



Configuring Optional and Advanced Tasks for External Content Integration

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This module describes some of the optional and advanced tasks that you can perform for External Content Integration in Cisco StadiumVision Director.

This module includes the following topics:

- [Working with Data Views, page 51](#)
- [Modifying the Output Format of a Statistic, page 58](#)
- [Modifying the Default Data Throttling Values and Registry Configuration, page 60](#)
- [Disabling the Data Source Configuration, page 62](#)
- [Deactivating the External Content Integration Application From the Management Dashboard, page 62](#)

Working with Data Views

This section describes how to select and merge content from multiple data sources into a single data view for ingestion into Cisco StadiumVision Director and prepare the content for presentation.

Prerequisites

Before you create a data view, be sure that the following requirements are met:

- The data sources whose content elements you want to combine into a data view are added and configured. For more information, see the [“Configuring External Content Integration in Cisco StadiumVision Director” module on page 15](#).
- If you want to select specific elements of the data feed, use the Expression Editor to filter the elements that you want to include or exclude. For more information, see the [“Modifying the Default XPath Expression” section on page 59](#).

Task List

This section includes the following tasks:

- [Creating a Data View, page 52](#) (required)
- [Adding Data Sources to the Data View, page 53](#) (required)
- [Enabling the Data View, page 55](#) (required)
- [Configuring the Data View as a New Data Source, page 56](#) (required)

Creating a Data View

To create a data view, complete the following steps:

-
- Step 1** From the **Control Panel > Setup** screen, click **Data Integration**.
The Data Integration screen is displayed in the Data Sources panel view.
- Step 2** Click **Advanced**.
- Step 3** To create a new data view, click **+Add** in the Advanced panel.
The New data view dialog box is displayed ([Figure 1](#)).

Figure 1 *New data view Dialog Box*

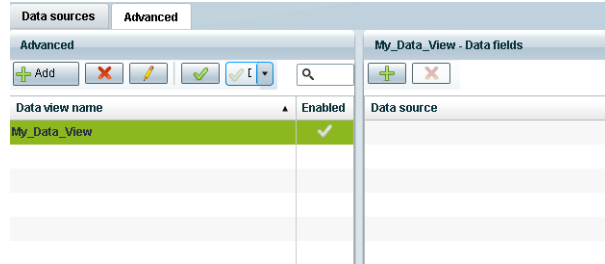


- Step 4** In the Data view name box, type the name of the view that you want to create.

Step 5 Click **Create**.

The new data view is added to the list of Data view names ([Figure 2](#)).

Figure 2 *New data view Panel*



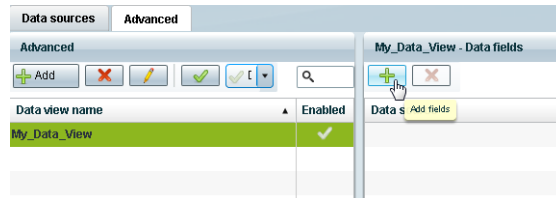
Adding Data Sources to the Data View

Any data source type can be added to a data view.

To add data sources to the data view, complete the following steps:

Step 1 To add a data source and its configured fields to the selected data view, click the plus (+) icon in the Data fields panel ([Figure 3](#)).

Figure 3 *Add Data Source Fields*



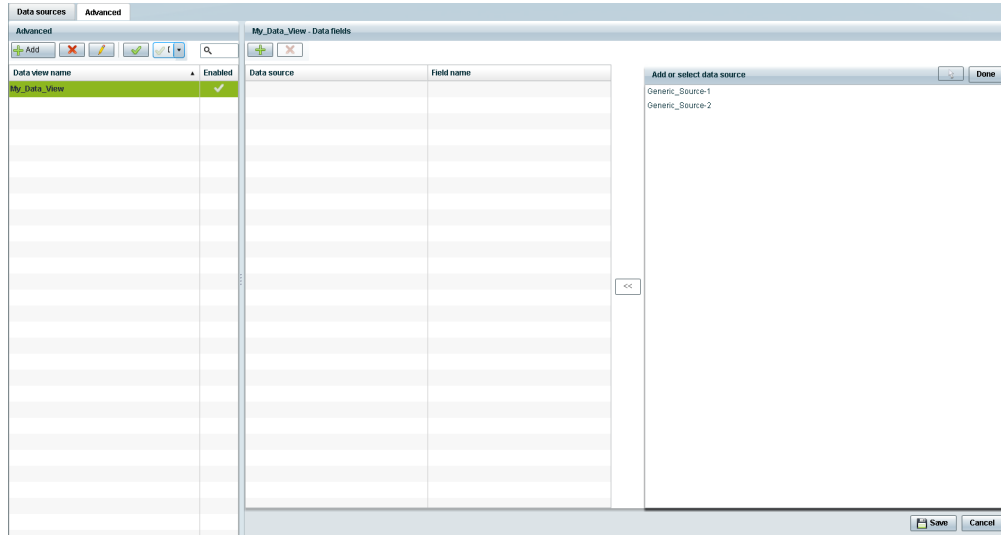
A list of the available configured data sources is displayed in the Add or select data source panel (Figure 4).



Tip

The example shows generic data sources, but any data source type can be added to a data view.

Figure 4 Add or select data source Panel



Step 2 To add a data source to the data view, select a source name from the list and click <<. Repeat this step for as many data sources as you want to combine in the data view.

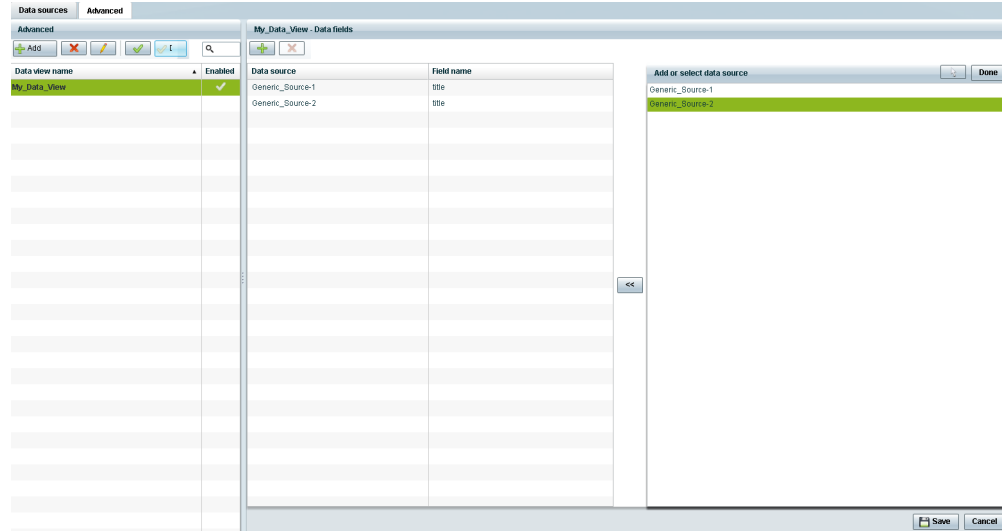


Note

Multi-selection of data sources is not supported.

The sources that you added are displayed under the Data source column (Figure 5).

Figure 5 Data Sources Selected in Data View



Step 3 After you have added all required data sources, click **Done**.

Step 4 Click **Save**.

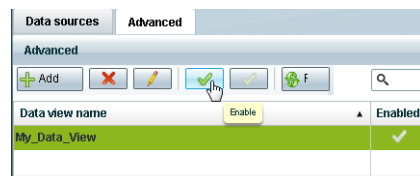
Enabling the Data View

Disabled data views are indicated by a gray checkmark in the Enabled column of the corresponding data view name. When a data view is enabled, the checkmark turns green.

To enable the data view, complete the following steps:

Step 1 To enable the data view, select the data view name and click the checkmark icon (Figure 6).

Figure 6 Enable Data View



Step 2 Click **Save**.

Configuring the Data View as a New Data Source

After you create a data view, you must configure it as a new data source to make the data available to the External Content Integration feature.

Prerequisites

Before you configure the data view as a new data source, be sure that the following requirements are met:

- You have the internal URL that identifies the location of the view. The format of the URL is shown in the following example, where *svd-ip-address* is the IP address of the Cisco StadiumVision Director server and *dataview-name* is the name of the data view that you created:

http://svd-ip-address:8888/StadiumVision/flows/dataview/data/dataview-name

In our example, the following URL would be used:

http://10.10.10.10:8888/StadiumVision/flows/dataview/data/My_Data_View

- You have sample XML or JSON data for the combined data sources.



Tip You can use the data view URL to get the sample XML data.

Procedure



Note The following procedure shows an example of creating a data view using the HTTP message type.

To configure the data view as a new data source, complete the following steps:

- Step 1** From the Data Integration screen, click **Data Sources**.
- Step 2** Add a new Generic Data Source with the HTTP message type.

Step 3 Type the internal URL to the configured data view ([Figure 7](#)).

Figure 7 HTTP URL for Data View

Data source name	Type	Enabled
Data_View_Source	Generic Data Source	✓
Generic_Source-1	Generic Data Source	✓
Generic_Source-2	Generic Data Source	✓

Data source URL address * http://10.10.10.10:8888/StadiumVision/flows/dataview/data/My_Data_View

Polling Frequency * 60 in seconds [5-600]

User Name

Password

Data polling, filtering and throttling

Incoming data filter rate * 20 in seconds [5-60]

Data Format Information

Data Format

Step 4 Select the Data Format.

Step 5 Click **Field Mapping**.

Step 6 Provide the sample XML or JSON data.

For more information, see the [“Providing Sample XML or JSON Data for Generic Data Sources”](#) section on page 42.

Step 7 Select the input fields and map them for display.

For more information, see the [“Selecting Input Statistics and Mapping to Output Fields for Display”](#) section on page 45.

Step 8 Enable the data source.

For more information, see the [“Enabling the Data Source Configuration”](#) section on page 46.

Step 9 Verify the data integration.

For more information, see the [“Verifying the Integration”](#) section on page 49.

What To Do Next

After you have defined, enabled and verified your data view as new data source, go to the Widgets tool to layout the content. For more information, see the [“Designing the Layout of External Content Using the Widgets Tool”](#) module on page 63.

Modifying the Output Format of a Statistic

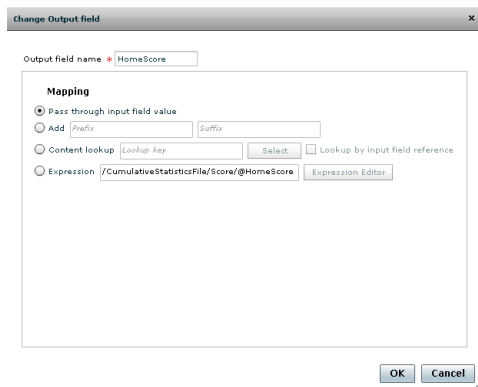
You can use the default format and value of a mapped statistic for output using the default “Pass through input field” option, or you can modify its characteristics for display.

The following types of actions can be taken on input field data:

- [Changing the Output Field Name, page 58](#)
- [Adding a Prefix or Suffix String to a Field, page 58](#)
- [Looking Up Content, page 59](#)
- [Modifying the Default XPath Expression, page 59](#)

This editing can be done either when you first add a statistic to the Output fields panel (in the Add Output field dialog box), or later if you edit the statistic from the Output fields panel (in the Edit Output field dialog box) as shown in [Figure 8](#).

Figure 8 *Change Output Field Dialog Box*



Changing the Output Field Name

To change the output field name, complete the following steps:

-
- Step 1** In the Output field name box of the Change Output field dialog box, type the new name of the field that you want to use.
- Step 2** Click **Ok**.
-

Adding a Prefix or Suffix String to a Field

You can add a character string as a prefix or suffix to the input field value. For example, if the default input value for an input field called Period1 was a numeric value “1,” you could specify “st” in the suffix box so that the input field value is appended with this string and appears in the output as “1st.”

To add a prefix or suffix string to an input field, complete the following steps:

-
- Step 1** In the Mapping section of the Change Output field dialog box, select the **Add** option.
- Step 2** Do one of the following:
- To add a character string as a prefix to the input field value, type the string in the Prefix box.
 - To add a character string as a suffix to the input field value, type the string in Suffix box.
- Step 3** Click **Ok**.
-

Looking Up Content

You can find an image from the content library to display in the widget. An image can be located using the image name (such as “Image1.png”), either as part of the value of the input field or as an explicit reference in the text box. If you are locating the image as part of the input field, be sure to select the “Lookup by input field reference” checkbox.

To look up content, complete the following steps:

-
- Step 1** In the Mapping section of the Change Output field dialog box, select the **Content lookup** option.
- Step 2** Do one of the following:
- To specify the explicit filename, either type the filename in the Lookup key box or click Select to browse for it.
 - Click the “Lookup by input field reference” checkbox if you want the image to be located as part of the input field data.
- Step 3** Click **Ok**.
-

Modifying the Default XPath Expression

Currently, the two functions supported in the External Content Integration feature are “lookup” and “concat.”



Tip

For information about XPath expressions, see the following URL:

<http://www.w3schools.com/xpath/default.asp>

To modify the default XPath expression, complete the following steps:

-
- Step 1** In the Mapping section of the Change Output field dialog box, select the **Expression** option.
- Step 2** Click **Expression Editor**.
- The Expression Editor dialog box is displayed.

- Step 3** In the text editor box where the expression for the input field function is displayed, modify the expression using standard XPath expression syntax.
- Step 4** Click **Ok**.
-

Choosing Specific Items From a Feed

Use the `position()` XPath predicate to include or exclude specific items from a given feed.

The following expression shows the default syntax for an RSS feed using the title element:

```
/rss/channel/item/title/text()
```

Example 1

To modify this expression to select only the third and fourth data elements from the feed, modify the expression to add the following position predicate:

```
/rss/channel/item[position()>2 and position()<5]/title/text()
```

Example 2

To modify the expression to include the second, third and fourth data elements from the feed, use the following position predicate:

```
/rss/channel/item[position()>=2 and position()<5]/title/text()
```

Modifying the Default Data Throttling Values and Registry Configuration

Beginning in Cisco StadiumVision Director Release 3.1, certain data throttling values for External Content Integration are configurable as registry keys in the Management Dashboard ([Table 1](#)).



Caution

Configuration of data throttling can be required to maintain optimum DMP performance to support External Content Integration in Cisco StadiumVision Director. Be sure that if you plan to modify the data throttling values, you understand that DMP performance could be severely impacted, and that you make changes only when no events are running in the venue and during an adequate maintenance window for the system.

The actual performance impact is dependent on a combination of factors including the registry values that are set, the number of data sources, and the amount of content / widgets / datasources visible on the DMP display.

Table 1 describes the global registry keys that apply to all data sources configured for External Content Integration beginning in Cisco StadiumVision Director Release 3.1.

Table 1 External Content Integration Data Throttling Registry Keys

Registry Key	New Default (Release 3.1 SP1 and Later)	Old Default (Release 3.1)	Description
databind.minUpdateInterval	500 ms (.5 seconds)	10 seconds	<p>Specifies the amount of time to wait since the last update before sending a multicast of new data from the External Content Integration service to all DMPs.</p> <p>Modify this registry key value to tune the display of clock values in Cisco StadiumVision Director (when they are inaccurate to the second), by lowering the default number of milliseconds.</p> <p>Note This global registry key corresponds to the original “Wait to push data to destination” data throttling option in Cisco StadiumVision Director Release 3.0, but the option can no longer be set per data source and applies to all configured data sources.</p> <p>Tip This control is different than the “Incoming data filter rate” data throttling option that specifies the amount of time to process only new data <i>from the data source</i> to the External Content Integration service.</p>
databind.maxUpdateInterval	60000 ms (60 seconds)	60 seconds	<p>Specifies the longest amount of time to wait before sending the multicast of any unchanged data to all DMPs.</p> <p>For data sources that support setting of polling intervals, the practical lower limit for this registry key corresponds to that polling interval. The interval cannot be set lower than 1000 ms.</p> <p>Note This global registry key corresponds to the original “Push data if wait exceeds” data throttling option in Cisco StadiumVision Director Release 3.0, but the option can no longer be set per data source and applies to all configured data sources.</p>

Disabling the Data Source Configuration

To disable the data source configuration, complete the following steps:

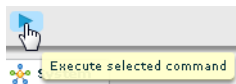
-
- Step 1** In the left pane, select the data source.
 - Step 2** Click **Undeploy**.
A message box appears asking you to restart the application.
 - Step 3** If you have completed all of the changes that you want to make on the Configuration tab, restart the application.
For more information, see the [“Restarting the External Content Integration Application”](#) section on page 48.
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Deactivating the External Content Integration Application From the Management Dashboard

By default, the External Content Integration Application is activated in Cisco StadiumVision Director. If your site is not going to connect to any external servers, then you can deactivate it to disable the functionality of the application system-wide in Cisco StadiumVision Director.

To deactivate the External Content Integration application, complete the following steps:

-
- Step 1** Log into Cisco StadiumVision Director as an administrator.
 - Step 2** From the Cisco StadiumVision Director main menu, click **Management Dashboard**.
 - Step 3** Using the Management Dashboard drawers, go to **Tools > Settings > External Content Integration**.
 - Step 4** Select **Deactivate Application**.
 - Step 5** Click the Play button to run the command.



- Step 6** When the confirmation message box appears, click **Ok** to run the command.
 - Step 7** After the processing has completed, select **Restart Application** and click the Play button.
 - Step 8** When the confirmation message box appears, click **Ok** to run the command.
The deactivation of the application will be completed.
-