Configure NetworkFleet to Esri Connector

Preconditions:

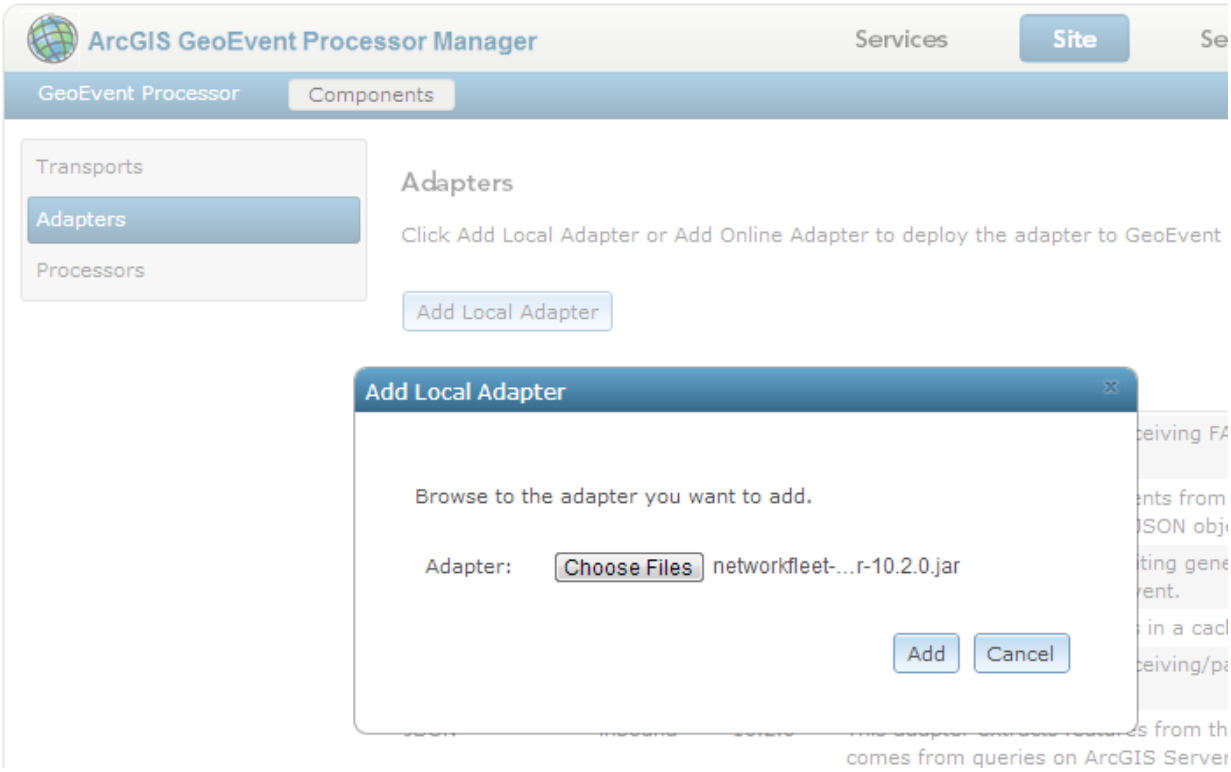
- ArcGIS for Server 10.2
- ArcGIS GeoEvent Processor Extension for Server 10.2
- ArcGIS Desktop Advanced (for publishing map services)

Process:

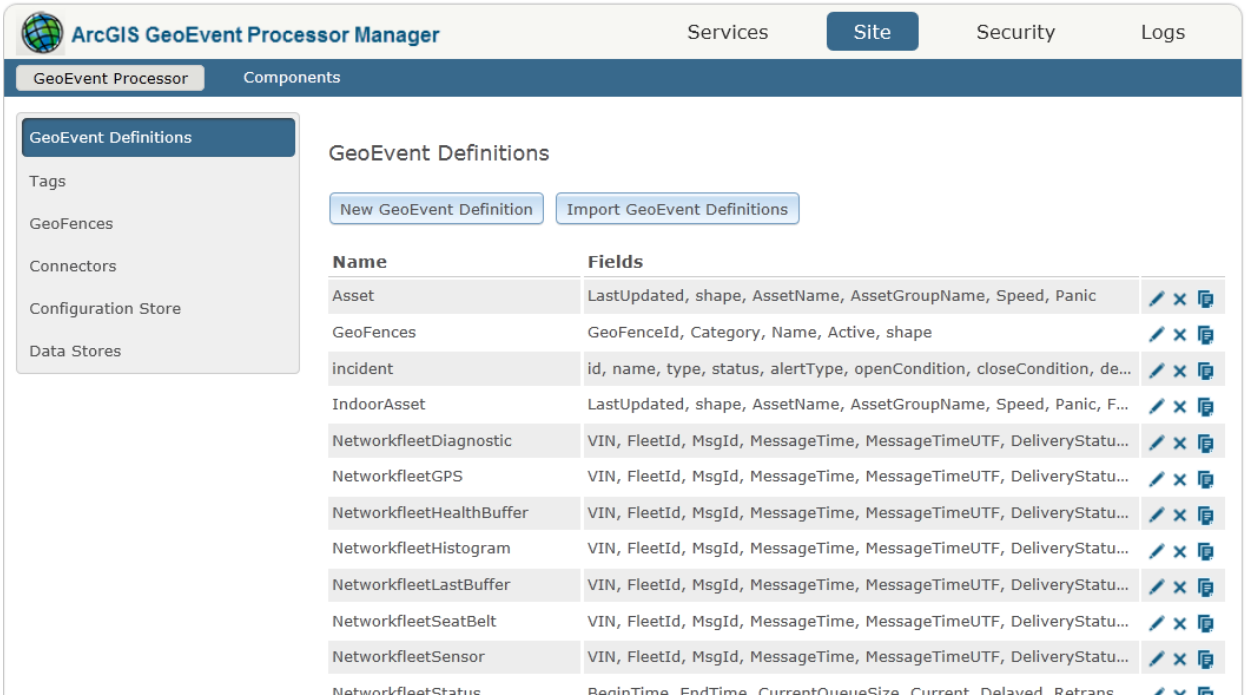
1) Add the NetworkFleet Adapter
2) Configure NetworkFleet Connector
3) Add NetworkFleet Input
4) Configure GeoEvent Service
5) Publish Networkfleet Map Services

Add NetworkFleet Adapter

1) Open the GeoEvent Processor Manager (e.g. https://localhost:6143/geoevent/manager)
2) Navigate to 'Site' > 'Components' > 'Adapters'.
3) Click on the 'Add Local Adapter' button.
4) Browse to the networkfleet-adapter-10.2.0.jar file and click "Add"

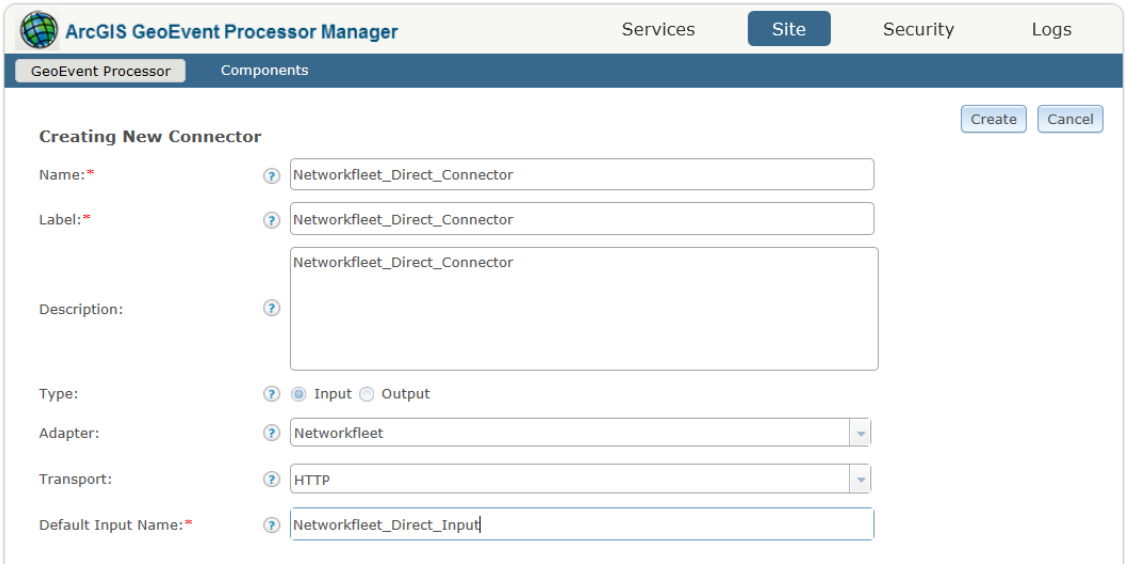


Once you have the NetworkFleet adapter installed you should see a lot of new message definitions for Networkfleet.

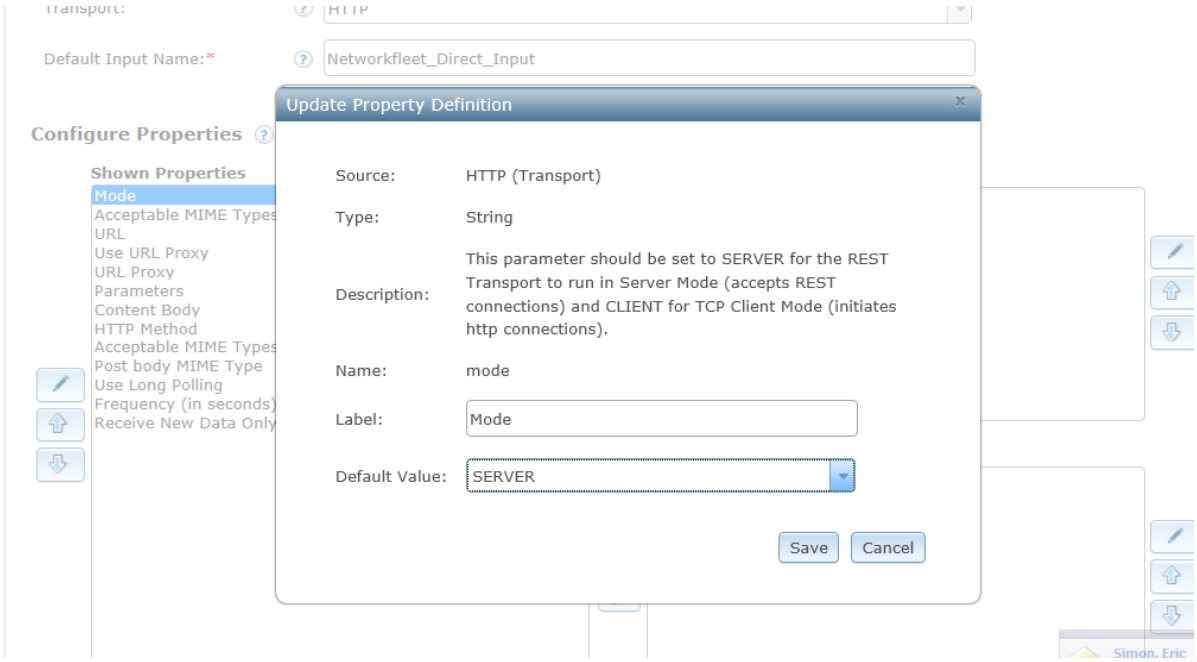


Add NetworkFleet Connector

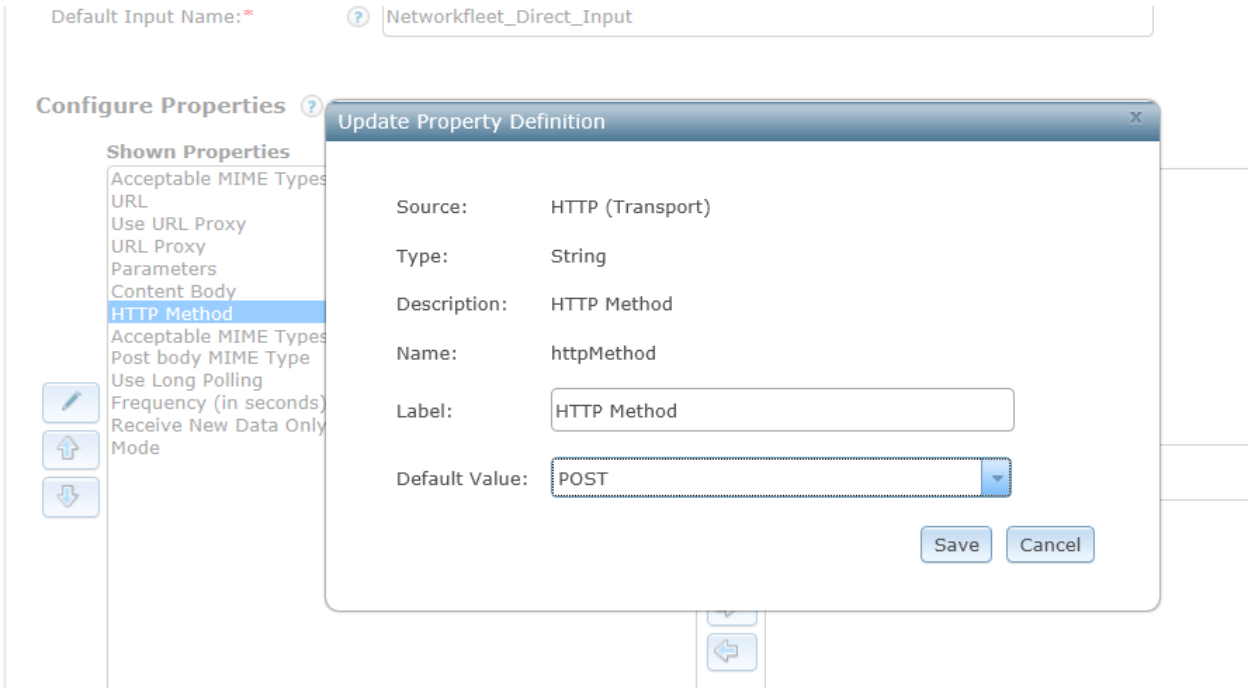
1) Navigate to 'Site' > 'Connectors'
2) Click on 'Create Connector'.
3) Use the settings below. You may choose different names..



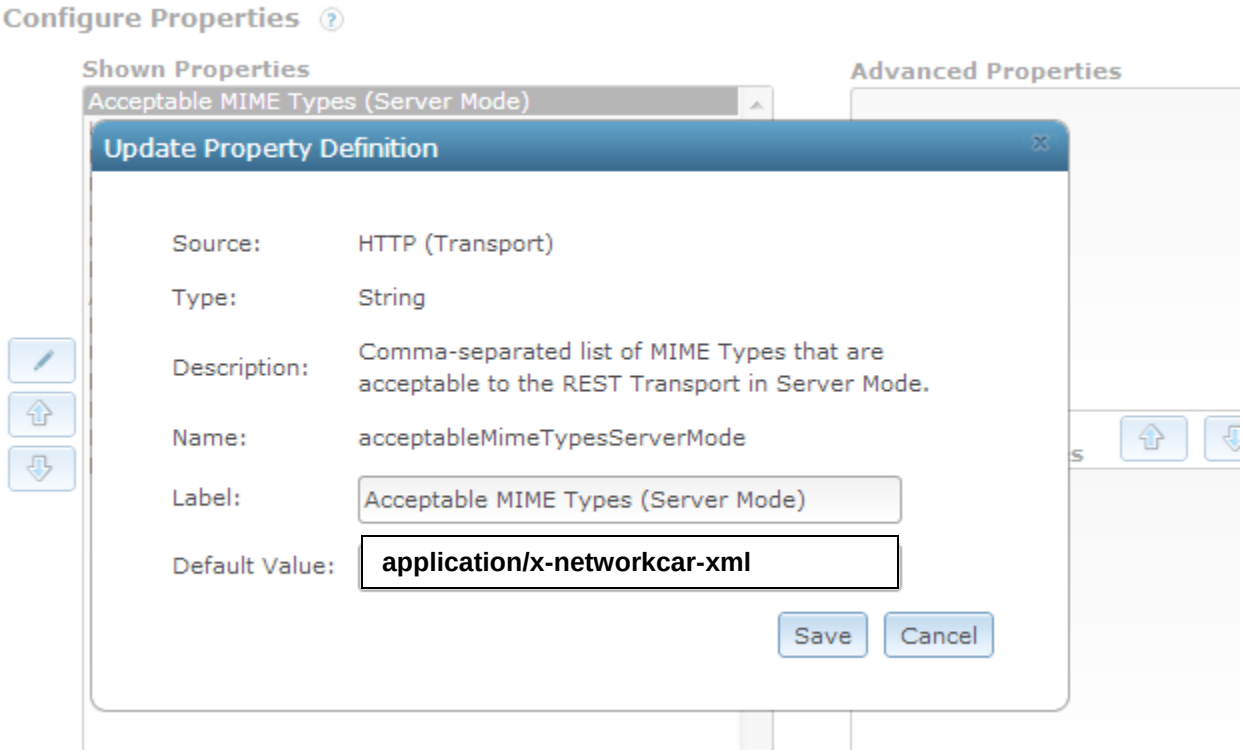
4) In the configure Properties section, double-click on Mode and change the default value to “Server” – save the property definition



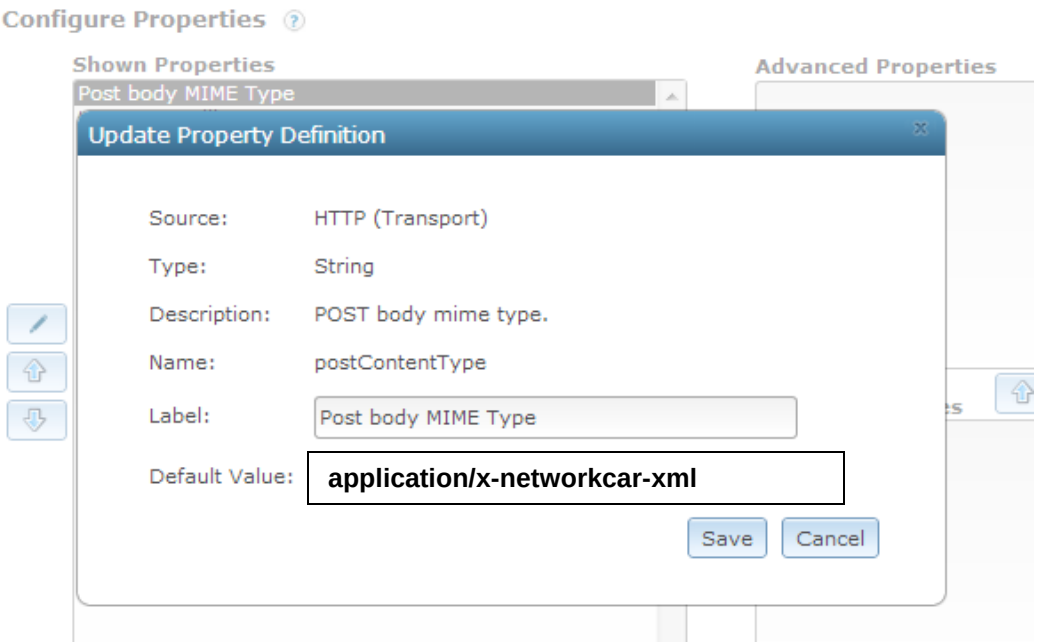
5) In the configure Properties section, double-click on HTTP Method and change the default value to “POST” – save the property definition



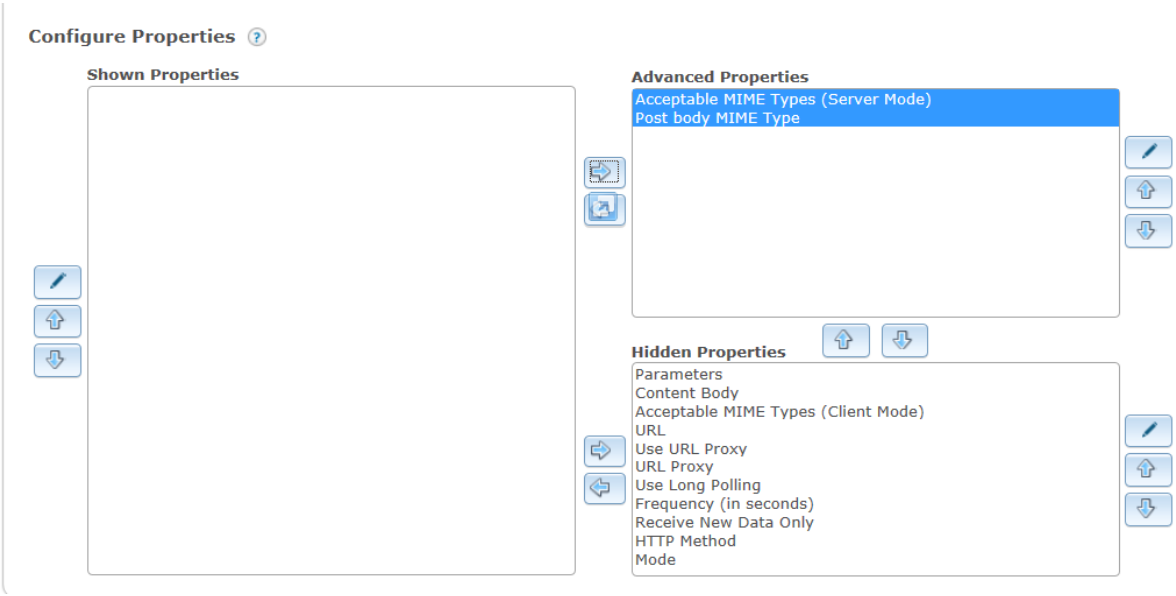
6) In the configure Properties section, double-click on Acceptable Mime types and change the default value to "**application/x-networkcar-xml**" – save the property definition.



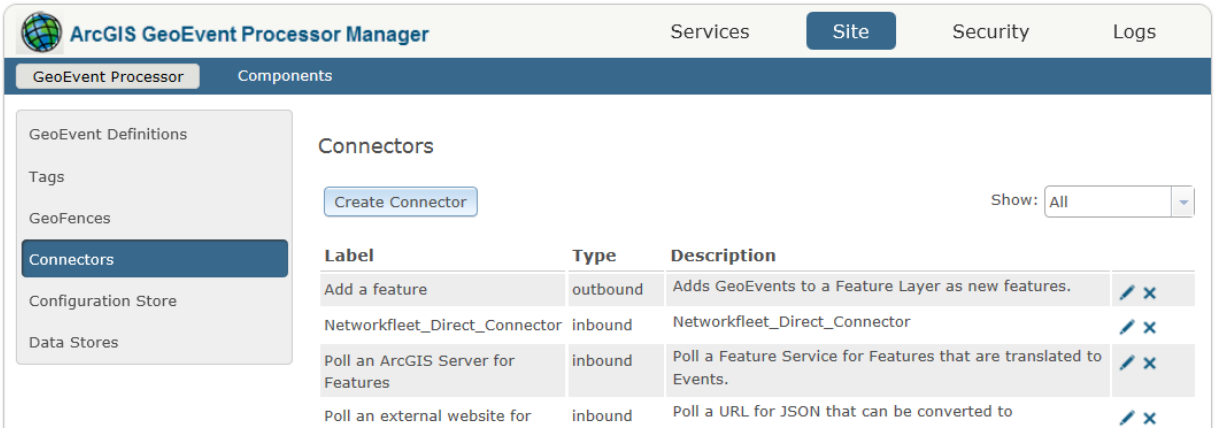
7) In the configure Properties section, double-click on Post body Mime types and change the default value to "**application/x-networkcar-xml**" – save the property definition.



8) In the configure Properties section use the arrows to move properties to the advanced and hidden panels as shown below.

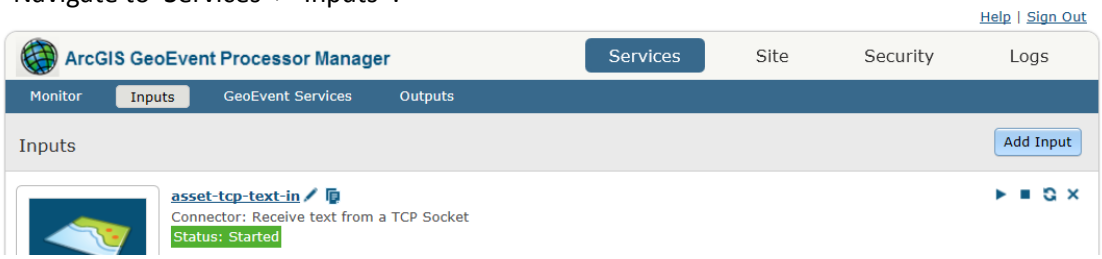


9) Click create connector and verify that the connector was created:

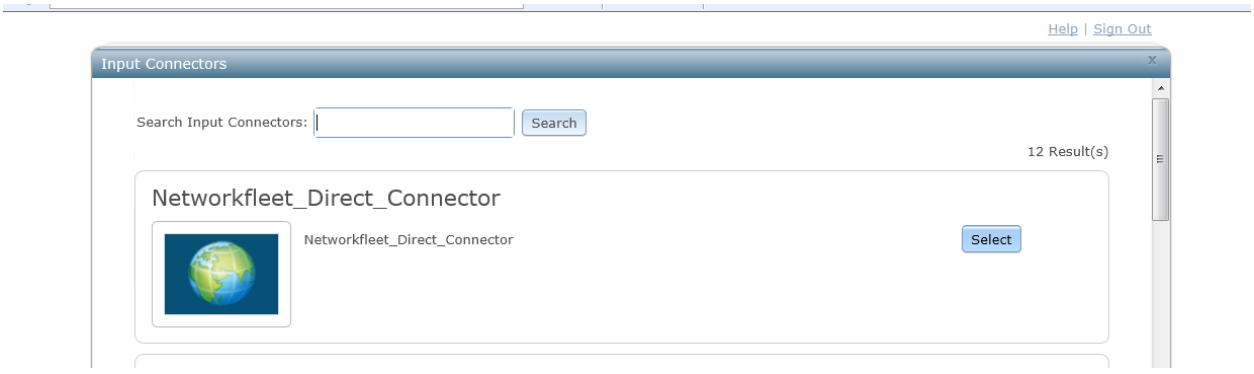


Add NetworkFleet Input

1) Navigate to 'Services' > 'Inputs' .



2) Verify that your new input is there:

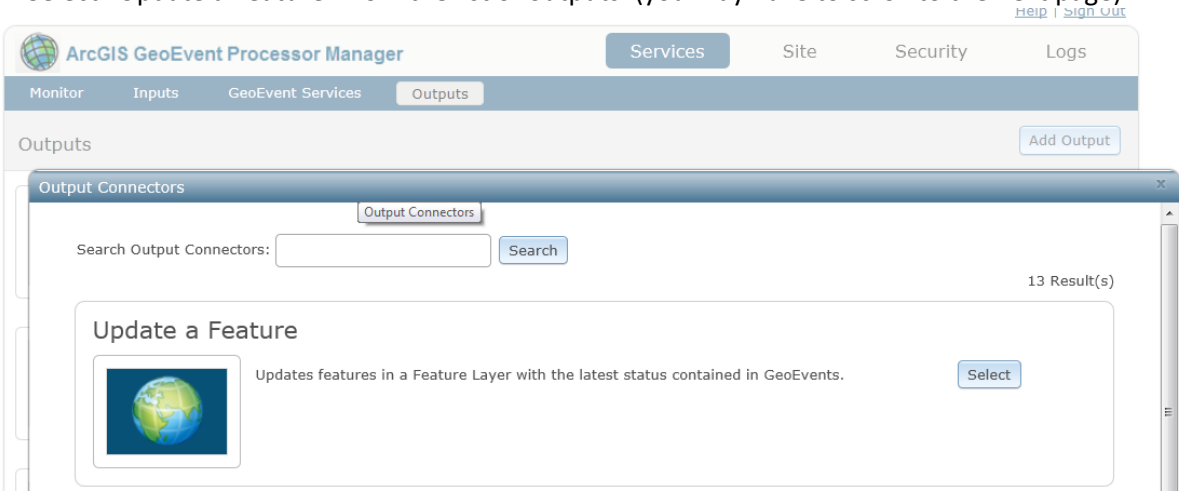


3) The new input is ready for use. The URL to receive data is in the form:
http://<hostname_or_IP>:6180/geoevent/rest/receiver/<input_name>
e.g. http://123.222.231.111.:6180/geoevent/rest/receiver/Networkfleet_Direct_Connector

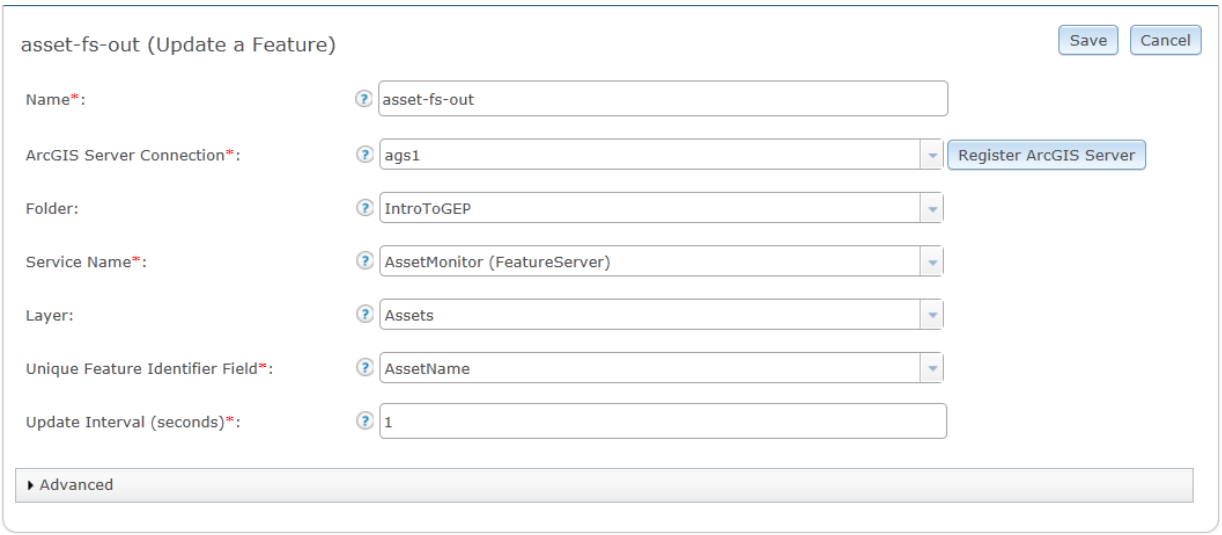
This URL should be provided to your Networkfleet technical contact so they can start transmitting AVL data to your server. HTTPS can be used by replacing port to 6143 and Networkfleet needs to install the Certificate provided by the web server.

Add Output

1) Navigate to 'Services' > 'Outputs' .
2) Click on "Add Output".
3) Select "Update a Feature" from the list of outputs. (you may have to scroll to the next page)



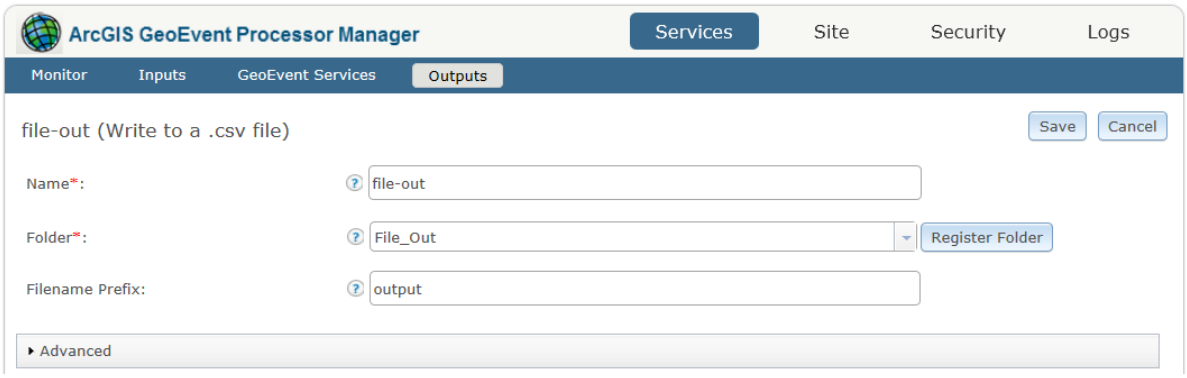
4) Update your output settings as shown below. You will have to configure your ArcGIS Server connection if you haven't done so before.



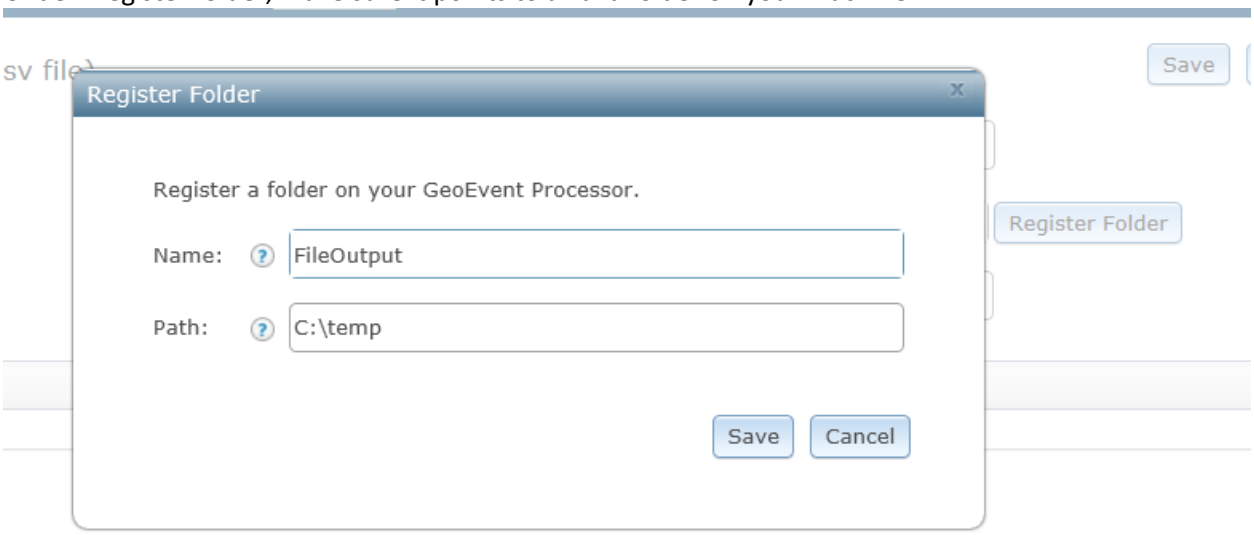
5) Save your output settings

(Optional) Add a Output for Testing

1) Navigate to 'Services' > 'Outputs' .
2) Click on "Add Output".
3) Search for file-out and set it up similar to shown below:



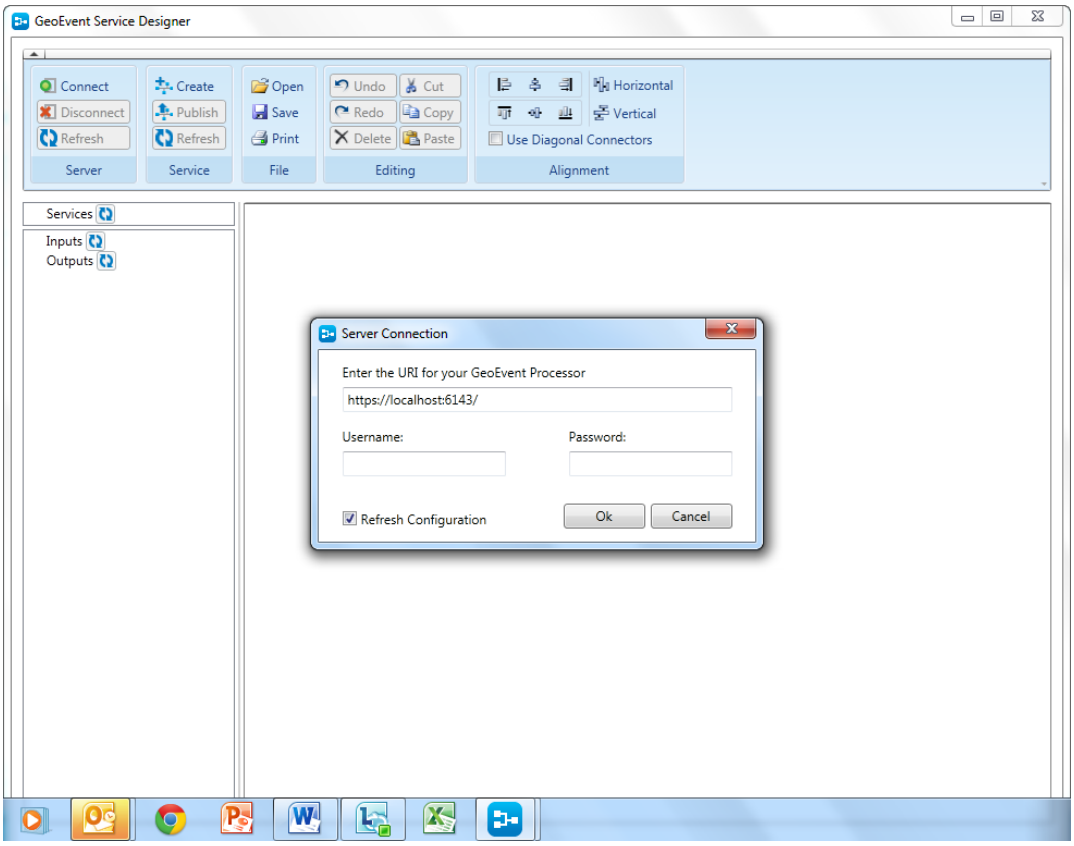
4) Under “register folder, make sure it points to a valid folder on your machine.



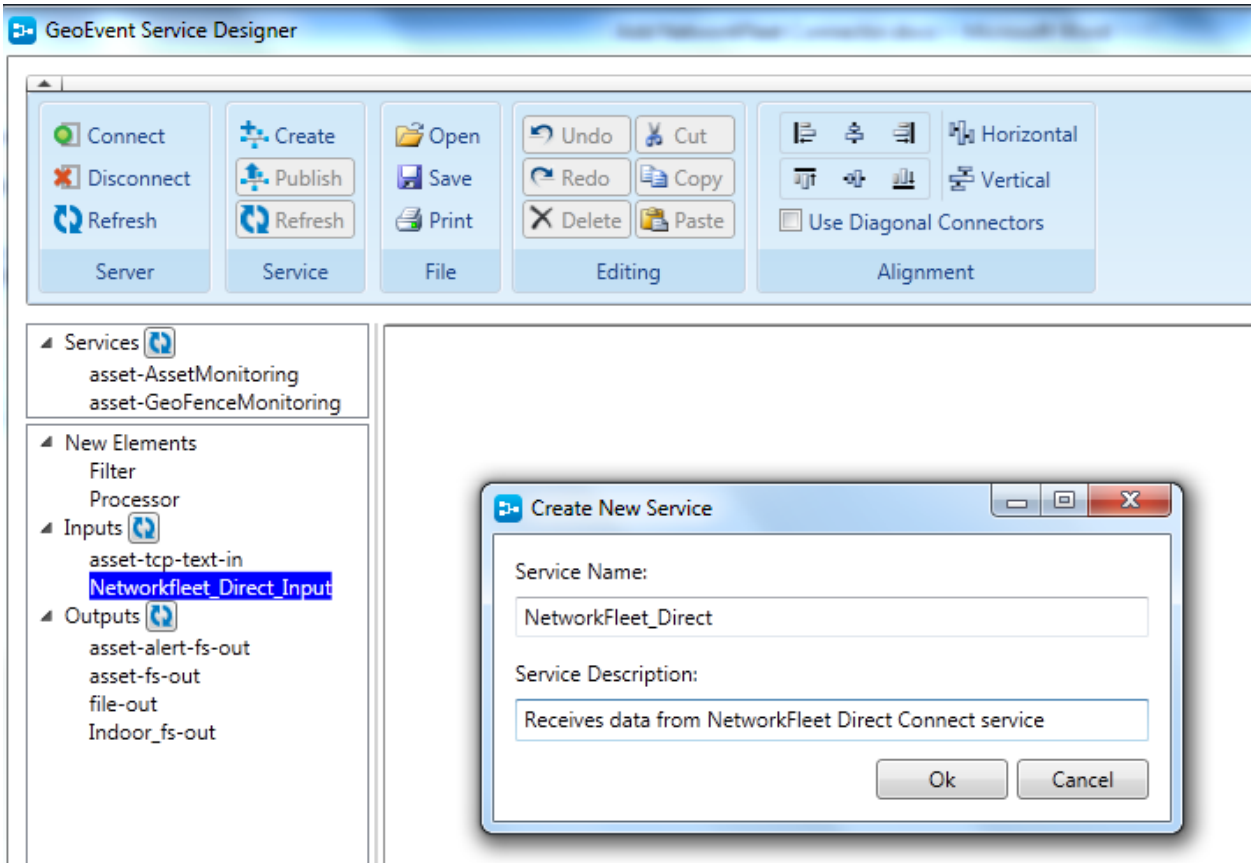
5) Save your output settings

Configure GeoEvent Service

1) Open the Service Designer application
2) Login with your GEP credentials

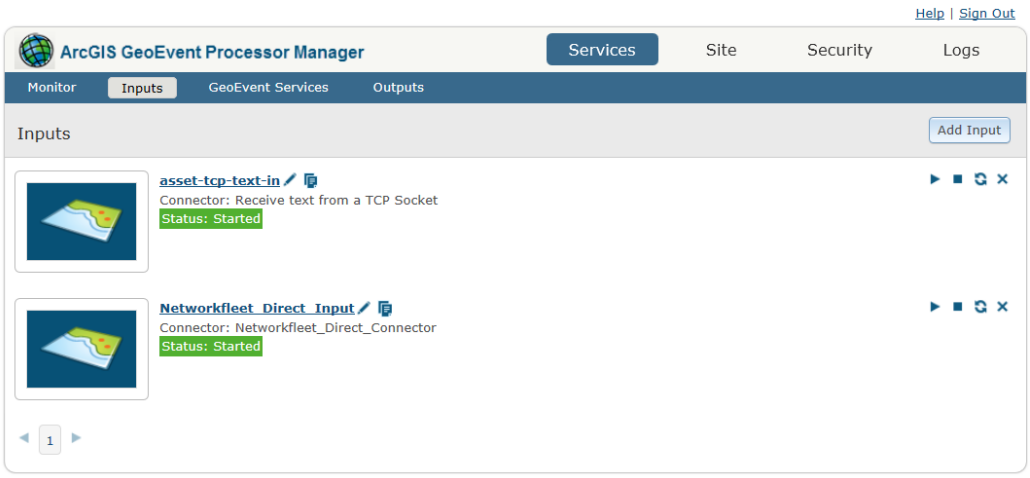


3) Drag the Networkfleet Input from the input section onto your canvas

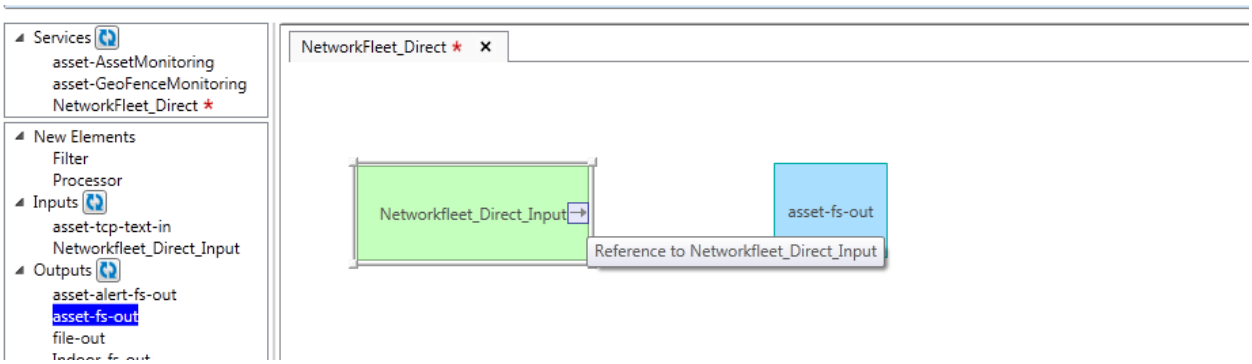


4) Enter a new Service Name and description

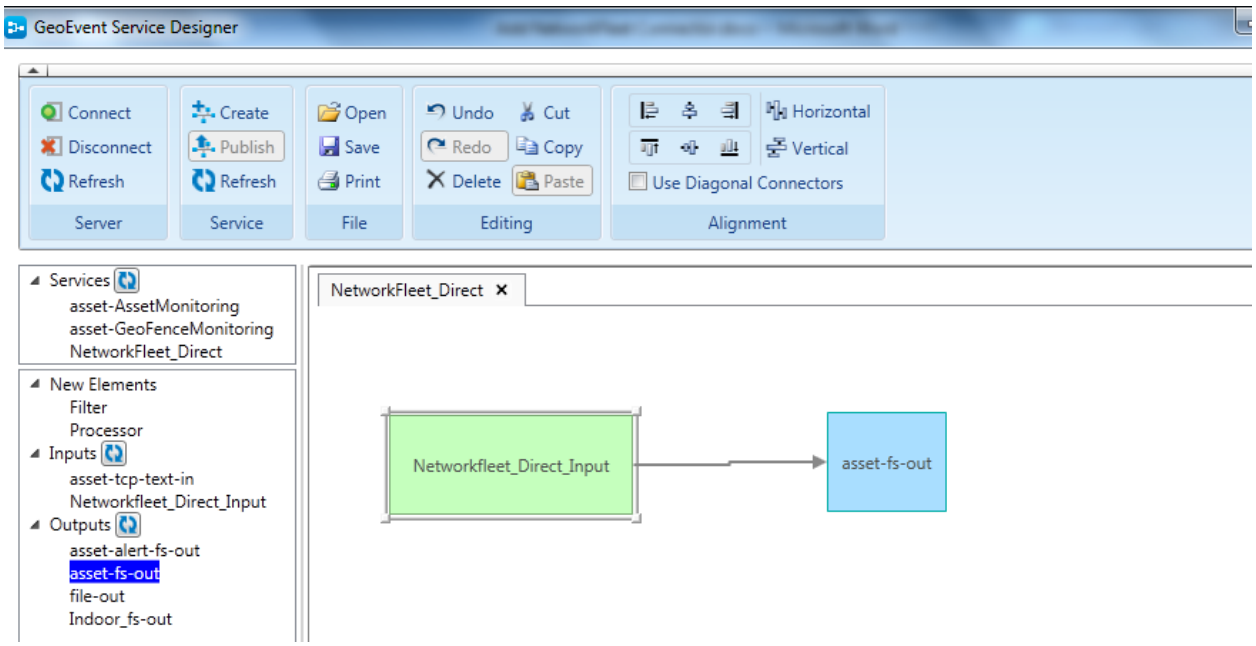
5) Add the new input to your service.



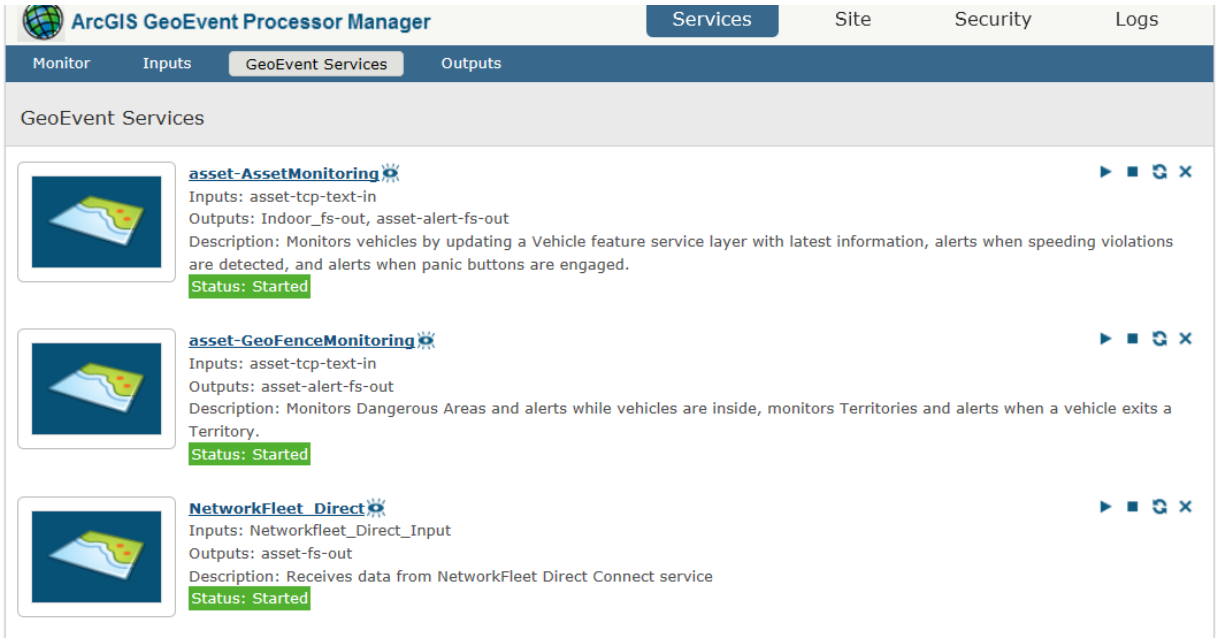
6) Add the feature output to your service (drag and drop)



7) Connect the input to the output by dragging a link from the input box to the output box.



8) (optional: recommended for testing) Repeat steps 6 and 7 with the file-out output.
9) Click on “Publish” to publish the service to the server
10) Verify the service is active on the server (screenshot has additional services, please ignore).



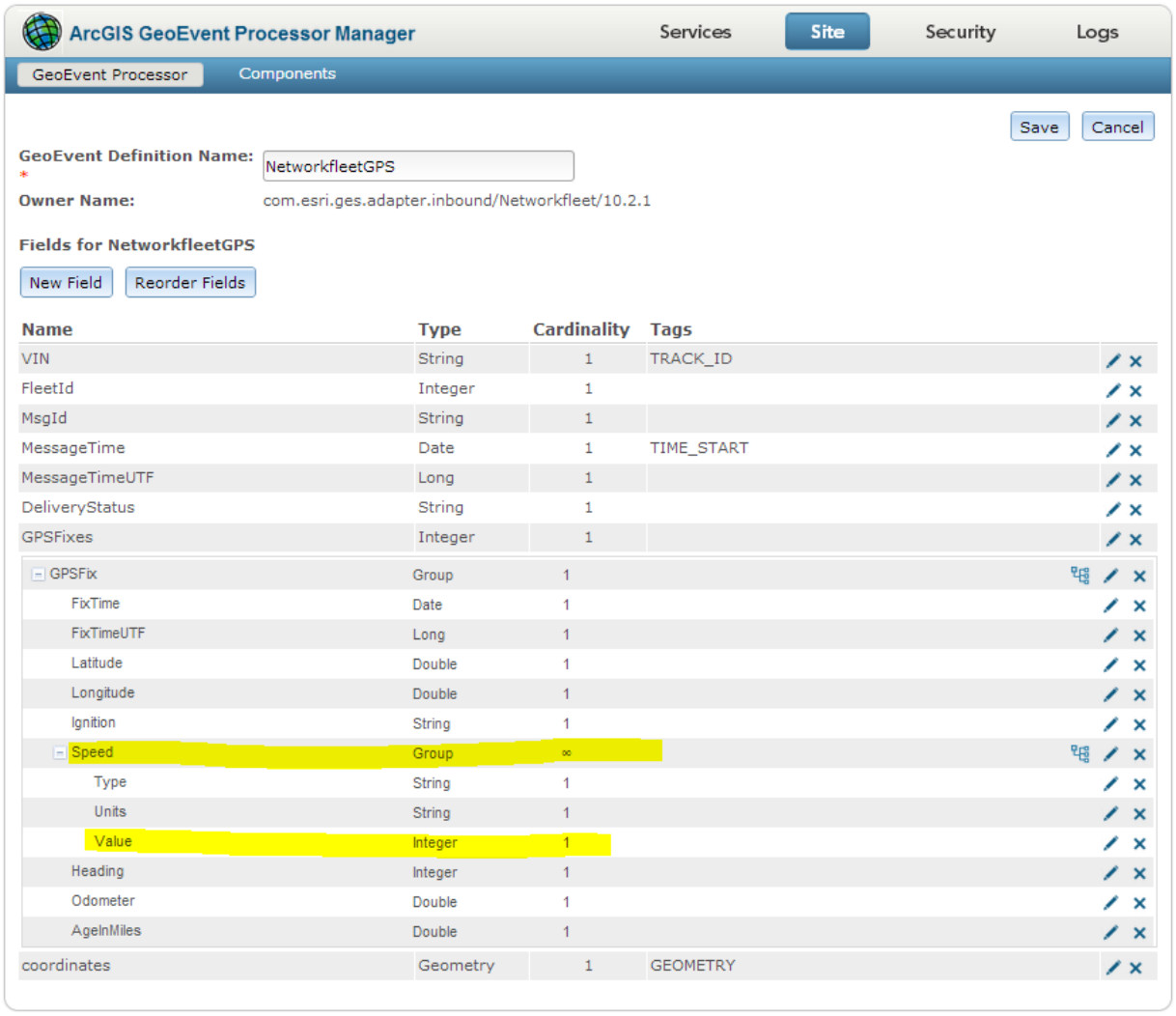
Verify the endpoint to send data to on the GeoEvent Server machine:

http://<hostname>:6180/geoevent/rest/receiver/<Networkfleet_Input_Name>

Now the Server is ready to receive data.

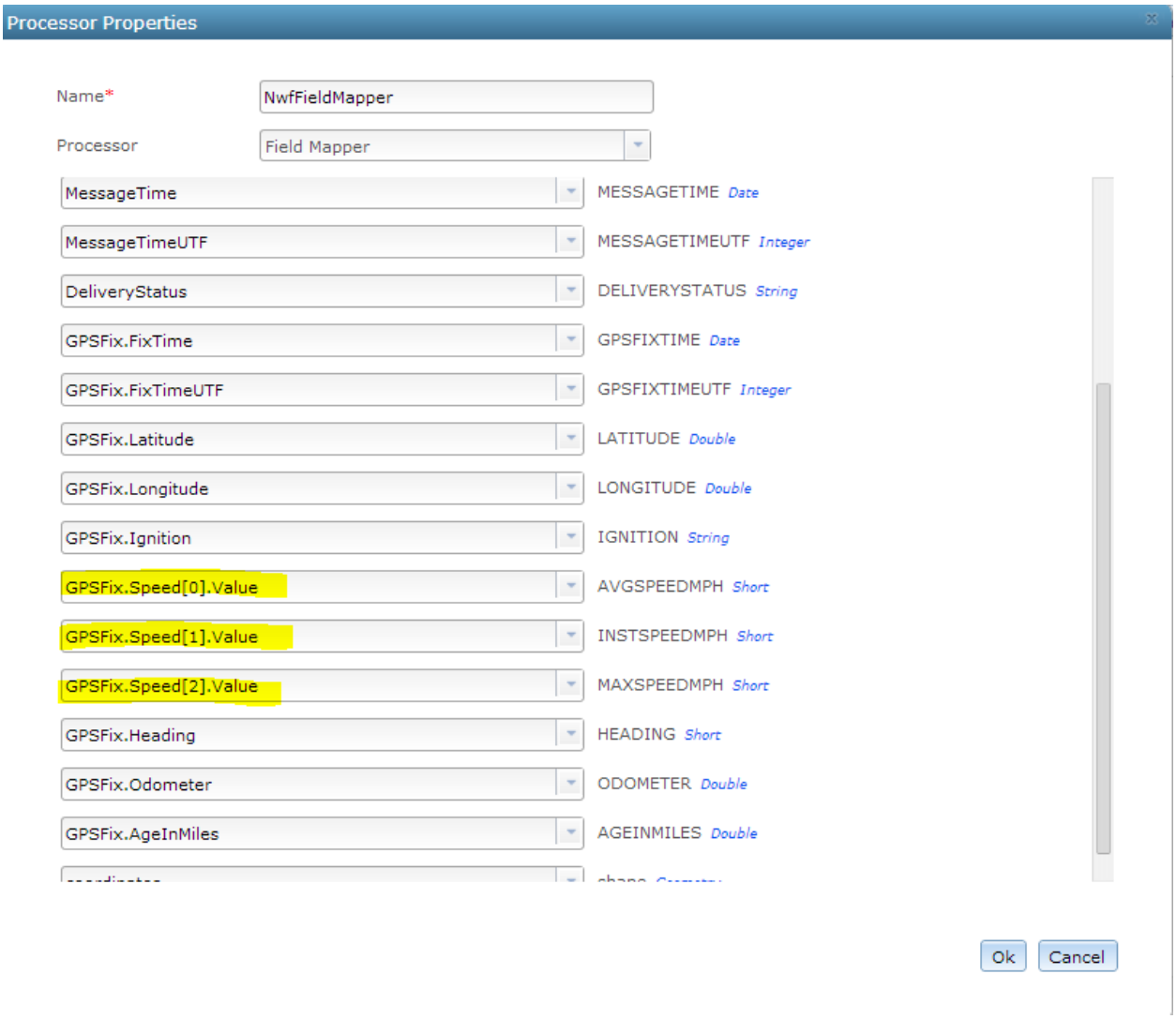
Mapping Hierarchical Field Structure to Relational Structure

The Networkfleet message structures are hierarchical. They need to be mapped to a flat structure to be used with Feature Services or for storing in relational database. For example, the NetworkfleetGPS message structure looks like this:



The Speed field is a field group with multi-cardinality (denoted by the ∞ symbol), i.e. it is an array of elements.

Figure below shows an example of field mapping using the Field Mapper Processor in GeoEvent.



Notice the field GPSFix.Speed[0].Value is mapped to AVGSPEEDMPH. Each array element has to be mapped using an array index. The “dot” notation is used to reference the child field of the element.