Spectrum™ Technology Platform

Version 12.0 SP2

GeoEnrichment Guide

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GeoEnrichment Module

The GeoEnrichment Module for the Spectrum™ Technology Platform functions as a delivery mechanism for accessing a data source and returning data. Given a lookup key as input, the GeoEnrichment Module accesses a registered database and returns additional attribute data for the referenced record. The type of attribute data is determined by the installed database(s).

The GeoEnrichment Module is delivered as a Spectrum module and can be built into Spectrum stages. The Spectrum™ Technology Platform must already be installed.

GeoEnrichment Module Stage

The GeoEnrichment Module consists of the following stage:

- **GeoEnrichmentLookup** - Given a lookup key as input, the stage accesses a registered database and returns additional attribute data for the referenced address.

Adding a GeoEnrichment Module Database Resource

Whenever you install a new database resource or modify an existing database resource you must define it in Management Console in order for it to become available on your system. This procedure describes how to add or modify a GeoEnrichment Module database resource.

1. If you haven't already done so, install the database files on your system. For instructions on installing databases, see the *Spectrum™ Technology Platform Installation Guide*.

2. In Management Console, under **Resources**, choose **Spectrum Databases**.

3. To create a new database resource, click the **Add** button. To make changes to an existing database resource, select it, then click the **Edit** button. To delete a database resource, select it, then click the **Delete** button.

4. If you are creating a new database resource, on the **Add Database** page, enter a name for the database resource in the **Name** field.

5. In the **Pool size** field, specify the maximum number of concurrent requests you want this database to handle.

   The optimal pool size varies by module. You will generally see the best results by setting the pool size between one-half to twice the number of CPUs on the server, with the optimal pool size for most modules being the same as the number of CPUs. For example, if your server has four CPUs you may want to experiment with a pool size between 2 (one-half the number of CPUs) and 8 (twice the number of CPUs) with the optimal size possibly being 4 (the number of CPUs).

   Tip: You should conduct performance tests with various settings to identify the optimal pool size and runtime instance settings for your environment.

6. In the **Module** field, select `GeoEnrichmentLookup`. The **Type** field, `GeoEnrichmentLookup`, is selected by default.

7. To add a database file, under **Data Source**, click the **Add** button. In the **Dataset Name** field, specify a unique name. In the **Dataset Path** field, specify the full path and database file name, for example: D:/gem/usa_databases/apen_elevation/apn_elevation.h2.db. You can type in the full path with file name or or click the **Browse** button to locate the file you need, then click **Ok**.

8. If you have additional database files to add, click the **Add** button. To edit a database path, select the database, then click the **Edit** button. To remove a database, select the database, then click the **Delete** button.

9. When you are done with your changes, click **Save**.

2 - GeoEnrichmentLookup

In this section

Input

Field Name	Type	Description
lookupKey	String	A unique identifier related to the chosen database used to access a specific record.

Options

Use Management Console to set the global default values for the GeoEnrichmentLookup stage. To access the stage options in Management Console, use the toolbar menu: **Services** > **Other Services**, then select **GeoEnrichmentLookup**. Click the **Options** tab.

Use Enterprise Designer to set the options for a specific instance of the GeoEnrichmentLookup stage in your dataflow. To access the options dialog in Enterprise Designer, double-click the **GeoEnrichmentLookup** stage in the dataflow. To modify the default option, on the **GeoEnrichmentLookup Options** dialog, check the **Override system default options** checkbox, then select the options to modify.

Field Name	Type	Description
Database	String	The database resource to use for key lookup. Required.
DatasetName	String	The specific database file in the database resource to use for key lookup. Required.
LookupKey	String	**Note:** This option is only available in Enterprise Designer. An alternate key to use for the lookup with the GeoEnrichment database resource rather than the input `lookupKey` field which is used by default. Optional. **Tip:** You can set this option's value by using the **Lookup Key** combo box: use either the drop-down list or type the name of the alternate lookup key in the text box.

Output

Field Name	Type	Description
RawOutput	String	A raw JSON string comprising all of the output fields. These output fields are specific to the installed database(s). For more information on the data layout and field descriptions, see the associated database guide on **support.pb.com/spectrum**.
Status	String	Reports the success or failure of the match attempt. **Null** — Success **F** — Failure
Status.Code	String	If the lookup could not be performed, this field will provide a brief reason. **Invalid Lookup Key** — No match was found due to an invalid input Lookup Key **No match found** — No match was found for the input Lookup Key
Status.Description	String	If the lookup could not be performed, this field will provide a description of the failure.

Preview

You can preview the results of the GeoEnrichmentLookup stage in Management Console using the interactive Preview tool.

1. Open Management Console.
2. Go to the **Services** menu and select **Other Services**.
3. Click **GeoEnrichmentLookup** in the list, then click the **Edit** ✏ button.
4. On the **Options** tab, check that your desired options are set. If you choose to make changes, enter the data into the fields and click **Save**.
5. Click the **Preview** tab.
6. Enter the test data into each field or import your test data from a file.
   a) If you are entering data manually, type the test data into the individual fields in the input record. To add additional records, click the **Add** ✚ button under **Input Records**.
   b) If you are importing data, click the **Import** ⬆ button under **Input Records**.
      The **Import Data** popup appears.

      You can specify or browse to the file from which the data is drawn in the **File name** field and then choose the **Field separator** character from the dropdown. Click **OK**.

   Here are some tips for entering data:

   • If you want to preview the effect of passing a null value in a field, hover the cursor over the field name and click the **Disable** ⊘ icon that appears next to the field. You can reenable the field by hovering the cursor over the field name and clicking the **Reenable** ↺ icon.
   • You can preview multiple input records at once.
   • To delete all records, click the **Delete** 🗑 button at the top of the preview area.
   • To delete an individual record, hover over the input record name (for example, "Input Record 1") and click the **Delete** 🗑 button that appears next to the record name.

7. Click **Run Preview**.

   The service processes the input records and displays the results in the **Output Records** column that appears.

8. Review your output data, making sure the results are what you intended to get from the module. If necessary you can make changes to the module's settings and click **Run Preview** again. You do not need to input the data again.

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