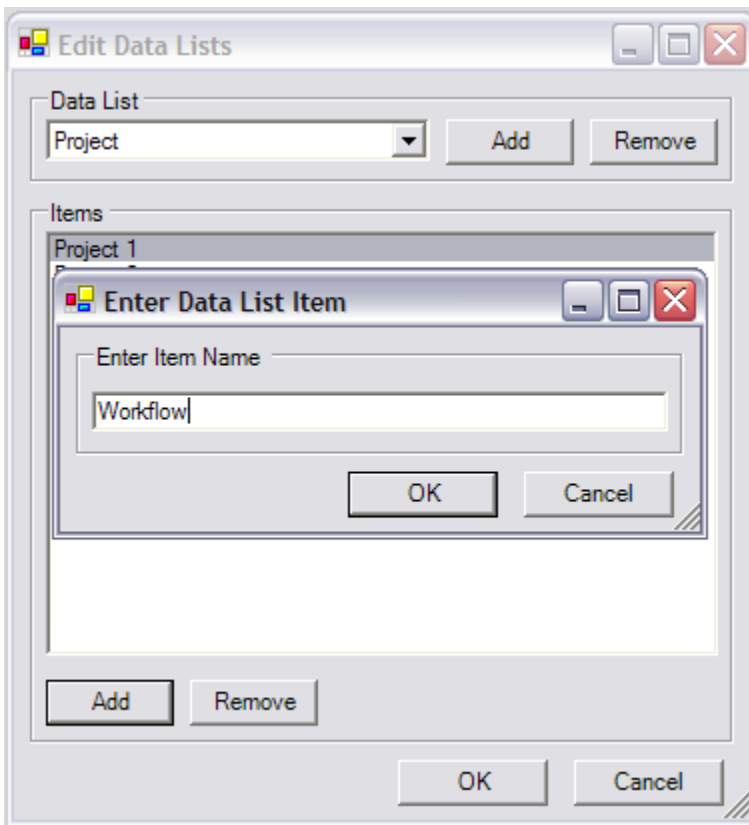
When adding a data field to the Data Template, specify the name and type of the data.



4. Add a Data List

SampleWare allows the Admin to create predefined lists for data entry and sample searching. This feature eliminates user error during data entry and helps implement a common vocabulary.

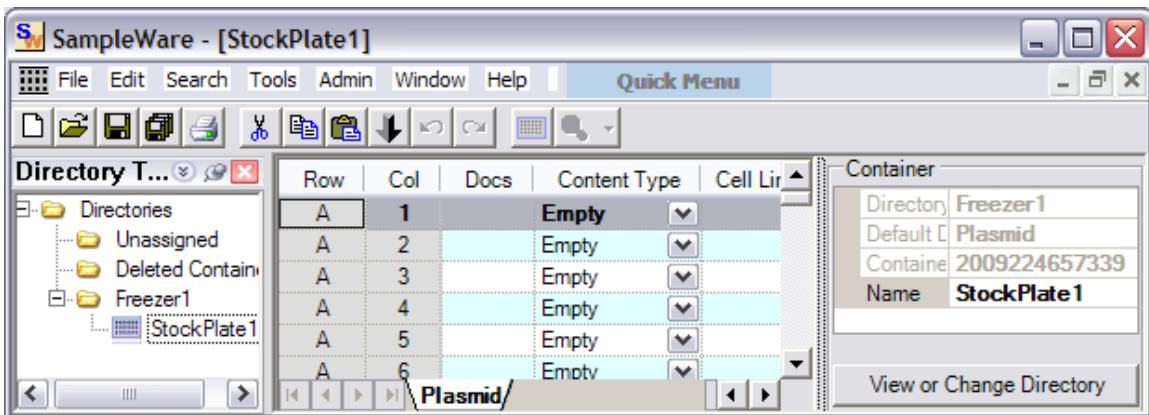




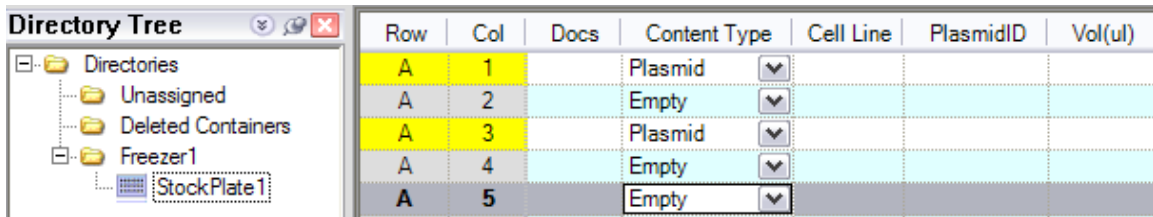
Advanced Actions

5. Using the Data Grid

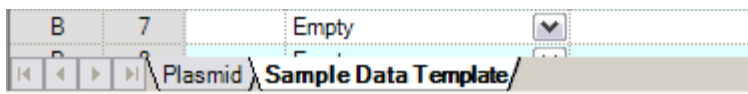
The data grid is a spreadsheet interface that allows the user to quickly enter and modify sample data.




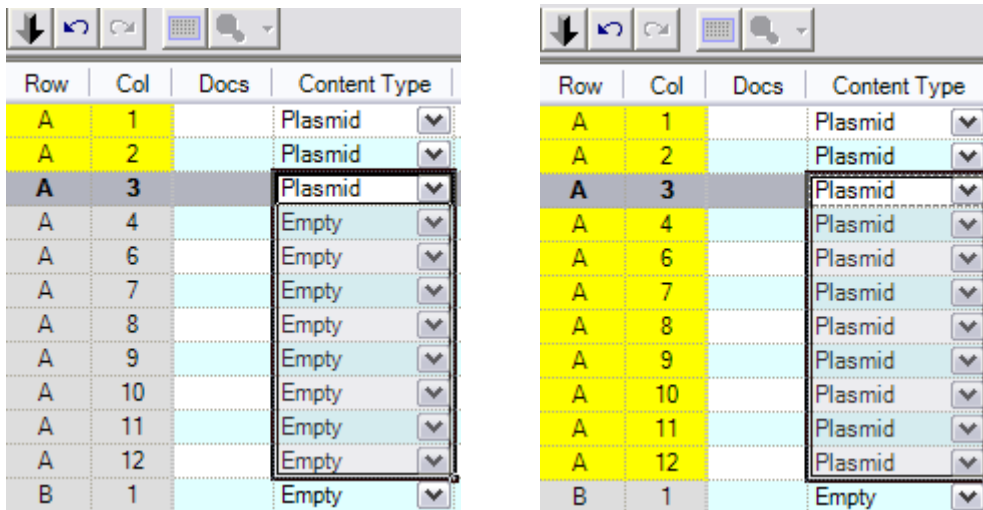
The first 4 columns appear for every Data Template. Row and Col indicate the position of the sample in the container. Docs indicate if any file attachments have been associated with the sample. Content Type allows the user to assign a Data Template to the indicated sample. The remaining columns correspond to the custom data fields of the Data Template.




The tabs at the bottom of the Data Grid indicate which Data Templates are stored in the container. Initially, the plate is empty and only the default Data Template assigned to the container is displayed. As samples of various types are added to a container using the Data Template drop down list, the corresponding Data Template tab is added to this bar. The user can select between Data Templates to view the sample data stored in a container for a particular Data Template. When entering data in the grid, if a sample is marked Empty, it will be automatically assigned to the Data Template selected at the bottom.



The Copy Down feature allows the data of the first row in a selection to be copied to the remaining rows. This function can be accessed by the Tool Bar button  or Right Click Menu item Copy Down.

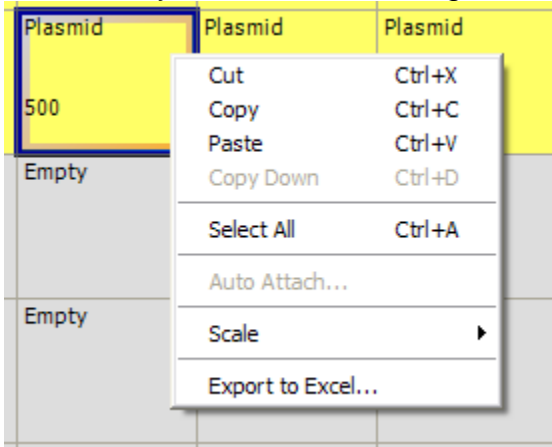


6. Using the Container View

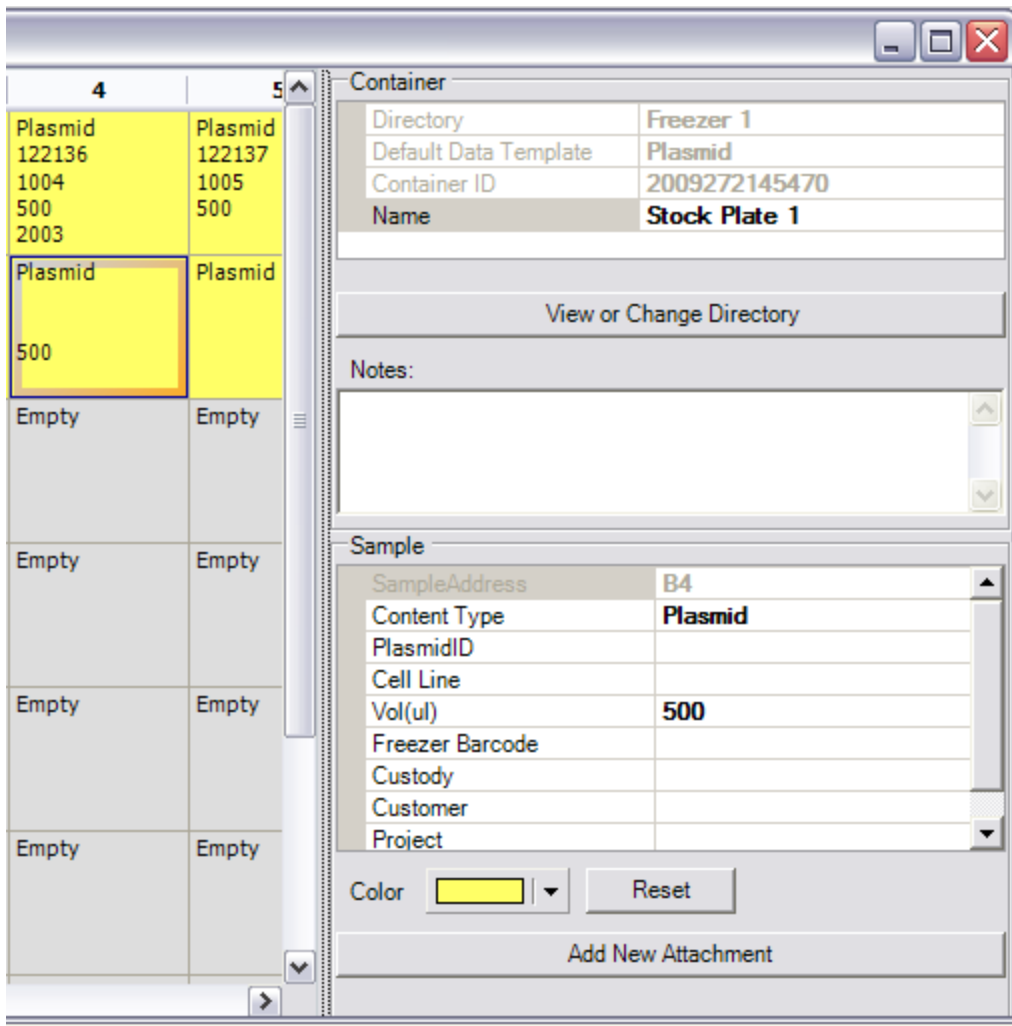
The Container View presents a real world representation of the sample data. Data is shown in a box top view. The user can toggle between the Data Grid and Container View representations using the Tool Bar button .

	1	2	3	4	5
A	Plasmid 122134 1001 450 2001	Plasmid 122134 1002 500 2002	Plasmid 122135 1003 500	Plasmid 122136 1004 500 2003	Plasmid 122137 1005 500
B	Plasmid 122143 1011 500	Plasmid 500	Plasmid	Plasmid 500	Plasmid
	Empty	Empty	Empty	Empty	Empty

Samples can be deleted, copied and pasted within and between containers. This functionality is accessible through the right click menu items

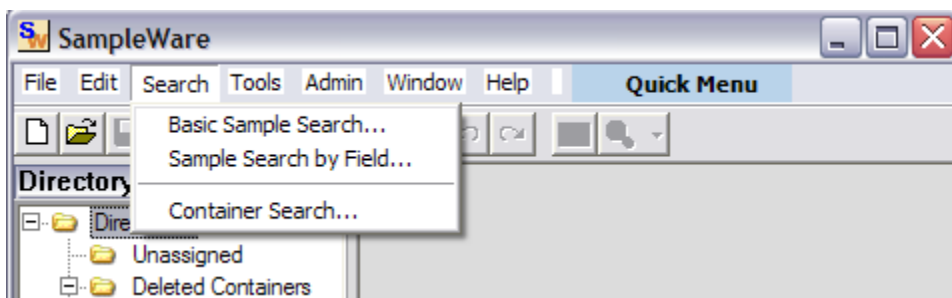


To edit sample data in the Container View, select the sample and use the Property Grid on the right hand side of the window.



7. Searching for Samples

SampleWare provides several tools that help you locate your samples. The Basic Search tool is accessible through the menu item Search > Basic Search.



Basic Sample Search

This tool searches for samples that contain any fields that match the entered criteria. This is a global search tool that spans all Data Templates and data fields and returns all matching samples.

Sample Search

Check to Search for Text

Richard

OR Sara

OR

Check to Search for Dates

Between

Tuesday, February 10, 2009

And

Wednesday, February 11, 2009

Check to Search for Numbers

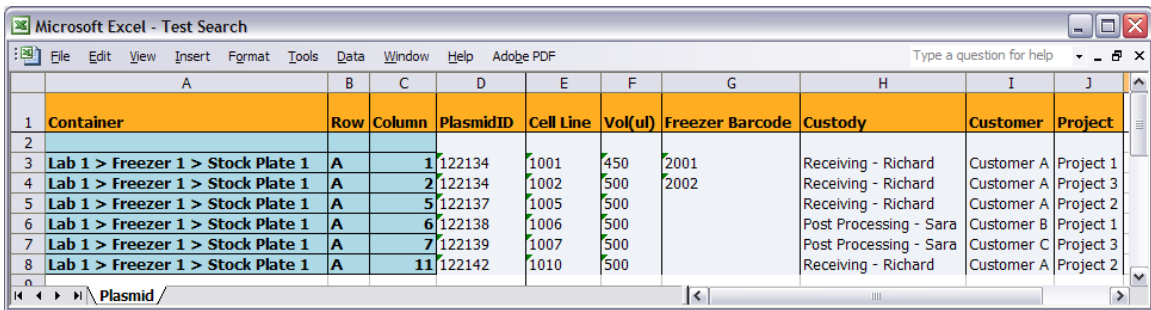
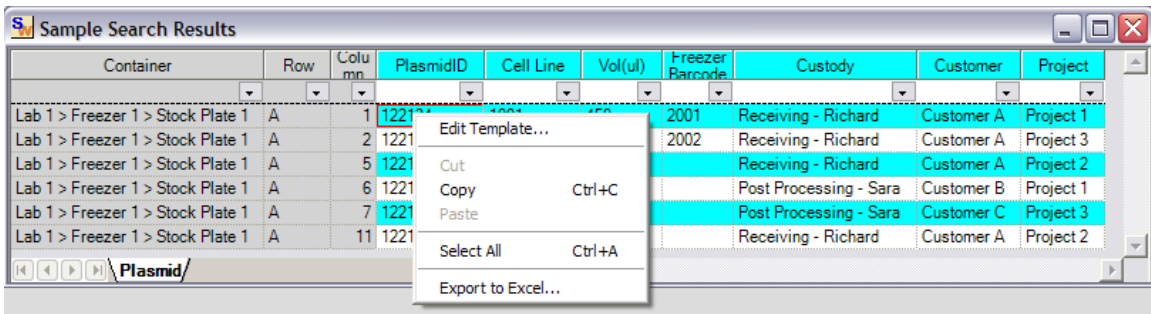
=

Search Cancel

The results of the search contain an additional column, which indicates the Container to which the samples belong, and corresponds to the physical lab location of the sample. To open a sample and its corresponding container, double click the entry.

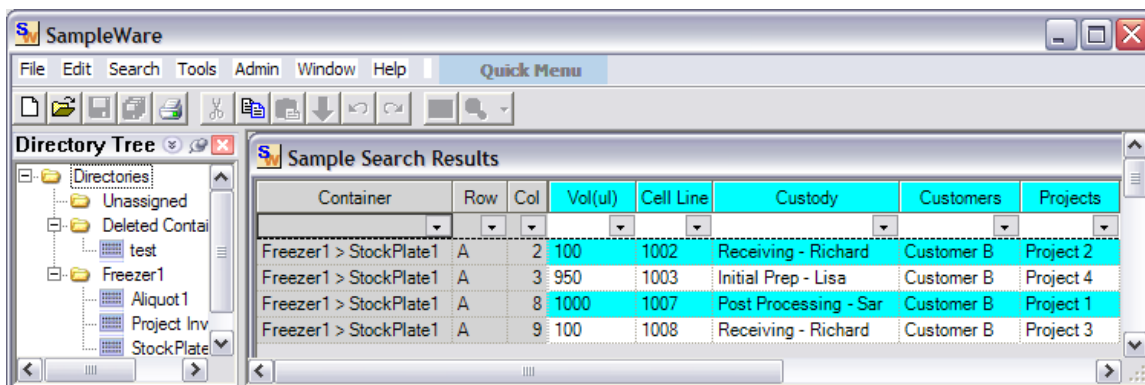
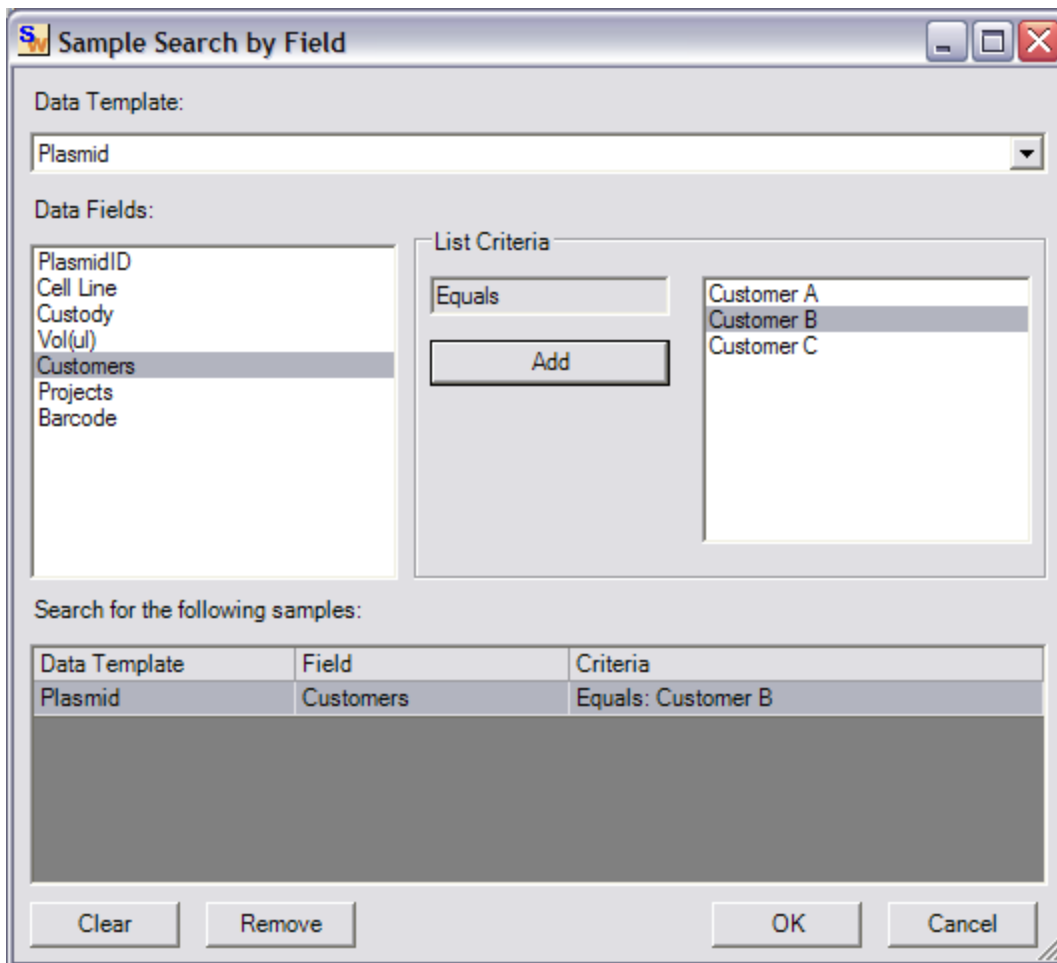
Container	Row	Col	PlasmidID	Vol(ul)	Cell Line	Custody	Customers	Projects	Barcode
Freezer1 > StockPlate1	A	1	122340	100	1001	Receiving - Richard	Customer A	Project 1	2000
Freezer1 > StockPlate1	A	2	122341	100	1002	Receiving - Richard	Customer B	Project 2	2001
Freezer1 > StockPlate1	A	7	122345	1000	1006	Post Processing - Sar	Customer A	Project 2	2005
Freezer1 > StockPlate1	A	8	122346	1000	1007	Post Processing - Sar	Customer B	Project 1	2006
Freezer1 > StockPlate1	A	9	122347	100	1008	Receiving - Richard	Customer B	Project 3	2007
Freezer1 > StockPlate1	A	12	122350	500	1011	Post Processing - Sar	Customer C	Project 4	2010

Search results can be exported to Excel using the right click menu item Export to Excel.



Sample Search by Field

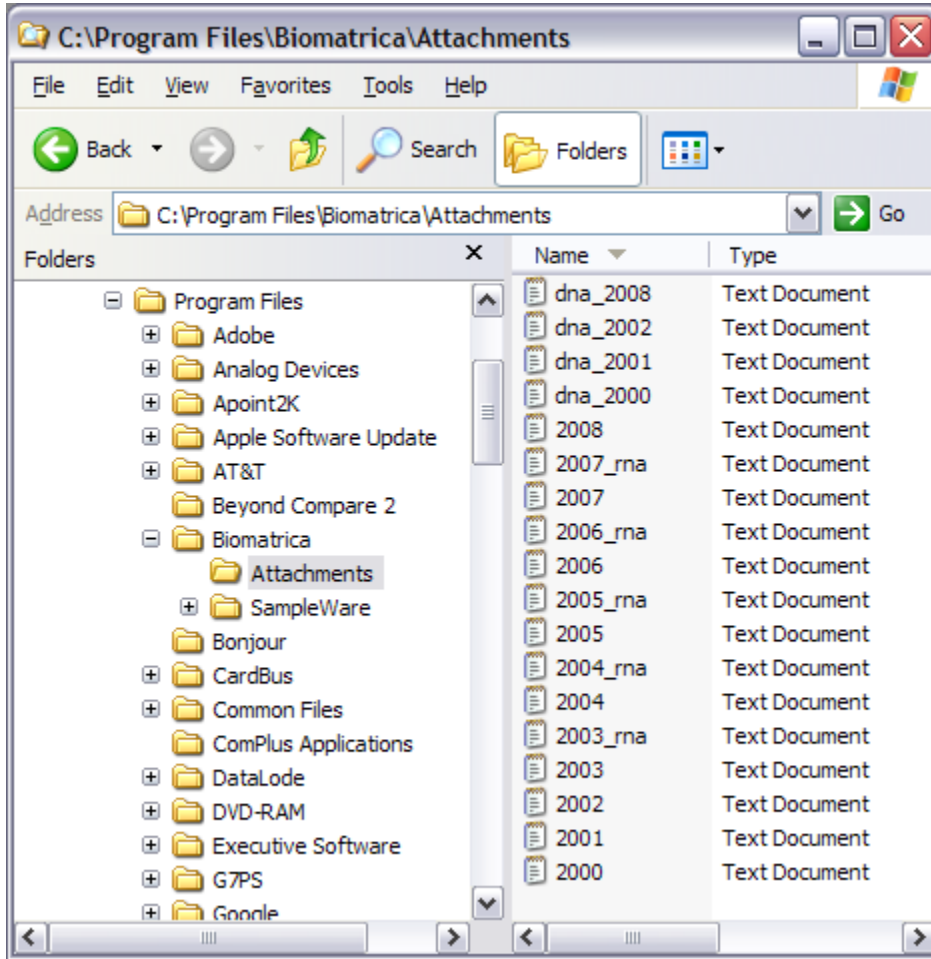
This tool provides more detailed options for searching by template or a field.



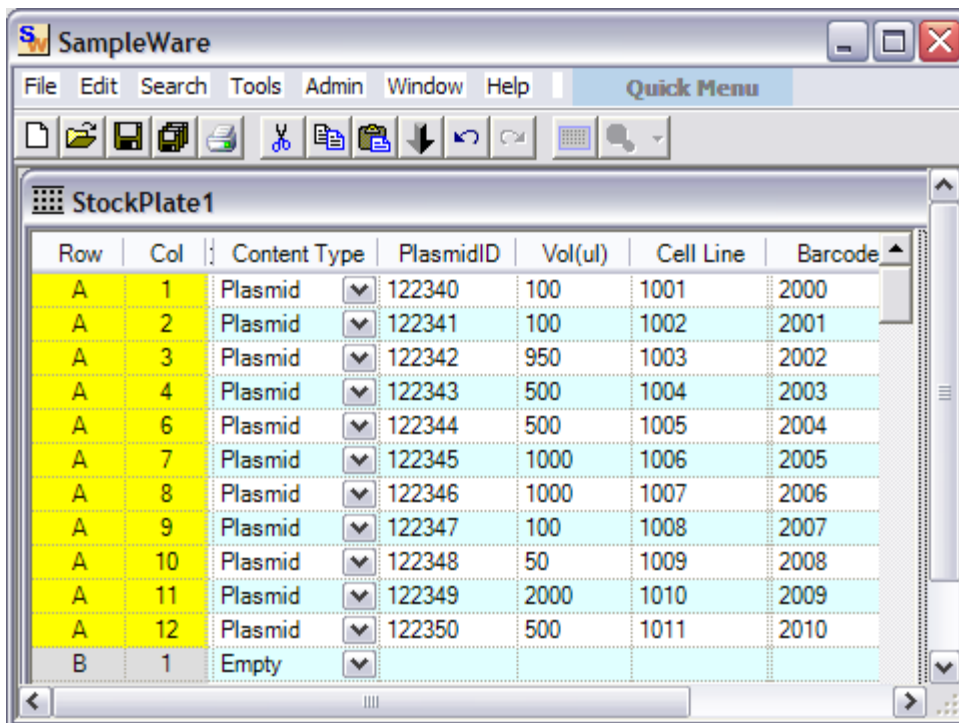
8. Auto – Attach Feature

SampleWare allows you to link any additional data connected to samples you might have stored in other files. The Auto Attach feature ensures all your data is linked together in a central location through Sampleware. The High throughput option allows you to attach hundreds of files with one click.

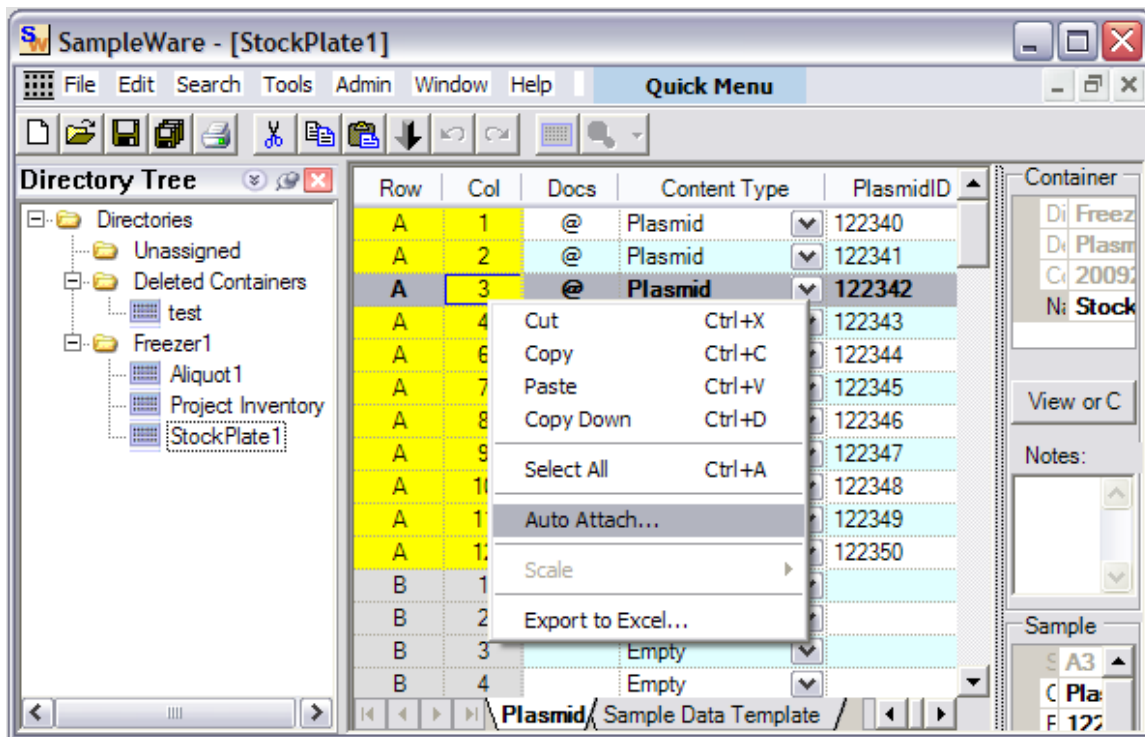
Browse to Directory - C:\Program Files\Biomatrica\Attachments
To view the sample files provided for this example. These files contain information associated with our samples, and are identified by Barcode.txt. The next steps will link these files with corresponding samples in Sampleware.



Edit the Plasmid Data Template (QuickStart Guide - Step 3) to add a field named Barcode. Enter sample data (2000 – 2010 in this case) to simulate scanning of items in Freezer 1



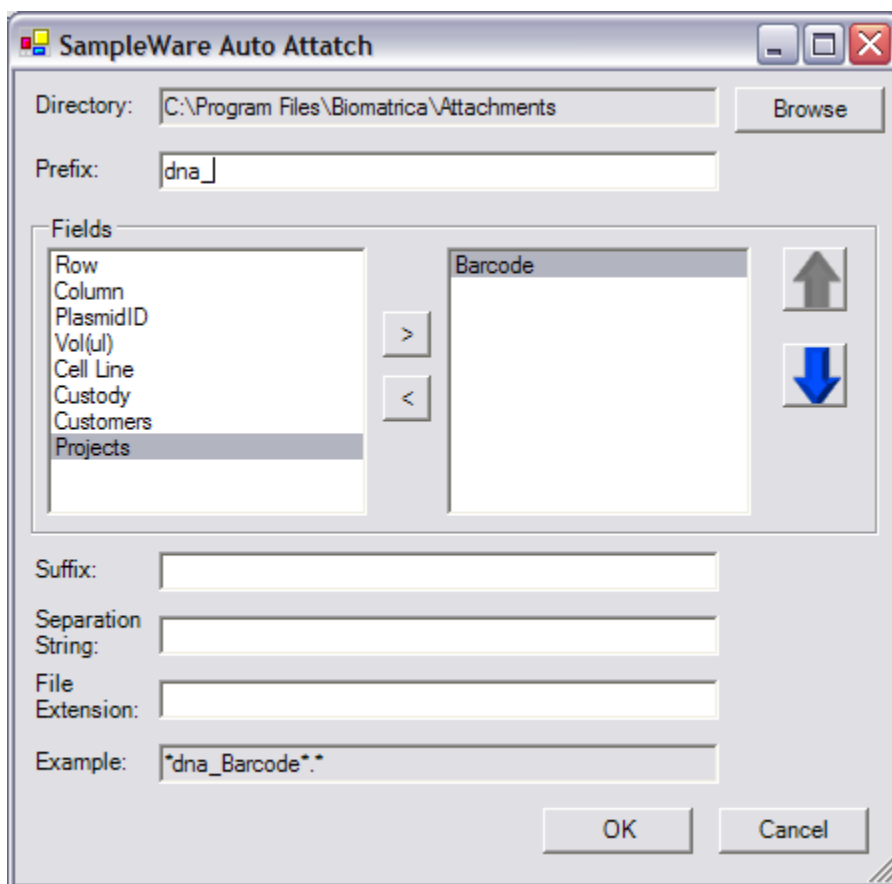
In Data Grid View, Right click on a sample on 'Auto-attach' to associate provided sample files named according to Barcodes to StockPlate1 samples.



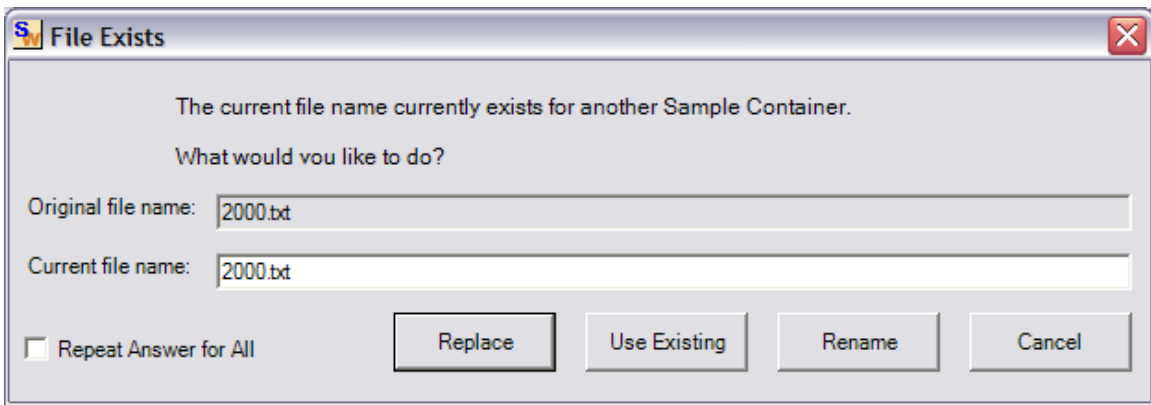
There are several options provided in SampleWare, which allow you to attach particular files based on your naming convention

Attach files searching by file names

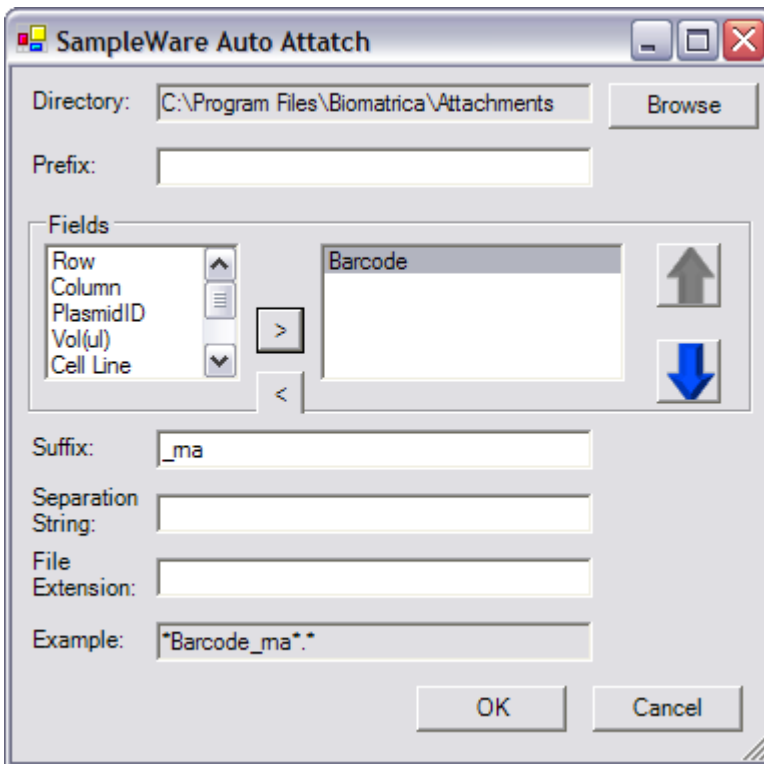
Using Prefix of file names



If this file has been attached before, you have the option of replacing, updating or renaming it.



Using Suffix of file names



The screenshot shows a software window with a title bar containing minimize, maximize, and close buttons. The window is divided into several sections:

- Container Section:** A table with the following data:

Directory	Freezer1
Default Data Templ	Plasmid
Container ID	2009224657339
Name	StockPlate1

 Below the table is a button labeled "View or Change Directory".
- Notes Section:** A text area with a vertical scrollbar, currently empty.
- Sample Section:** A table with the following data:

SampleAddress	A7
Content Type	Plasmid
PlasmidID	122345
Vol(ul)	1000
Cell Line	1006
Custody	Post Processing - S
Customers	Customer A
Projects	Project 2
Barcode	2005

 Below the table is a "Color" dropdown menu set to yellow and a "Reset" button.
- Attachments Section:** A button labeled "Add New Attachment" is positioned above a list area containing a single attachment: [2005_rna.txt](#). Below the list is a button labeled "Remove Attachment(s)".

Similarly, other options available are –

Using Separation strings in file names

Using file extension types

Add attachments from a folder

In addition to searching and attaching files by name, you can navigate directly to a folder and attach any files present using the Add New Attachment button from the Property Grid

Sample

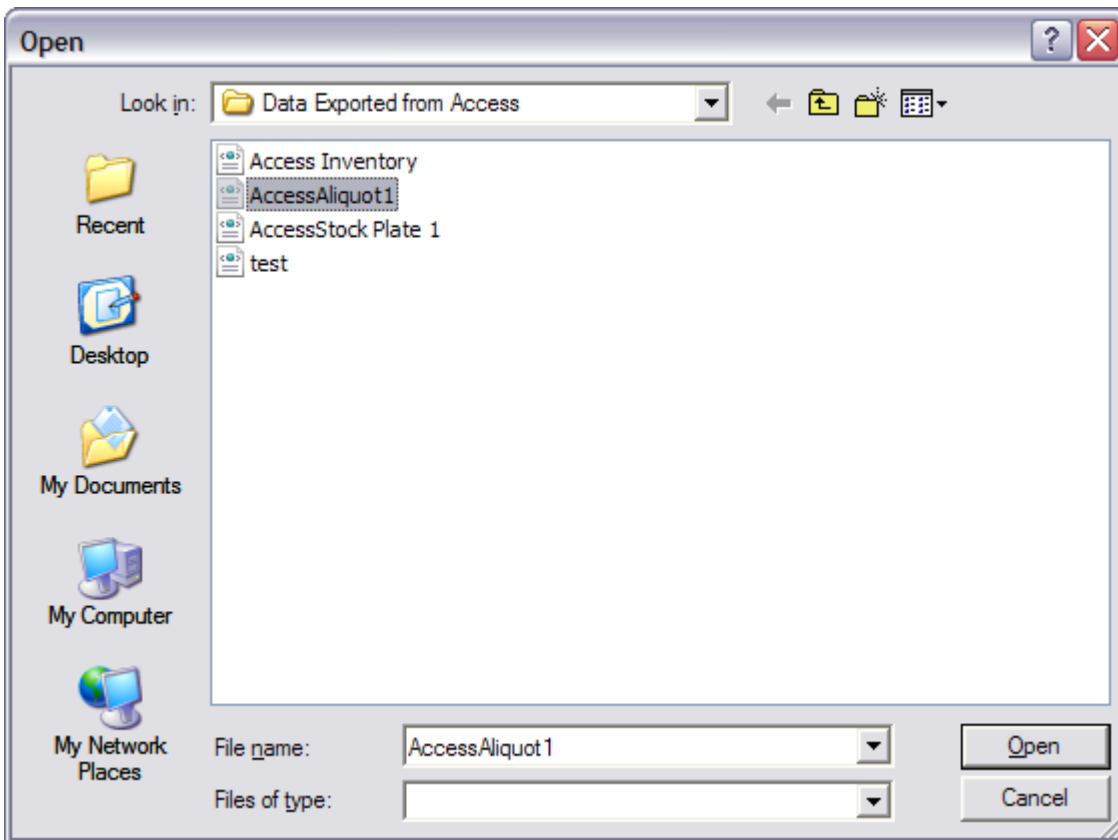
SampleAddress	A7
Content Type	Plasmid
PlasmidID	122345
Vol(ul)	1000
Cell Line	1006
Custody	Post Processing - S
Customers	Customer A
Projects	Project 2
Barcode	2005

Color Reset

Add New Attachment

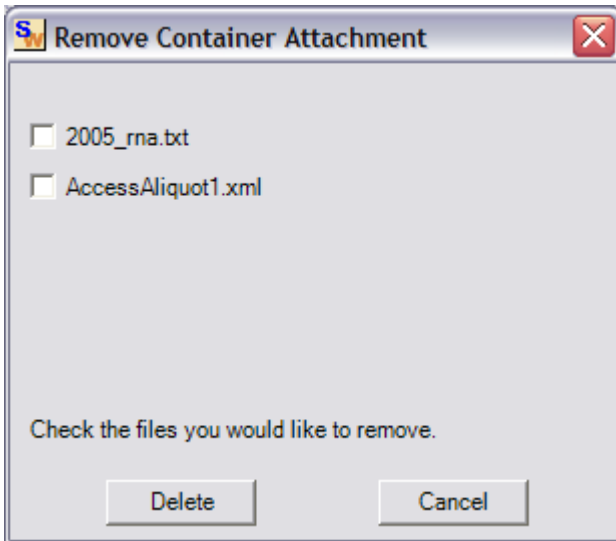
[2005_ma.txt](#)

Remove Attachment(s)



Remove attachments

The Remove Attachments button in the Property Grid gives you the option to remove any of the files currently associated with the sample

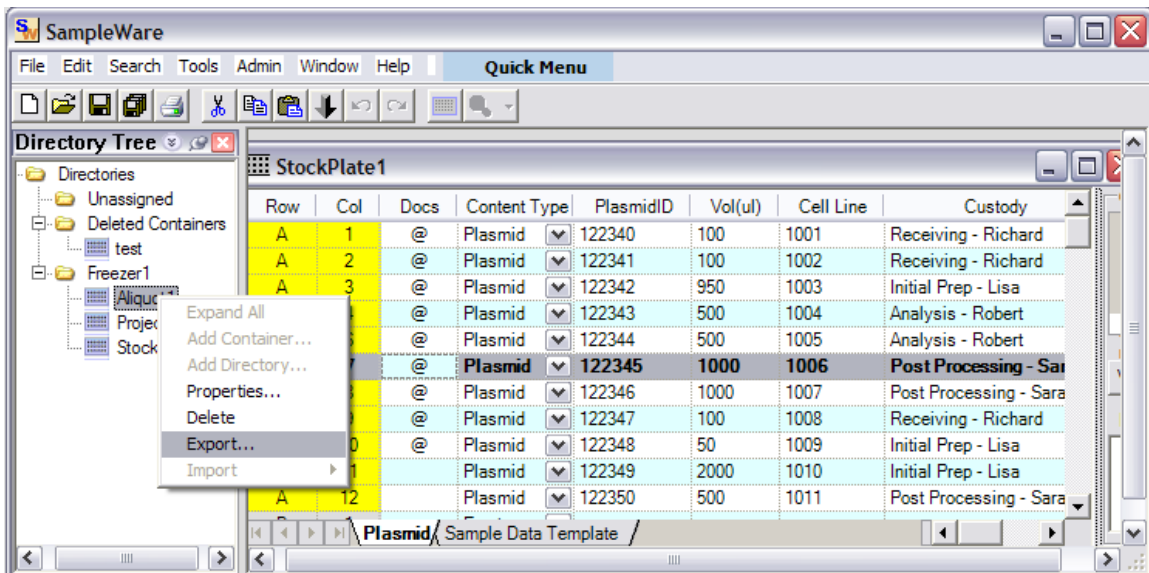


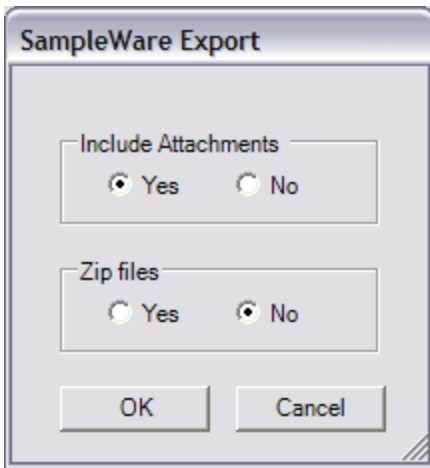
9. Export / Import of Data

The Remove Sampleware provides you with the option of Exporting or Importing sample data.

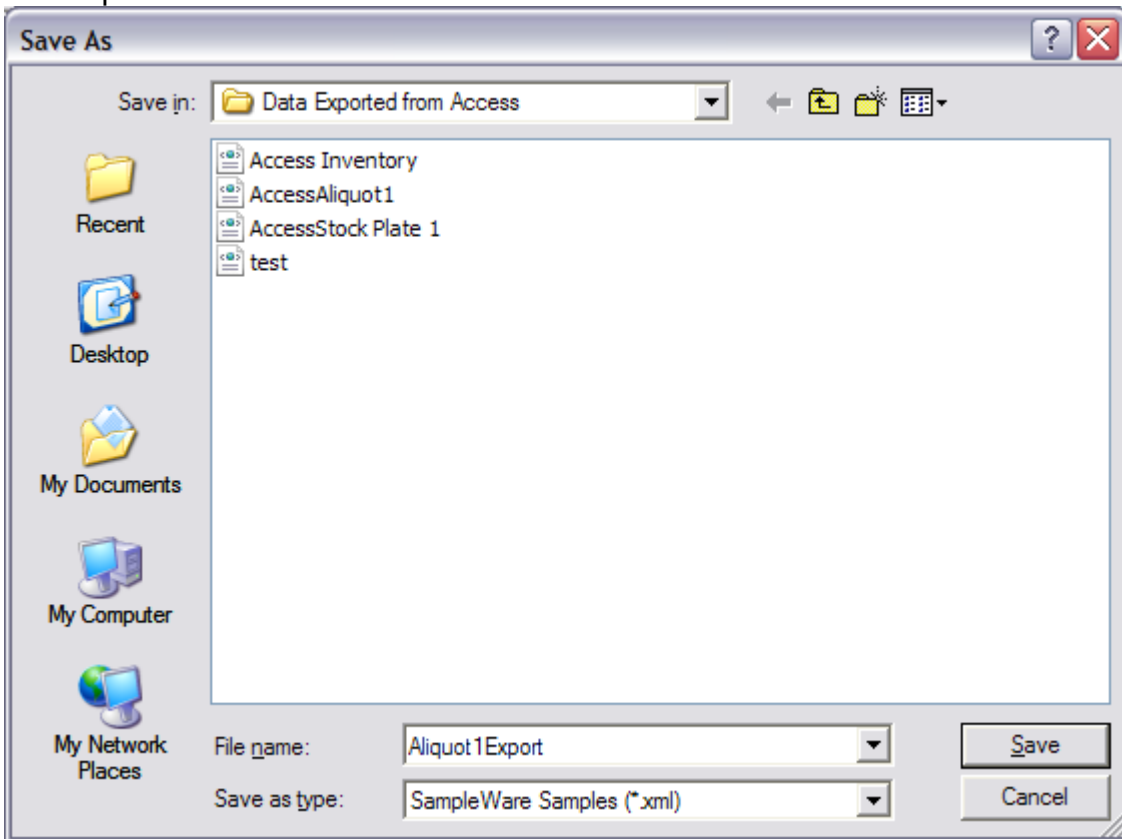
Export Sampleware Data

Right Click on the container from which you want to export the data.

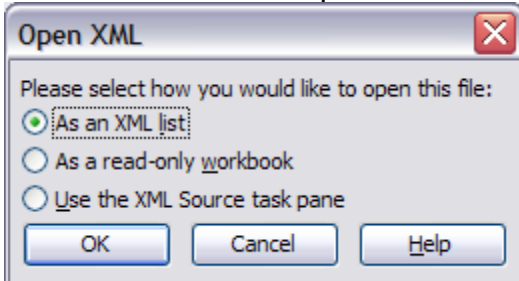




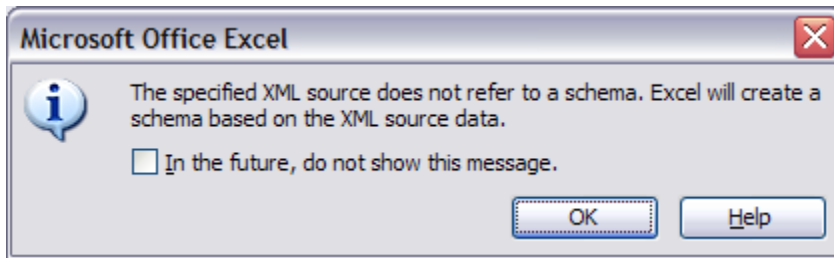
The exported data is saved in XML format



This XML file can be opened in Excel



Allow Excel to create an XML Schema



The detailed information is now available in Excel

The screenshot shows the Microsoft Excel interface with a data table. The table has the following columns: NodeID, NodeText, NodeType, PlateID, Plate, PlateTy, Plat, Field, FieldNam, FieldType, and PlateSizeNan. The data rows are as follows:

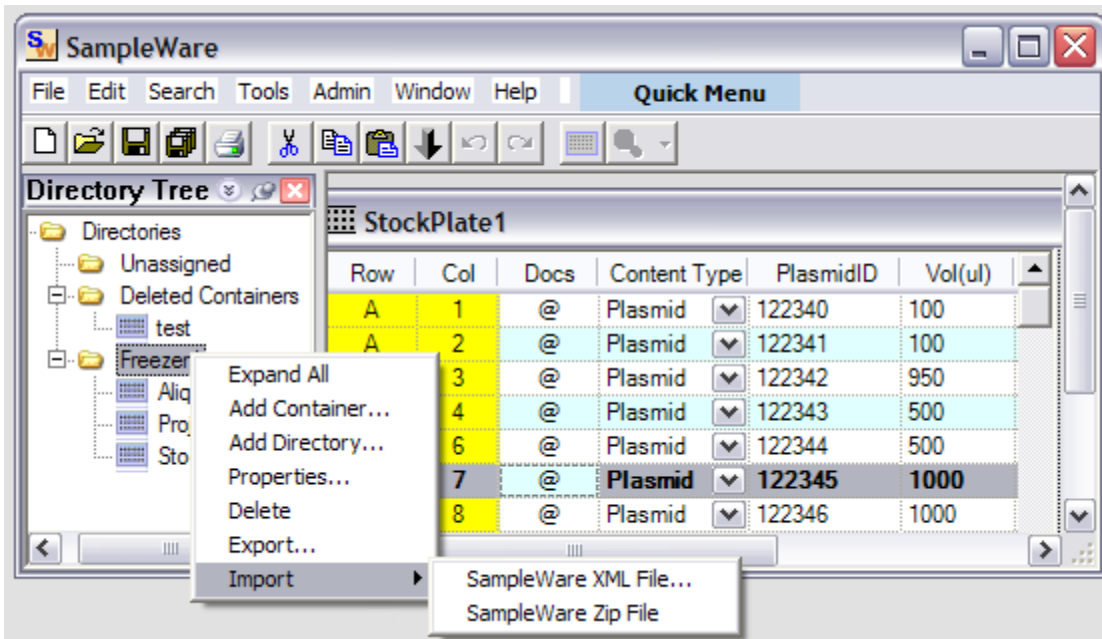
	A	B	D	E	F	G	J	K	L	M	R
1	NodeID	NodeText	NodeType	PlateID	Plate	PlateTy	Plat	Field	FieldNam	FieldType	PlateSizeNan
2		12 Aliquot 1	96	20	5	Plasmid	5	0	PlasmidID	Numeric	96 Well Plate
3		12 Aliquot 1	96	20	5	Plasmid	5	2	Cell Line	Numeric	96 Well Plate
4		12 Aliquot 1	96	20	5	Plasmid	5	3	Custody	List	96 Well Plate
5		12 Aliquot 1	96	20	5	Plasmid	5	1	Vol(ul)	Text	96 Well Plate
6		12 Aliquot 1	96	20	5	Plasmid	5	4	Customers	List	96 Well Plate
7		12 Aliquot 1	96	20	5	Plasmid	5	5	Projects	List	96 Well Plate
8		12 Aliquot 1	96	20	5	Plasmid	5	7	Barcode	Numeric	96 Well Plate
9		12 Aliquot 1	96	20	5	Plasmid					96 Well Plate
10		12 Aliquot 1	96	20	5	Plasmid					96 Well Plate

Import Sampleware Data

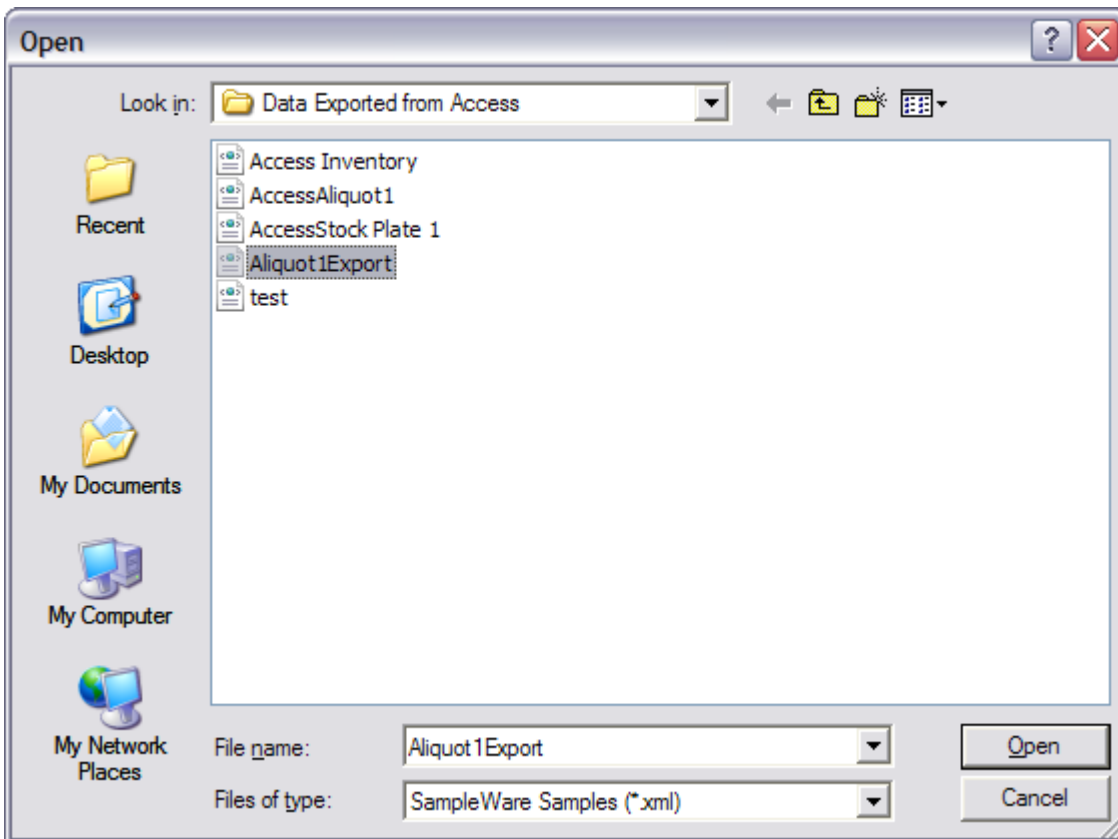
Data created using Sampleware can be imported. This allows sharing of data across different locations.

Right click on the directory you want to import data into and select the Import>SampleWare XML File option.

We will import back the data we just exported above.



Navigate to the folder where you saved the Aliquot XML data in the previous example.



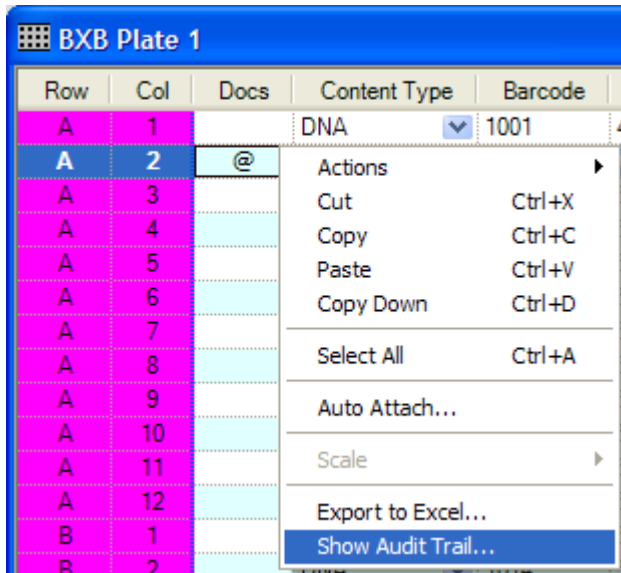
10. Audit Trail

The audit trail report provides a complete history of the actions taken on a sample or group of samples. For detailed information about the audit trail feature, please refer to the document “SampleWare Audit Trail Guide”.

Access Audit Trail Reports

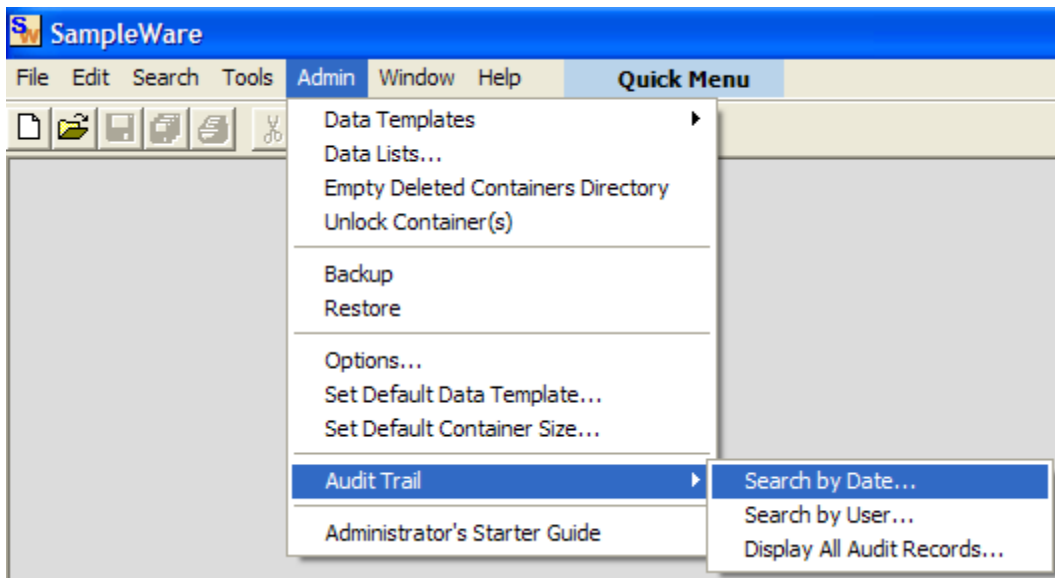
From Containers and Search Results

When viewing the contents of a container or search results, an audit trail report can be displayed for any individual sample or selection of samples. Using the right click menu, click the sample of interest and select the menu option ‘Show Audit Trail...’



From the Main Menu

SampleWare provides convenient methods to search an audit trail by a date range or by a selection of Users. SampleWare also provides access to the entire contents of the Audit Trail. Access to these functions is available through the main application menu. Using the main menu, select the item ‘Admin > Audit Trail’.



Audit Report Contents

The information displayed includes the user and date stamp, the location of the sample, the type of action performed on the sample, and the custom sample data.

SampleWare ID

SampleWare assigns a unique ID to every sample used to identify and track a sample within the system.

Container Location

The Container Location field displays the location of the sample container at the time that the action was taken. If the sample container was transferred, it displays the new location of the sample container.

Container Name

The Container Name displays the current container in which the sample resides at the time of the action. If the sample was transferred, it displays the container to which the sample was transferred.

Row, Col

The Row and Col fields display the location within the container that the sample resides at the time of the action. If the sample is transferred, it displays the new location of the sample.

User

The User field displays the user that performed the action. To use this field appropriately, the system must be configured to require username/password login.

Date

The Date field displays the date and time when the action was performed.

Change Type

The Change Type displays the type of action that was performed on the sample. The change type can be one of the following:

- Created
- Modified
- File Attached
- File Removed
- Transferred
- Sample Deleted

Additional Fields

The remaining fields display the custom data that are stored with the sample. All modifications to sample data are stored and tracked.