CA Performance Management
CA World 2016 – OpenAPI Lab Handout
Session # DO4X66E

This document will guide you through the process of configuring and installing the necessary components for the CAPM Weather-map application.

After completing the steps in this document you will have a fully functional Weather-map providing a logical view of key sites and connections between sites.

Create Interface custom attribute

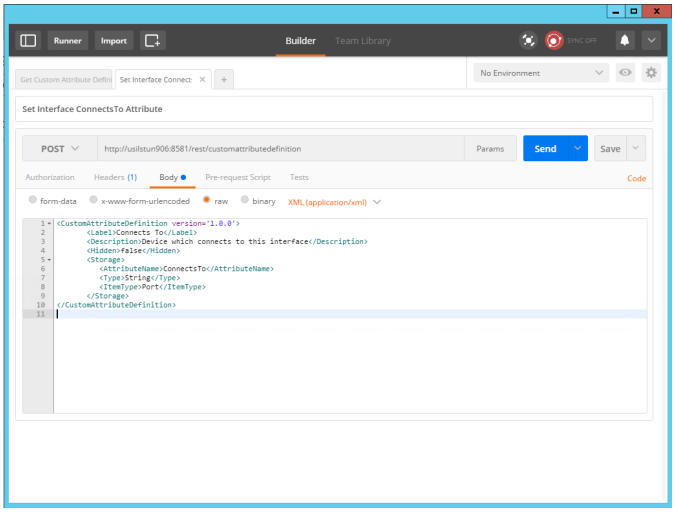
This section will provide steps to create a new custom attribute for Interface components which will allow the Weather-map to understand the logical topology as defined by the user

Create Custom Attribute

This section will provide instructions to create a new Interface custom attribute which will be used to store the device logically connected to each interface in your Geo-Topology design

1. Launch the Chrome Postman REST client
2. Set the Request URL to: http://<da_host>:8581/rest/customattributedefinition
3. Add a content-type header: Content-Type application/xml
4. Set the request type to POST
5. Add the XML attribute definition below to the POST body

```
<CustomAttributeDefinition version='1.0.0'>
    <Label>Connects To</Label>
    <Description>Connects to Device</Description>
    <Hidden>false</Hidden>
    <Storage>
        <AttributeName>ConnectsTo</AttributeName>
        <Type>String</Type>
        <ItemType>Port</ItemType>
    </Storage>
</CustomAttributeDefinition>
```



6. Send the POST to the Data Aggregator
7. Verify ‘200 Ok’ response

Verify Custom Attribute

Now that we have created the custom attribute, we can issue a GET request to view the newly created attribute

1. Change the request type to “GET” and send the request
2. Verify the response contains the custom attribute as defined above

Set Device Geo-Location and Interface Connection Attributes

This section will provide steps to define the device Geo-location attributes which will be used by the Weather-map OpenAPI app. The table below can be used to create a simple 3 site full-mesh network.

Device Name	Location (City, State)	Interface Name	ConnectsTo
PHNXAZ-ISR4431	Phoenix, AZ	GigabitEthernet0/1	ATLNGA-ISR4431
		GigabitEthernet0/101	STTLWA-ISR4431
ATLNGA-ISR4431	Atlanta, GA	GigabitEthernet0/2	PHNXAZ-ISR4431
		GigabitEthernet0/102	STTLWA-ISR4431
STTLWA-ISR4431	Seattle, WA	GigabitEthernet0/3	PHNXAZ-ISR4431
		GigabitEthernet0/103	ATLNGA-ISR4431

Use the setDeviceGeo Application for each device in your design to set the Geo-location attributes

1. Navigate to the Inventory -> Devices view in CAPC
2. For each device in your Geo-Topology design:
    a. Find the device in the inventory list
    b. Select the device to navigate to the Context Page
    c. Select the “Set Geo-Location Data” tab to access the Geo-location definition app
    d. Enter the lookup name for the desired location and press “Search Google”
    e. Verify the location returned in the mini-map and Geo-location values
    f. Make any desired changes
    g. Select ‘Save Device Location’ to commit the changes

Use the setInterfaceConnections Application for each interface to the logically connected device

1. Navigate to the Inventory -> Interfaces view in CAPC
2. For each interface (connection) in your Geo-Topology design:
    a. Find the interface (associated to the source device) in the inventory list
    b. Select the interface to navigate to the Context Page
    c. Select the “Set Interface Connection” tab to access the connection definition app
    d. Search for the destination device as listed in your Geo-Topology design table
    e. Select the “Save Connection Info” to commit the changes

Launch Weather-map

Now that we have configured all of the device geo-location and interface connection information, our Weather-map application is ready for use!

View Weather-map

1. In your browser navigate to CAPC and open Dashboards -> Weathermap
2. Open the Browser view options and modify the URL
    a. From: /pc/apps/user/Weathermap_075/index.html?demo=1&connect=half
    b. To: /pc/apps/user/Weathermap_075/index.html?id={ItemIdDA}&startTime={TimeStartUTC}&endTime={TimeEndUTC}
3. Save the browser view and Dashboard settings
4. Set the Dashboard context to the 'Weather-map' group and choose a time-frame > 1 hour
    a. The current Weather-map uses hourly data resolution so the time-range needs to exceed 1 hour
5. Select a Site (via the circle or via the Site table) to view the connections between that site and others
6. Hover-over a link to view information about that connection including KPI data for the duration selected in the Dashboard options.

Set Map Options

The Weather-map has several out of the box options which can be specified as URL parameters within the Weather-map browser view. These settings allow you to control key aspects of the visualization including:

1. demo [true]: When set, will generate the map using an included sample data set (useful for debugging map issues)
2. connect [full | half]: Specifies whether the connections should include a full arc for both inbound and outbound connections or a single connection which meets at the middle
3. scope [usa | europe | world]: Controls the default map view to allow focus on specific geographies
4. theme [light | dark]: Allows the selection of a dark theme or a light them depending on your preference

Troubleshooting

Sites do not appear on map

1. Verify the Group context for the Dashboard is correct
2. Verify the Browser view URL includes the id={ItemIdDA} parameter
3. View the Device Geo-location information in QueryBuilder to validate the correct longitude and latitude information is present and values fall within correct boundaries

Sites appear in the wrong location

1. View the Device Geo-location information in QueryBuilder to validate the correct longitude and latitude information is present and values fall within correct boundaries

Connections do not appear on map

1. Verify you have selected a site (connections do not appear until site is selected)
2. Verify interface ConnectsTo parameter is set to a device which has valid longitude and latitude coordinates defined

Map does not load

1. Verify Application URL includes all correct parameters
2. Verify Dashboard Group context is correct
3. Add the demo=1 parameter to the URL to verify Map loads with demo data

JavaScript Errors

1. Add the demo=1 parameter to the URL to verify Map loads with demo data
2. Review the errors in the Browser console log