



Data Exchange Module

# Authorization Setup

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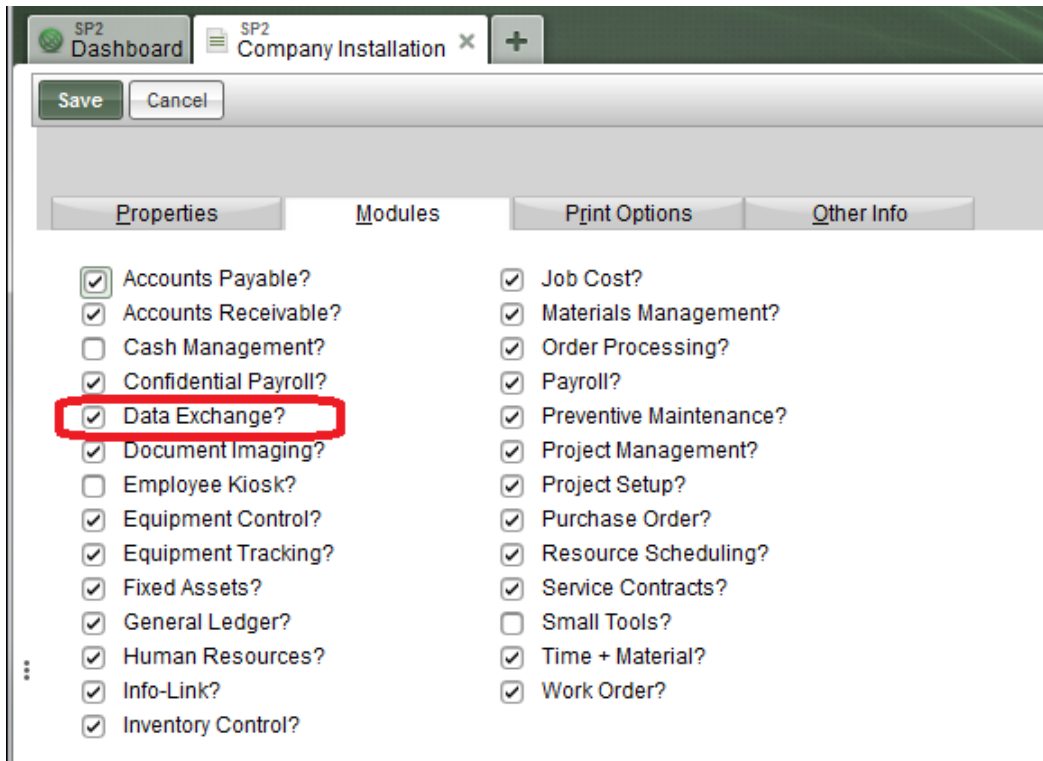
## SPECTRUM DATA EXCHANGE (SDX) WEB SERVICES

Viewpoint has created a Data Exchange module to provide a secure, quick, and easy way to transfer data in or out of Spectrum Construction Software. The Spectrum Data Exchange Web Services requires an Authorization ID which provides the necessary security to access Spectrum.

The secure Authorization ID is created in the Data Exchange Installation screen and provides access to the individual Web services to send data to or from Spectrum. The Authorization ID can be set up for specific companies and Web services. The Data Exchange Installation screen provides access to the available report options.

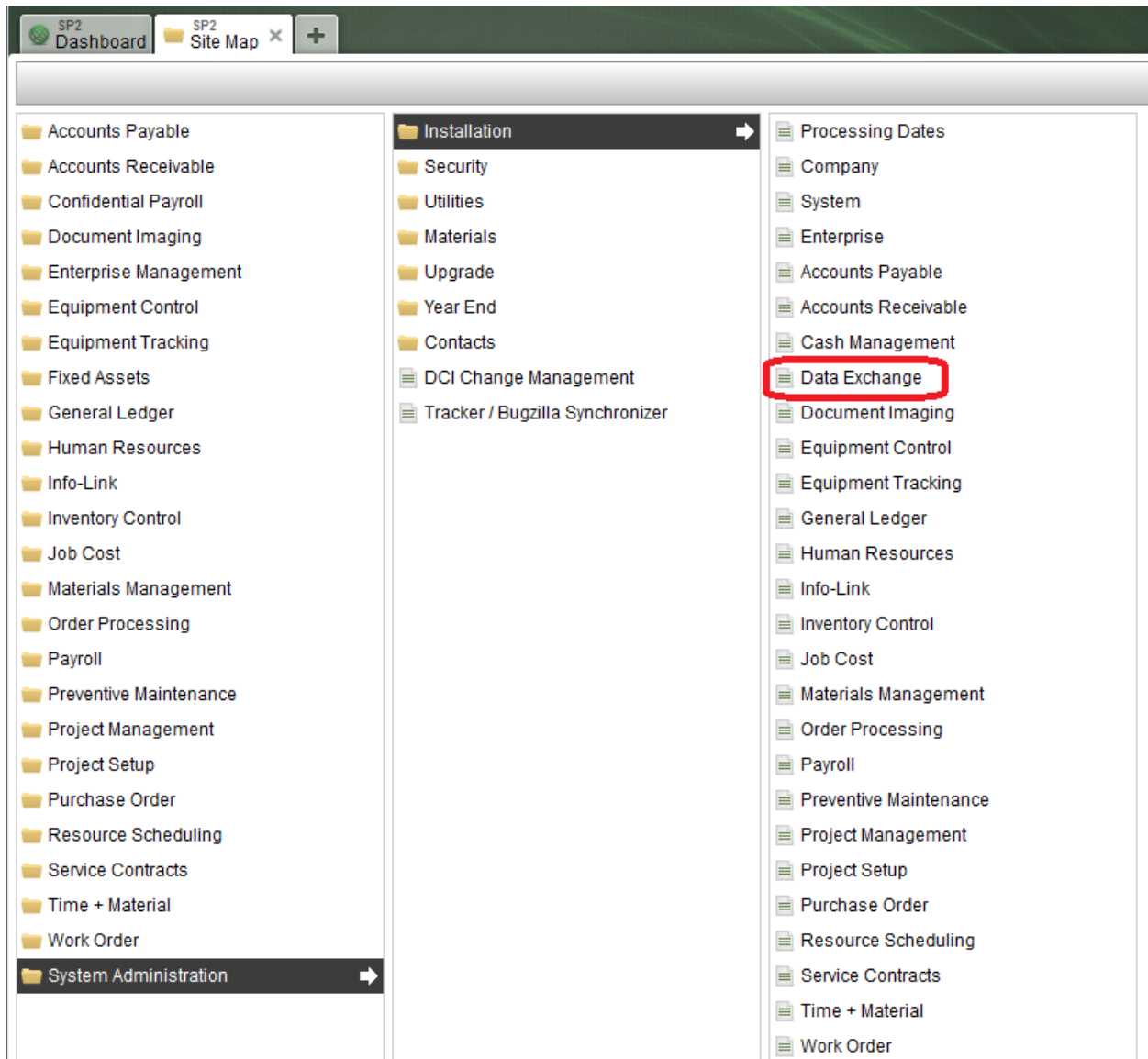
## DATA EXCHANGE INSTALLATION SETUP

To access the Data Exchange Module it must be active on the Company Installation screen.



## DATA EXCHANGE INSTALLATION

Once the Data Exchange Module is active, you have access to the Data Exchange Installation Setup screen. Click on System Administration to display the Installation options and select Data Exchange.



The Data Exchange Installation screens define:

- The Authorization IDs.
- The individual Web services and Companies that can be accessed by the Authorization ID.
- The specific options for each Web service that the Authorization ID may have defined for the Default Values, User-Defined Fields (UDF), and Counter Overrides.

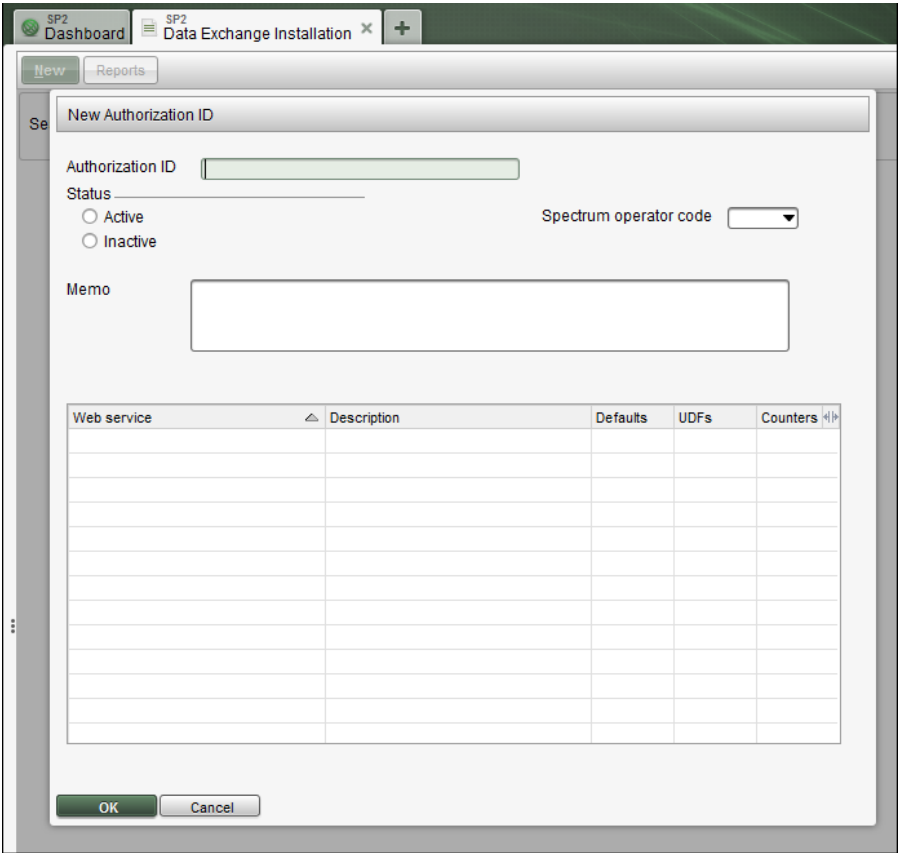
All Authorization IDs display based on the search criteria and Status definitions. Click the **New** button to add a new Authorization ID, click **Edit** to modify an existing Authorization ID, or click **Delete** to remove an existing Authorization ID.

The screenshot shows the 'Data Exchange Installation' window with a table of authorization records. The table has columns for Authorization ID, Service count, Status, Created company, Authorized company, and Memo. The status of all records is 'Active'.

Authorization ID	Service count	Status	Created company	Authorized company	Memo
TS1	3	Active	2ND	SP1, SP2, SP3	Co-Specific QA Op has access to SP1 SP2 & SP3 but only SP1 & SP2 are e
DX DEMO	2	Active	ABC	ABC, SP1	
MDA	13	Active	ARC	SP1, SP2, SP3	Maura Test Authorization
DEMO	4	Active	HHC	APH	DEMO TESTING
ALW	10	Active	HHC	030, SP1, SP2	test
NEW01	0	Active	HHC	3RD	
CDC	4	Active	HHC	010, 3RD, HHC	CDC
SUE	11	Active	SP1	SP1, SP2, SP3	For Testing Purposes - SP1 SP2 and SP3
TSB4	3	Active	SP1	SP1	NEW SETUP FOR 2ND QA IN DEV 14
EJM2	12	Active	SP2	ABC, SP1, SP2	
KML	8	Active	SP2	ABC, SP1, SP2, SP3	MEMO
Training	4	Active	SP2	AVI, ELE, SP1, SP2	Used for our Training Department only
BlackHawk	6	Active	SP2	ABC, SP1, SP2, SP3	
WELLS FARGO	2	Active	SP2	None	CUSTOM CREDIT CARD IMPORT
KING	4	Active	SP2	CCC	
TRAINER	0	Active	SP2	ABC, ELE, SP1, SP2	

# CREATE AUTHORIZATION ID

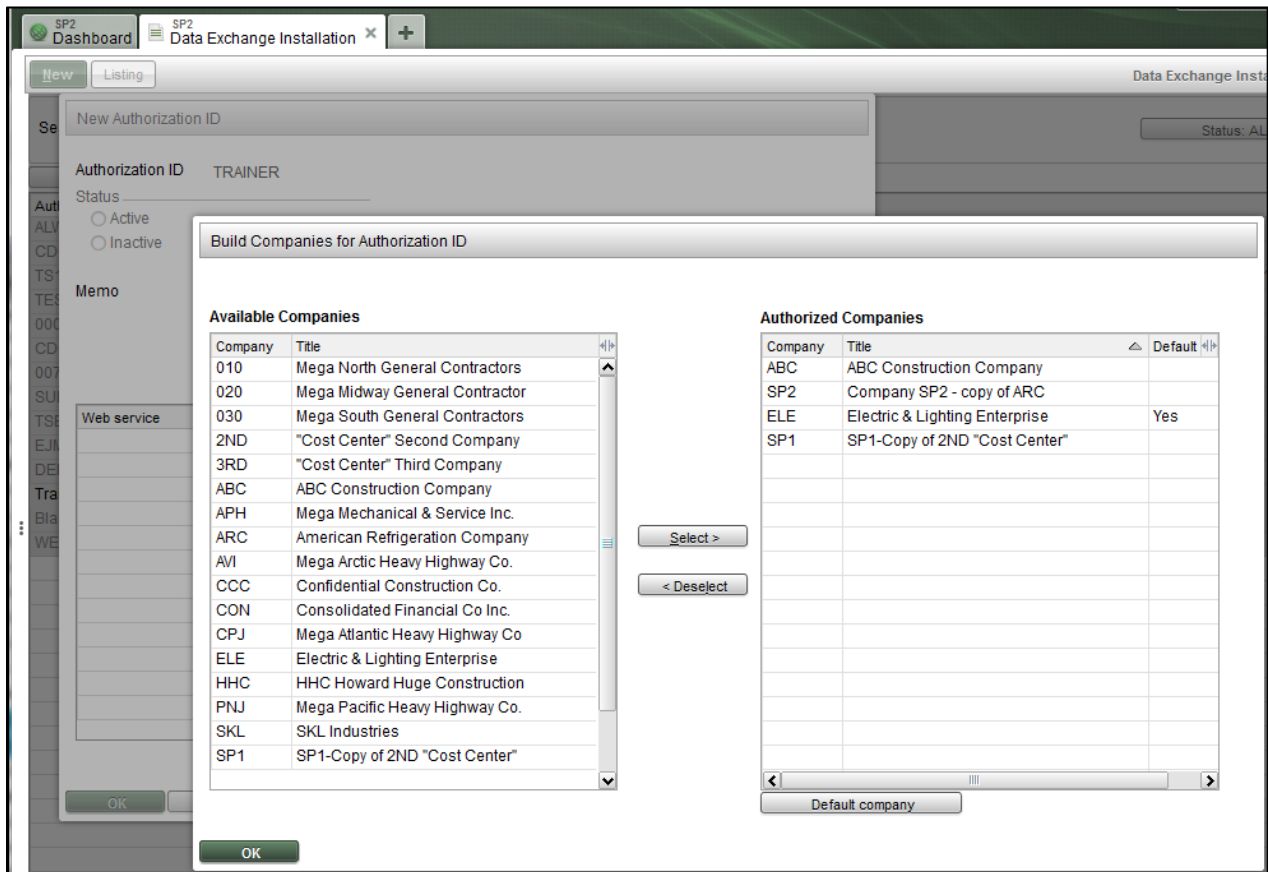
To add a new Authorization ID click **New** and the New Authorization ID screen displays



The following fields need to be defined for each Authorization ID:

- **Authorization ID** – Must be unique across each company. Up to 20 characters are allowed.
- **Company** – Define the specific companies that the Authorization ID has access to, and define the Authorization ID’s default company.
- **Spectrum Operator Id** – Define a valid operator code. Field has lookup functionality.
  - Provides access based on the operator’s job based security and cost center logic.
  - Operator Code must be valid for all the defined Companies associated with the Authorization Id.
  - Required when a ‘Get’ web service is assigned to the Authorization ID.
- **Status** – Defaults to Active, but can be set to Inactive.
- **Memo** – Provides a place to store any necessary notes. This optional field allows up to 250 characters.
- **Web services** – Assigned using the **Build** button to attach the Web services to the authorization ID. Allows specific options to be defined for the Web service.

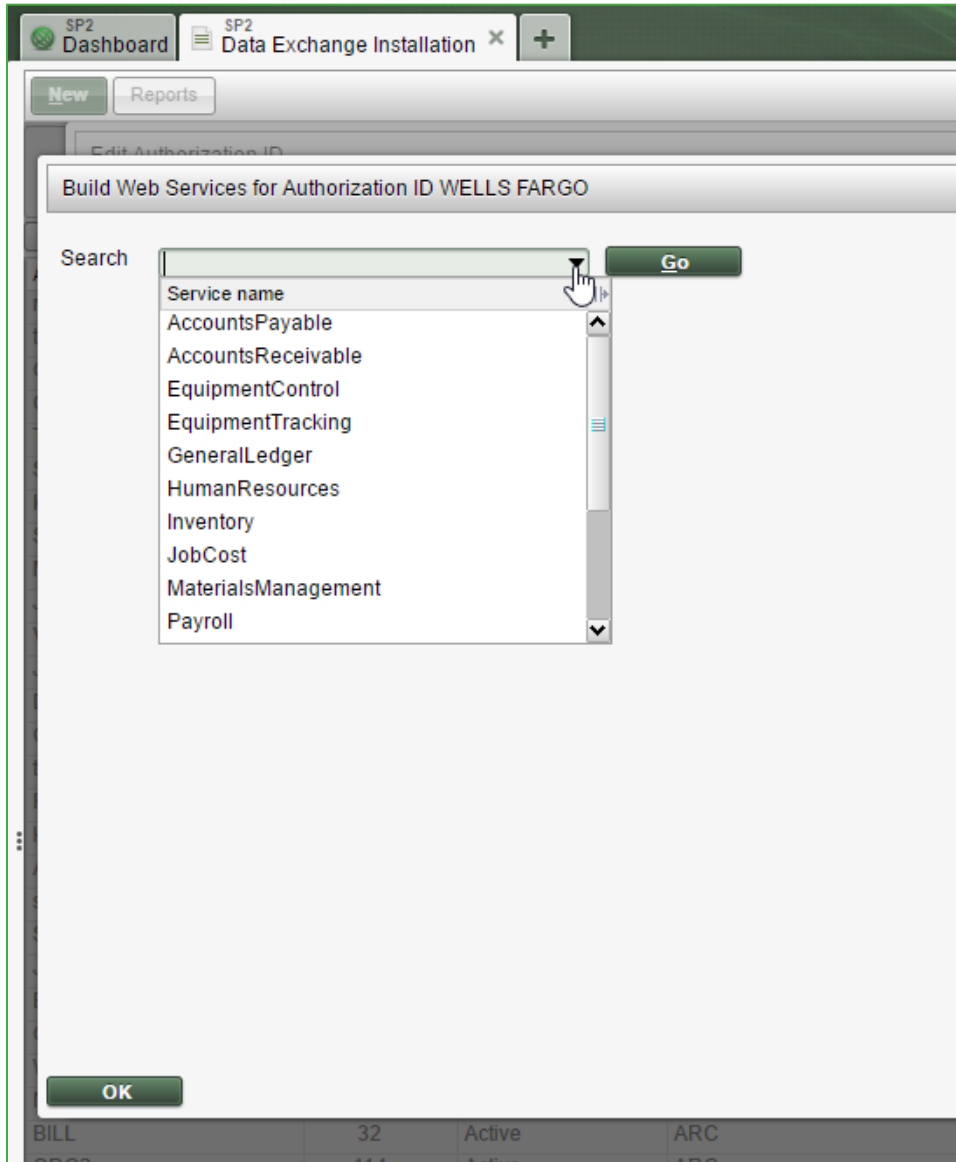
Once an authorization ID has been defined, the Build Companies for Authorization ID screen displays. Each Authorization ID must have a company defined and if multiple companies are defined then the user must define the Default Company.



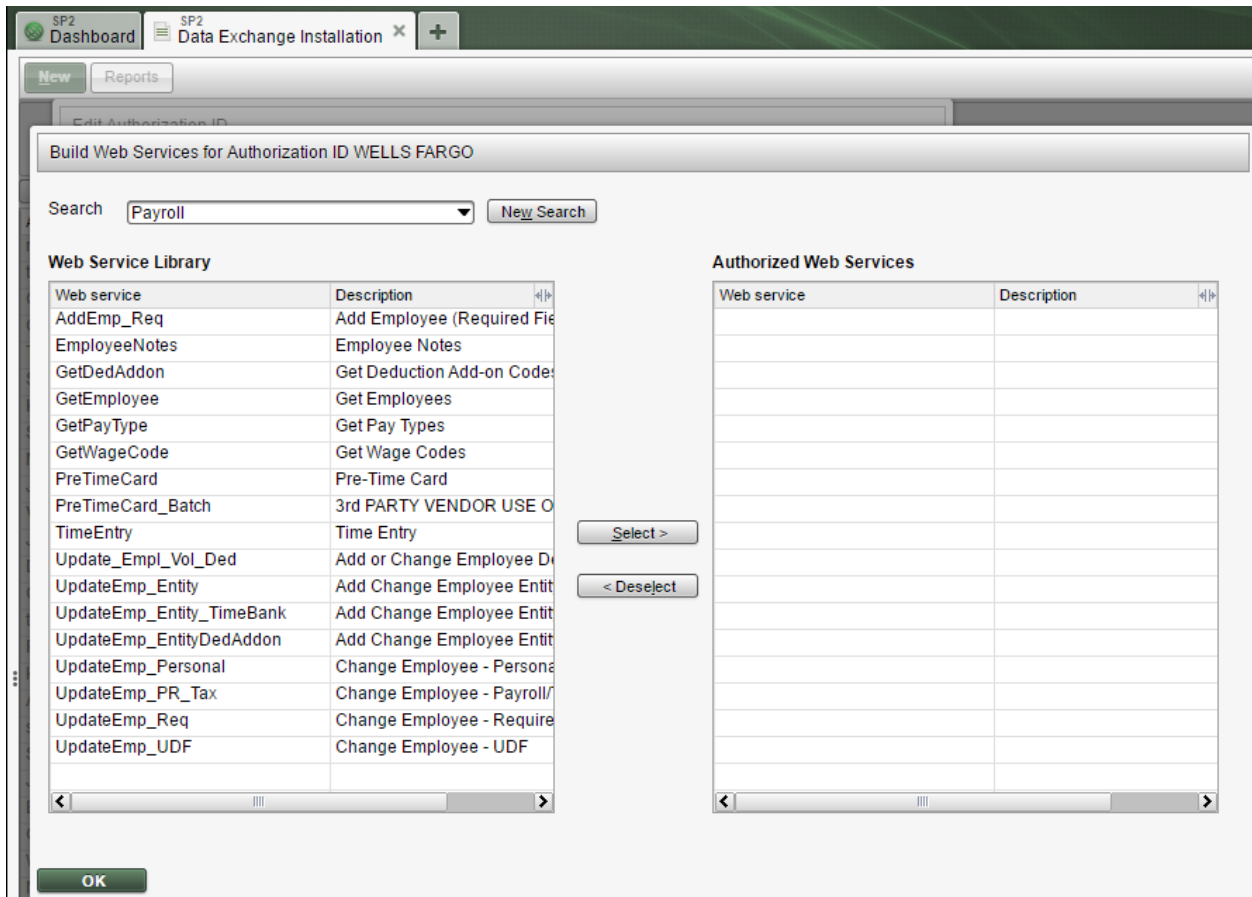


## BUILD WEB SERVICE

A search option is available to narrow down the list of Web Services available by module. The user must select from the available list.



The available Web services display in the left pane and the authorized Web services already assigned to the current Authorization ID display in the right pane.

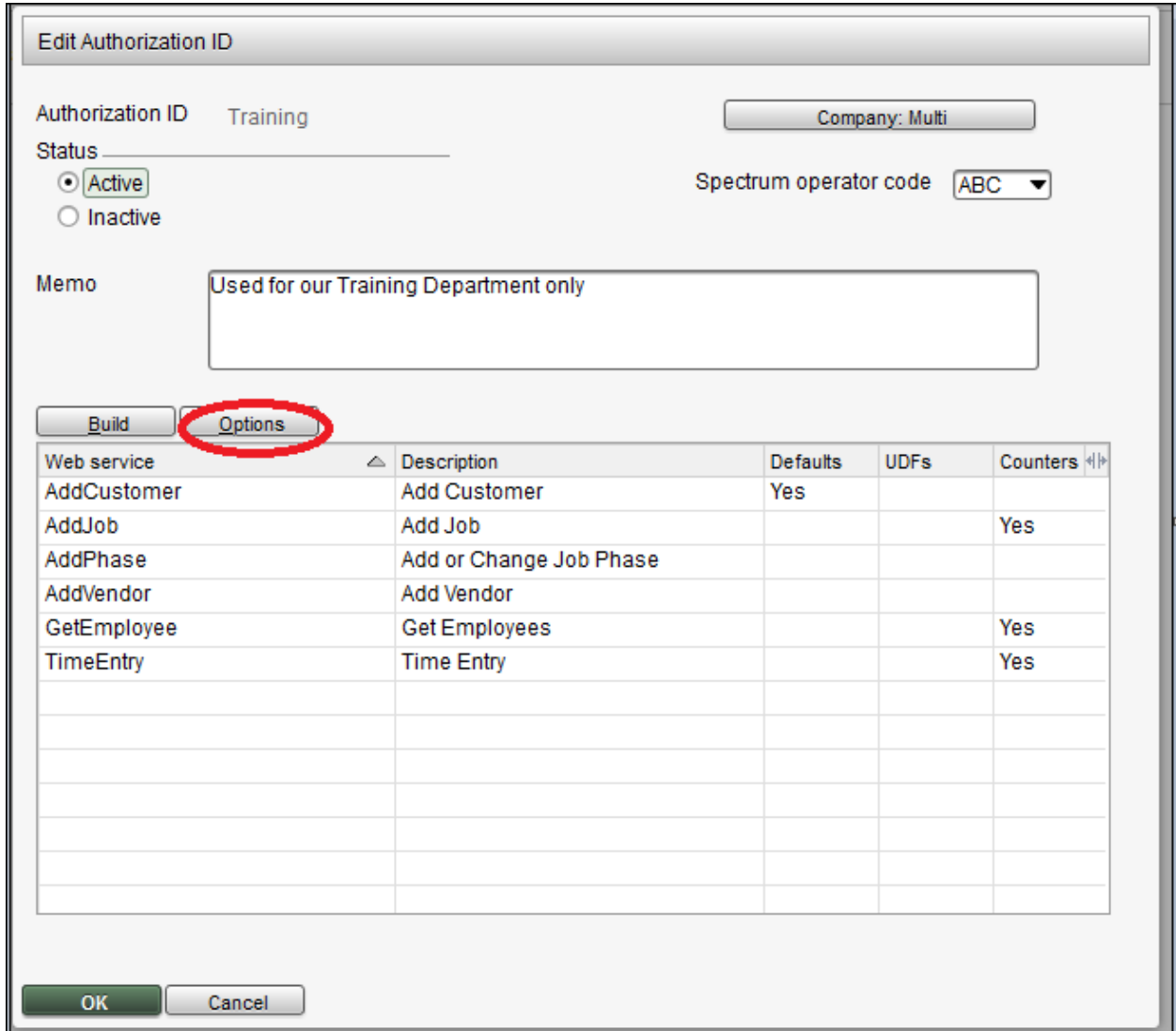


**Note:**

- Some web services displayed on the Build Web Services screen are created for 3<sup>rd</sup> party Vendor Use only and the Description shown states that information.
- When selecting the Web Services, it will move a maximum of 40 records at a time. A warning message appear is more than 40 records are chosen but the message doesn't prevent the data from moving. The user can do this as many times as needed.

## DEFINE WEB SERVICE OPTIONS

Once the Company and Web services are defined for the Authorization ID and updated, the main Authorization screen displays with the **Options** button available.



Authorization ID Training Company: Multi

Status  Active  Inactive Spectrum operator code ABC

Memo Used for our Training Department only

Build Options

Web service	Description	Defaults	UDFs	Counters
AddCustomer	Add Customer	Yes		
AddJob	Add Job			Yes
AddPhase	Add or Change Job Phase			
AddVendor	Add Vendor			
GetEmployee	Get Employees			Yes
TimeEntry	Time Entry			Yes

OK Cancel

Each Web service can have specific options defined. Select the Web service and click the **Options** button to display the Options screen. If the Web service does not contain any UDFs, then the User-Defined Fields tab will be grayed out.

Web Service Options

Authorization ID    ABC  
Web service        AddVendor

Default Values    **User-Defined Fields**    Counter Overrides

New    Edit    Delete

Service field name	Company code	Default value

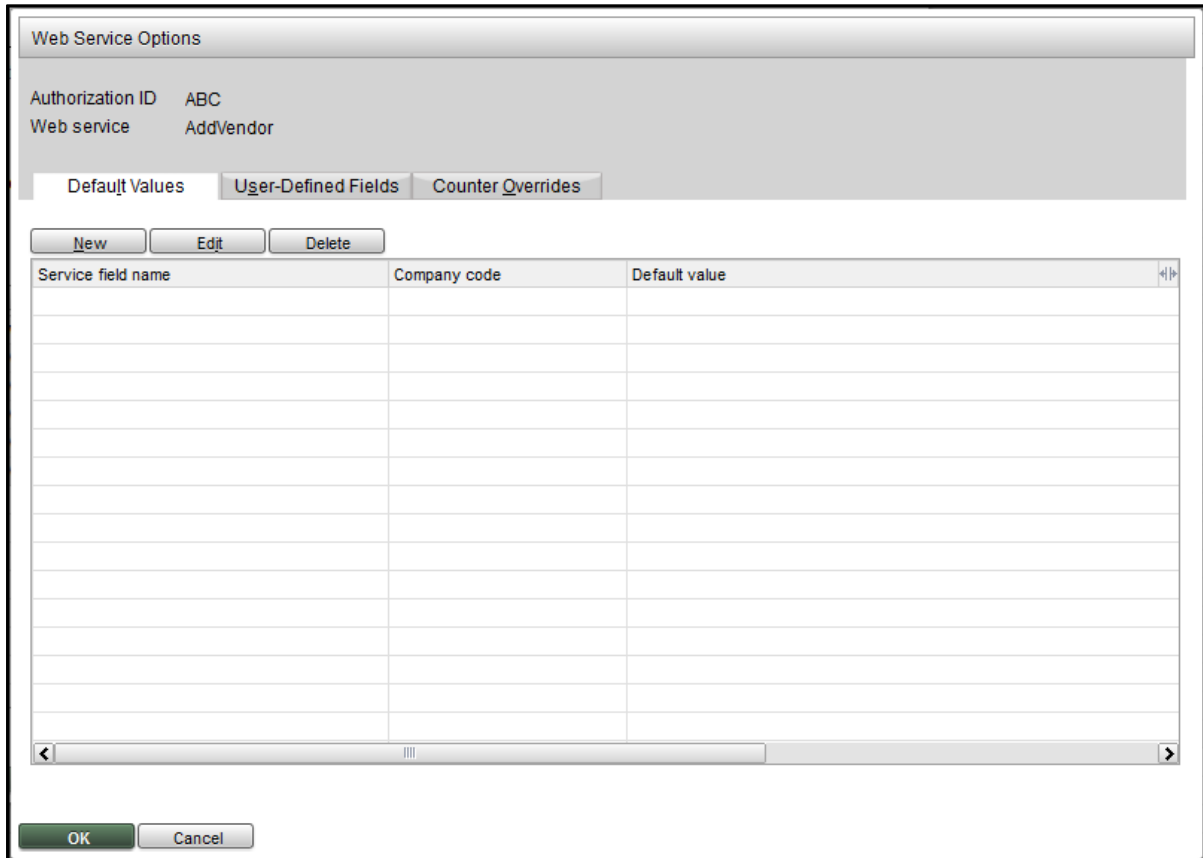
OK    Cancel

The Web Service Options screen shows the following tab(s) available based on their individual layout:

- **Default Values** – You can default a defined value into the file layout/data if it is blank during the Web service import. The UDF field name must be defined prior to setting up a Web Service Default Value.
- **User-Defined Fields (UDF)** – Provides a mapping of the Spectrum User Defined Fields to the UDF field name in the Web service.
- **Counter Overrides** – Provides the ability to override the values for the specific counters that have been set up within Spectrum.

## Default Values

The Web Service Options screen opens with the Default Values tab selected.



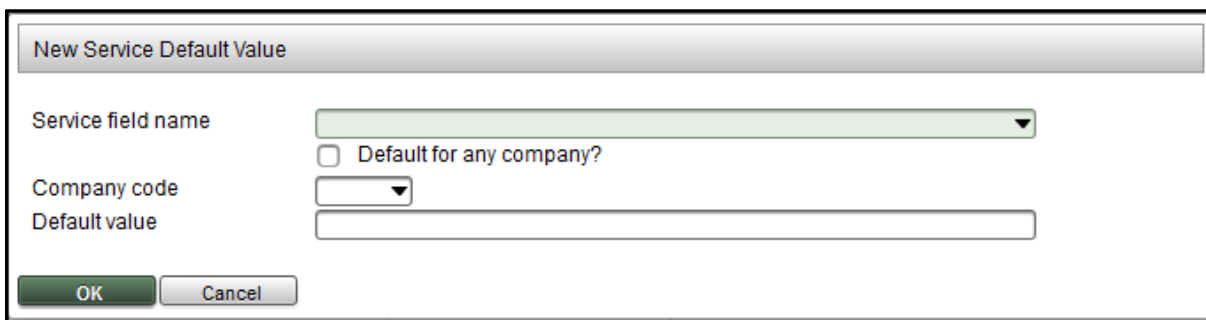
The screenshot shows the 'Web Service Options' dialog box with the 'Default Values' tab selected. The dialog displays the following information:

- Authorization ID: ABC
- Web service: AddVendor

Below the information, there are three tabs: 'Default Values', 'User-Defined Fields', and 'Counter Overrides'. The 'Default Values' tab is active. Above the table, there are three buttons: 'New', 'Edit', and 'Delete'. The table has three columns: 'Service field name', 'Company code', and 'Default value'. The table is currently empty. At the bottom of the dialog, there are 'OK' and 'Cancel' buttons.

Service field name	Company code	Default value
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Click **New** to open the New Service Default Value window and create the default value by selecting an entry from the drop-down list.



The screenshot shows the 'New Service Default Value' dialog box. It contains the following fields and controls:

- 'Service field name' dropdown menu.
- 'Default for any company?' checkbox.
- 'Company code' dropdown menu.
- 'Default value' text input field.

At the bottom of the dialog, there are 'OK' and 'Cancel' buttons.

Select a Service field name using the lookup functionality, define the Company code, or select the check box to have it default for any company that the Authorization ID has access to. Then define the information to be entered for the Default value. See the example below.

New Service Default Value

Service field name Address\_3

Default for any company?

Company code SP2

Default value TESTING DEFAULT ADDRESS 3

OK Cancel

The Default Values tab displays the default values that you have defined.

Web Service Options

Authorization ID ABC

Web service AddVendor

Default Values User-Defined Fields Counter Overrides

New Edit Delete

Service field name	Company code	Default value
Address_3	SP2	TESTING DEFAULT ADDRESS 3

OK Cancel

By clicking **Edit**, the Default value can be modified as shown below.

The screenshot shows a dialog box titled "Edit Service Default Value". It contains the following fields and controls:

- Service field name:** Address\_3
- Default for any company?**
- Company code:** SP2
- Default value:** A text field containing "TESTING DEFAULT ADDRESS 3-edit".
- Buttons:** "OK" and "Cancel".

The Service Default Values can also be deleted by highlighting the Service field name, clicking **Delete**, and confirming its deletion.

### User-Defined Fields

Select the User-Defined Fields tab to display or define the corresponding UDF field names to the UDF prompts defined in Spectrum.

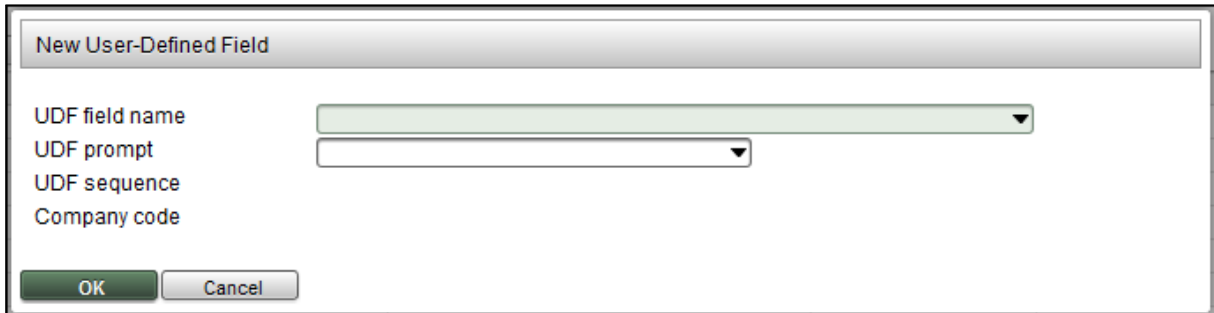
The screenshot shows the "Web Service Options" dialog box with the "User-Defined Fields" tab selected. The top section contains:

- Authorization ID:** ABC
- Web service:** AddVendor
- Navigation tabs: "Default Values", "User-Defined Fields", and "Counter Overrides".
- Buttons: "New" and "Delete".

UDF field name	UDF prompt	UDF sequence	Company code	

Buttons: "OK" and "Cancel".

Click **New** to open the New User-Defined Field window and create the UDF mapping by selecting an entry from the drop-down list for each entry field.

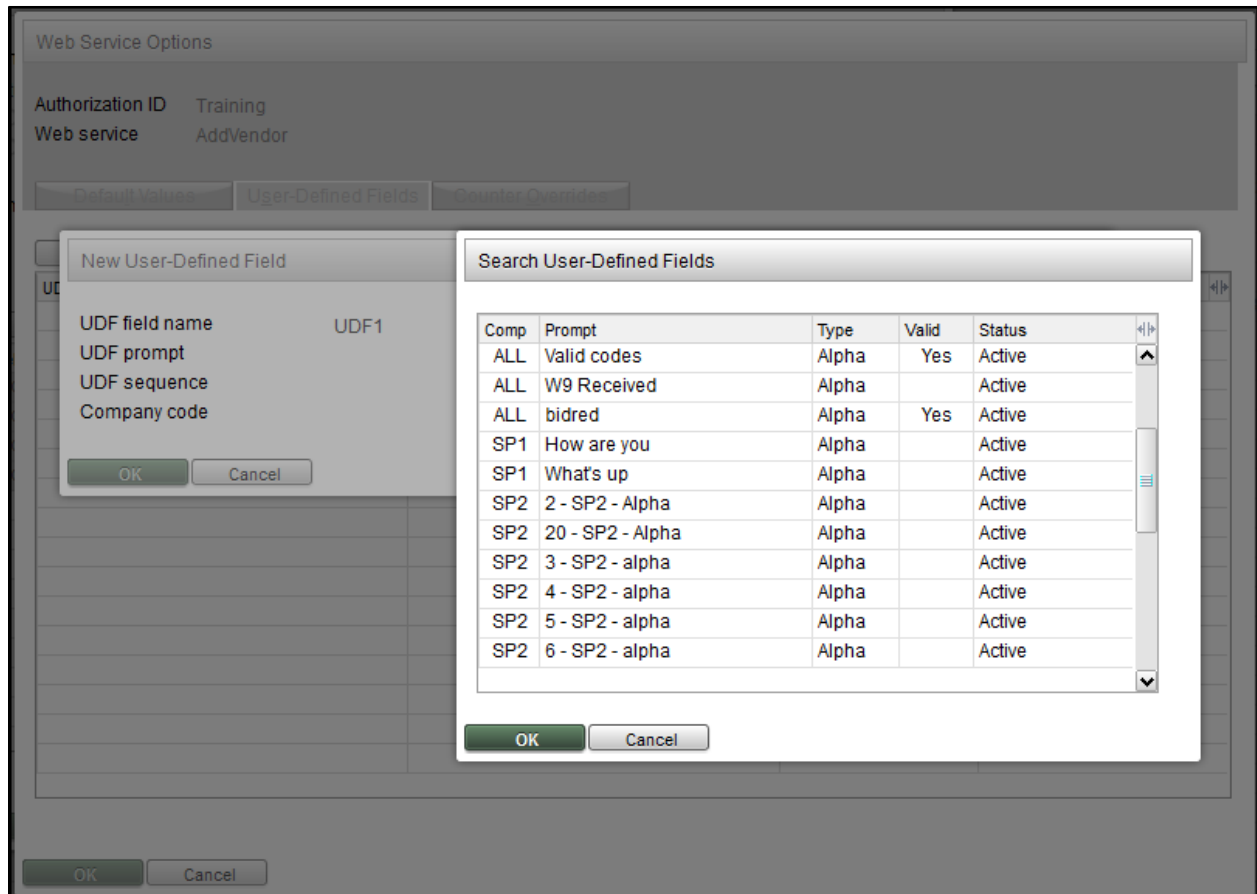


The dialog box titled "New User-Defined Field" contains the following fields:

- UDF field name: A dropdown menu.
- UDF prompt: A dropdown menu.
- UDF sequence: A text input field.
- Company code: A text input field.

Buttons: OK, Cancel

Use the lookup functionality to define the UDF field name and UDF prompt. The lookup logic will show all companies that the Authorization ID has access to and any UDF prompt set up for Company 'ALL'.



The screenshot shows the "User-Defined Fields" tab in a software application. The background window displays "Web Service Options" with "Authorization ID" set to "Training" and "Web service" set to "AddVendor".

In the foreground, a "New User-Defined Field" dialog box is open, with "UDF field name" set to "UDF1".

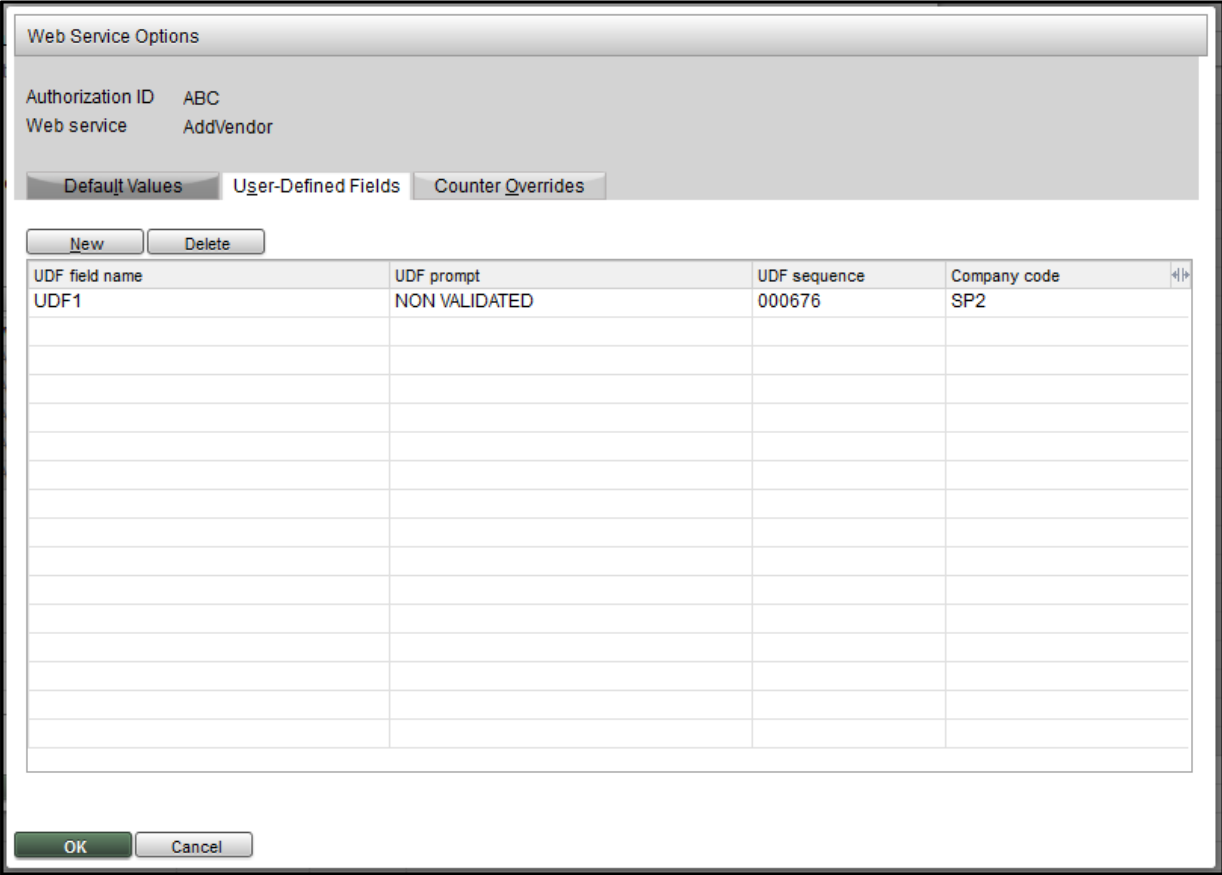
Overlaid on this is a "Search User-Defined Fields" window showing a table of existing fields:

Comp	Prompt	Type	Valid	Status
ALL	Valid codes	Alpha	Yes	Active
ALL	W9 Received	Alpha		Active
ALL	bidred	Alpha	Yes	Active
SP1	How are you	Alpha		Active
SP1	What's up	Alpha		Active
SP2	2 - SP2 - Alpha	Alpha		Active
SP2	20 - SP2 - Alpha	Alpha		Active
SP2	3 - SP2 - alpha	Alpha		Active
SP2	4 - SP2 - alpha	Alpha		Active
SP2	5 - SP2 - alpha	Alpha		Active
SP2	6 - SP2 - alpha	Alpha		Active

Buttons: OK, Cancel



The UDF tab displays the default values that you have defined.



You can also delete the user-defined field by highlighting the UDF field name, clicking **Delete**, and confirming its deletion.

### Counter Overrides

The Service Counters Overrides tab is used to create an override for the following predefined counters. The type of Web service determines the available counter overrides.

- Max # of records
- Max # of total errors
- Max # of consecutive errors
- Time out (in seconds)

The Counter Overrides tab displays the standard Web Service Defaults for the given counters.

Web Service Options

Authorization ID ABC  
Web service AddVendor

Default Values User-Defined Fields Counter Overrides

Use standard Web Service defaults?

Max # of records	10,000
Max # of total errors	1,000
Max # of consecutive errors	20
Time out (in seconds)	86,400

OK Cancel

To change the values, clear the “Use standard Web Service defaults?” check box.

Web Service Options

Authorization ID ABC  
Web service AddVendor

Default Values User-Defined Fields Counter Overrides

Use standard Web Service defaults?

Max # of records	10,000
Max # of total errors	500
Max # of consecutive errors	50
Time out (in seconds)	20,000

OK Cancel

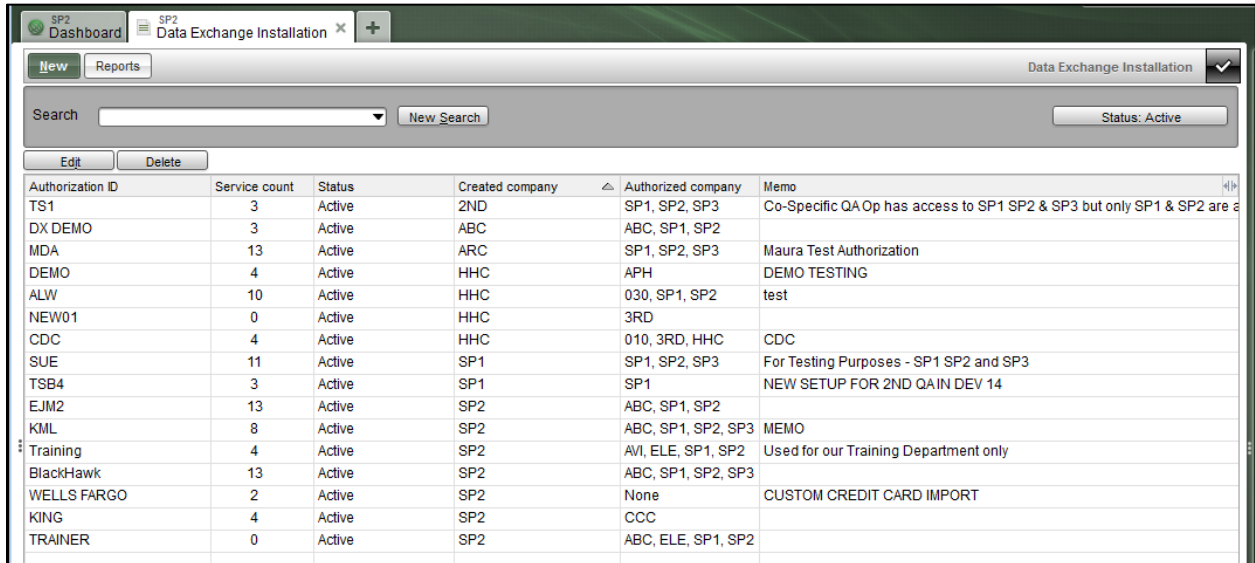
Once you have defined the Options, the Authorization ID screen redisplay and shows which Web services have defined Options. If a Web service or Company is removed from the Authorization ID, then all Options defined for the Web service and/or the Company will be removed.

Web service	Description	Defaults	UDFs	Counters
AddCustomer	Add Customer	Yes		
AddJob	Add Job			Yes
AddPhase	Add or Change Job Phase			
AddVendor	Add Vendor			
GetEmployee	Get Employees			Yes
TimeEntry	Time Entry			Yes

Click **OK** to exit the Authorization ID screen and return to the Data Exchange Installation screen to view the Authorization IDs.

## REPORTS

To access the various reports available with the Data Exchange, click the **Reports** button on the Data Exchange Installation screen.



The screenshot shows the 'Data Exchange Installation' window with the 'Reports' tab selected. The window includes a search bar, a 'New Search' button, and a 'Status: Active' filter. Below these are 'Edit' and 'Delete' buttons. The main area contains a table with the following columns: Authorization ID, Service count, Status, Created company, Authorized company, and Memo.

Authorization ID	Service count	Status	Created company	Authorized company	Memo
TS1	3	Active	2ND	SP1, SP2, SP3	Co-Specific QA Op has access to SP1 SP2 & SP3 but only SP1 & SP2 are a
DX DEMO	3	Active	ABC	ABC, SP1, SP2	
MDA	13	Active	ARC	SP1, SP2, SP3	Maura Test Authorization
DEMO	4	Active	HHC	APH	DEMO TESTING
ALW	10	Active	HHC	030, SP1, SP2	test
NEW01	0	Active	HHC	3RD	
CDC	4	Active	HHC	010, 3RD, HHC	CDC
SUE	11	Active	SP1	SP1, SP2, SP3	For Testing Purposes - SP1 SP2 and SP3
TSB4	3	Active	SP1	SP1	NEW SETUP FOR 2ND QAIN DEV 14
EJM2	13	Active	SP2	ABC, SP1, SP2	
KML	8	Active	SP2	ABC, SP1, SP2, SP3	MEMO
Training	4	Active	SP2	AVI, ELE, SP1, SP2	Used for our Training Department only
BlackHawk	13	Active	SP2	ABC, SP1, SP2, SP3	
WELLS FARGO	2	Active	SP2	None	CUSTOM CREDIT CARD IMPORT
KING	4	Active	SP2	CCC	
TRAINER	0	Active	SP2	ABC, ELE, SP1, SP2	

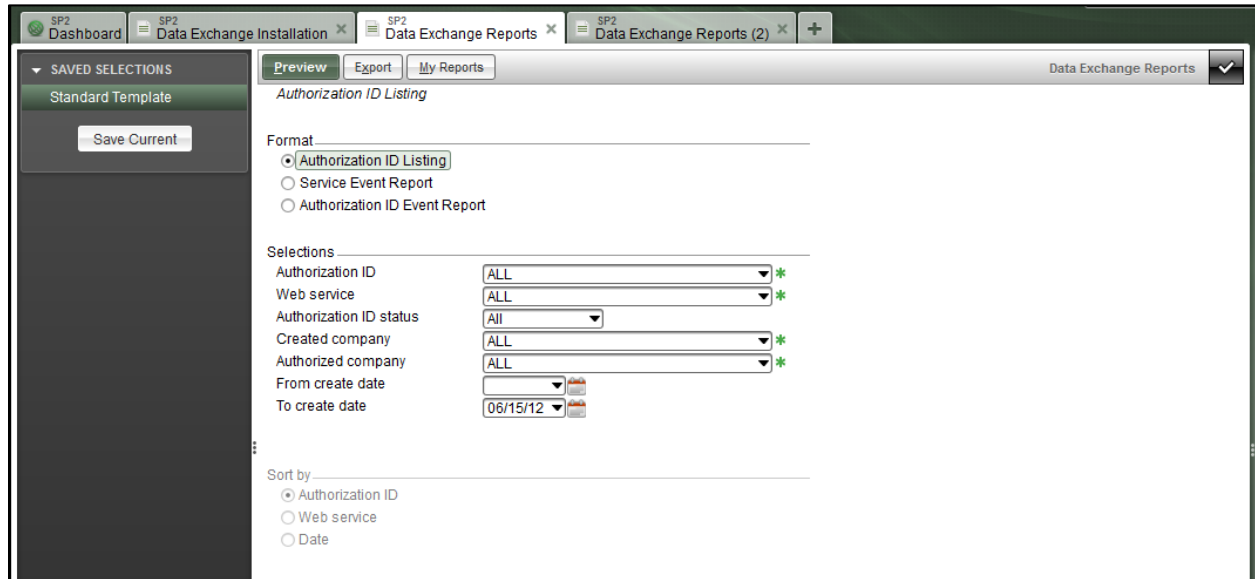
The Data Exchange Report screen provides you with the following report options:

- **Authorization ID Listing** – Provides the current details for the Authorization ID.
- **Service Event Report** – Provides historical details on the individual services that have accessed the Spectrum database.
- **Authorization Event Report** – Provides historical details on what sub screens have been entered for a given Authorization ID.

Each report has associated selection criteria and sort options available.

# Authorization ID Listing

## Start screen



## Report example

**Company SP2 - copy of ARC**  
**Data Exchange Authorization ID Listing**  
 From Inception to 08/22/13

Authorization ID	Service Count	Status	Created by			Spectrum Operator ID	Authorized Companies	Authorized Web Services
			Company	Operator	Date			
TEST	0	A	ARC	MDA	08/24/2012		SP1	
test-arc	1	A	ARC	EJM	04/18/2013		SP1 SP2	Add Vendor
test1	1	A	SP2	EJM	06/24/2013	EJM	SP2	Time Entry
TRAINER	7	A	SP2	EJM	04/06/2012	EJM	ABC ELE SP1 SP2	Add Employee (Required Fields) Add Job Change Employee - Payroll/Tax Change Employee - Personal Info Change Employee - UDF Pre-Time Card Time Entry
Training	5	A	SP2	EJM	04/06/2012	ABC	AVI ELE SP1 SP2	Add Customer Add Job Add Job Phase Add Vendor Get Employees
TS1	3	A	SP2	TS1	03/28/2012		SP1 SP2 SP3	Add Customer Add GL Journal Entries Add Vendor
TSB4	4	A	SP2	TSB	04/02/2012	EJM	SP1	Add GL Account Add GL Journal Entries Add Job Cost Transactions Time Entry

# Service Event Report

## Start screen

## Report example

**Company SP2 - copy of ARC**  
**Data Exchange Service Event Report Sorted by Authorization ID**  
**From Inception to 06/15/12**

Authorization ID	Web Service	Service Date/Time	Length of Time	Service Status	Records Updated
MDA	Add Vendor Invoices	06/13/2012 1:34:06PM	0:00:00:00	Authorized	0
MDA	Add Vendor	04/11/2012 8:36:43AM	0:00:00:50	Authorized	1
MDA	Add Vendor	04/11/2012 8:47:41AM	0:00:00:00	Authorized	0
MDA	Add Vendor	04/17/2012 3:32:07PM	0:00:00:14	Authorized	0
MDA	Add Vendor	04/17/2012 3:39:07PM	0:00:00:00	Authorized	1
MDA	Change Employee - Payroll/Tax	04/11/2012 9:18:15AM	0:00:00:00	Authorized	0
MDA	Change Employee - Payroll/Tax	05/29/2012 2:35:42PM	0:00:00:00	Authorized	0
MDA	Change Employee - Personal Info	04/11/2012 9:06:56AM	0:00:03:52	Authorized	0
MDA	Change Employee - Personal Info	04/11/2012 9:12:06AM	0:00:00:19	Authorized	0
MDA	Change Employee - Personal Info	04/11/2012 9:15:31AM	0:00:00:00	Authorized	1
MDA	Change Employee - UDF	04/11/2012 9:21:42AM	0:00:00:00	Authorized	0
SUE	Add Customer	04/06/2012 9:53:53AM	0:00:00:04	Aborted - The Web Service maximum record count has been reached.	2
SUE	Add Customer	04/06/2012 9:57:04AM	0:00:00:02	Aborted - The Web Service exceeded the number of maximum consecutive errors	0
SUE	Add Customer	04/06/2012 10:04:59AM	0:00:00:00	Aborted - The Web Service time out has occurred.	0
SUE	Add Customer	04/06/2012 10:06:31AM	0:00:00:00	Aborted - The Web Service time out has occurred.	0
SUE	Add Customer	04/06/2012 10:17:18AM	0:00:52:49	Authorized	113
SUE	Add Customer	05/16/2012 8:54:49AM	0:00:00:00	Authorized	1
SUE	Add Customer	06/12/2012 7:41:30AM	0:00:00:00	Authorized	1
SUE	Add Employee (Required Fields)	05/30/2012 4:14:41PM	0:00:00:36	Authorized	1
SUE	Add Employee (Required Fields)	06/12/2012 4:21:22PM	0:00:01:19	Authorized	1
SUE	Add Employee (Required Fields)	06/12/2012 4:24:20PM	0:00:16:01	Authorized	4
SUE	Add GL Account	02/14/2012 3:15:42PM	0:00:01:07	Authorized	1
SUE	Add GL Journal Entries	04/04/2012 9:59:19AM	0:00:00:00	Authorized	1
SUE	Add GL Journal Entries	04/04/2012 10:56:08AM	0:00:00:10	Authorized	0
SUE	Add GL Journal Entries	04/04/2012 1:34:19PM	0:00:00:01	Authorized	3
SUE	Add GL Journal Entries	04/04/2012 1:41:01PM	0:00:00:22	Authorized	1
SUE	Add GL Journal Entries	04/04/2012 2:21:04PM	0:00:00:01	Authorized	1
SUE	Add GL Journal Entries	04/04/2012 2:29:53PM	0:00:11:21	Aborted - The Web Service maximum record count has been reached.	0
SUE	Add GL Journal Entries	04/04/2012 3:00:27PM	0:00:12:58	Aborted - The Web Service maximum record count has been reached.	0
SUE	Add GL Journal Entries	04/04/2012 3:25:33PM	0:00:13:03	Authorized	1
SUE	Add GL Journal Entries	04/04/2012 4:14:11PM	0:00:00:01	Authorized	1
SUE	Add GL Journal Entries	04/04/2012 4:21:05PM	0:00:00:01	Authorized	2

# Authorization ID Event Report

## Start screen

## Report example

Company SP2 - copy of ARC						
Data Exchange Authorization ID Event Report						
From Inception to 06/15/12						
Authorization ID	Status	Created by			Last Modified Operator	Last Modified Date
		Company	Operator	Date		
ALW	A	HHC			CDC	06/09/2012
BlackHawk	A	SP2			EJM	06/18/2012
CDC	A	HHC	CDC	06/09/2012	CDC	06/12/2012
		Date/Time	Event Description		Company-Operator	
		6/12/12 7:34AM	Edit Authorization ID		HHC-CDC	
		6/12/12 7:34AM	Company Build		HHC-CDC	
		6/12/12 7:34AM	Web Service Build		HHC-CDC	
		6/12/12 7:34AM	Web Service Options		HHC-CDC	
		6/12/12 7:34AM	Edit Authorization ID		HHC-CDC	
		6/12/12 10:18AM	Web Service Options		HHC-CDC	
		6/12/12 10:37AM	Edit Authorization ID		HHC-CDC	
		6/12/12 10:37AM	Web Service Options		HHC-CDC	
		6/12/12 10:43AM	Edit Authorization ID		HHC-CDC	
		6/12/12 1:12PM	Web Service Build		HHC-CDC	
CDC20	I		2ND			
		Date/Time	Event Description		Company-Operator	
		6/15/12 6:49AM	Company Build		SP2-EJM	
DEMO	A	HHC			CDC	06/11/2012
DX DEMO	A	ABC	EJM	04/24/2012		
EJM2	A	SP2			EJM	06/13/2012
		Date/Time	Event Description		Company-Operator	
		6/13/12 1:35PM	Company Build		SP2-EJM	
		6/13/12 1:35PM	Web Service Options		SP2-EJM	
		6/13/12 1:37PM	Web Service Build		SP2-EJM	
		6/13/12 1:38PM	Edit Authorization ID		SP2-EJM	

## PURGES

To access the various purge features available from the Data Exchange:

On the Site Map, click on **System Administration** and then click on **Utilities** to display the Utilities options. Select the Purge Data Exchange Event Log screen.

SP2 Dashboard | SP2 Purge Data Exchange Event Log x +

Continue Cancel | Purge Data Exchange Event Log

This update will delete the selected records for the specified Data Exchange Event tables.

Purge options \_\_\_\_\_

Service event purge

Authorization ID event purge

Selections \_\_\_\_\_

Authorization ID: ALL \*

Web services: ALL \*

From event date: \_\_\_\_\_

To event date: \_\_\_\_\_

The Purge Data Exchange Event Log screen provides you with the following purge options:

- **Service Event Purge** – Deletes the historical details on the individual services that have accessed the Spectrum database.
- **Authorization ID Event Purge** – Deletes the current details for the Authorization ID.



Each report has associated selection criteria and sort options available. Once you have defined the criteria, click **Continue** on the purge screen to remove the records.

### Service event purge start screen

SP2 Dashboard | SP2 Purge Data Exchange Event Log

Continue Cancel | Purge Data Exchange Event Log

This update will delete the selected records for the specified Data Exchange Event tables.

Purge options \_\_\_\_\_

- Service event purge
- Authorization ID event purge

Selections \_\_\_\_\_

Authorization ID: ALL \*  
Web services: ALL \*  
From event date: \_\_\_\_\_  
To event date: \_\_\_\_\_

### Authorization ID event purge screen

SP2 Dashboard | SP2 Purge Data Exchange Event Log

Continue Cancel | Purge Data Exchange Event Log

This update will delete the selected records for the specified Data Exchange Event tables.

Purge options \_\_\_\_\_

- Service event purge
- Authorization ID event purge

Selections \_\_\_\_\_

Authorization ID: ALL \*  
From event date: \_\_\_\_\_  
To event date: \_\_\_\_\_