

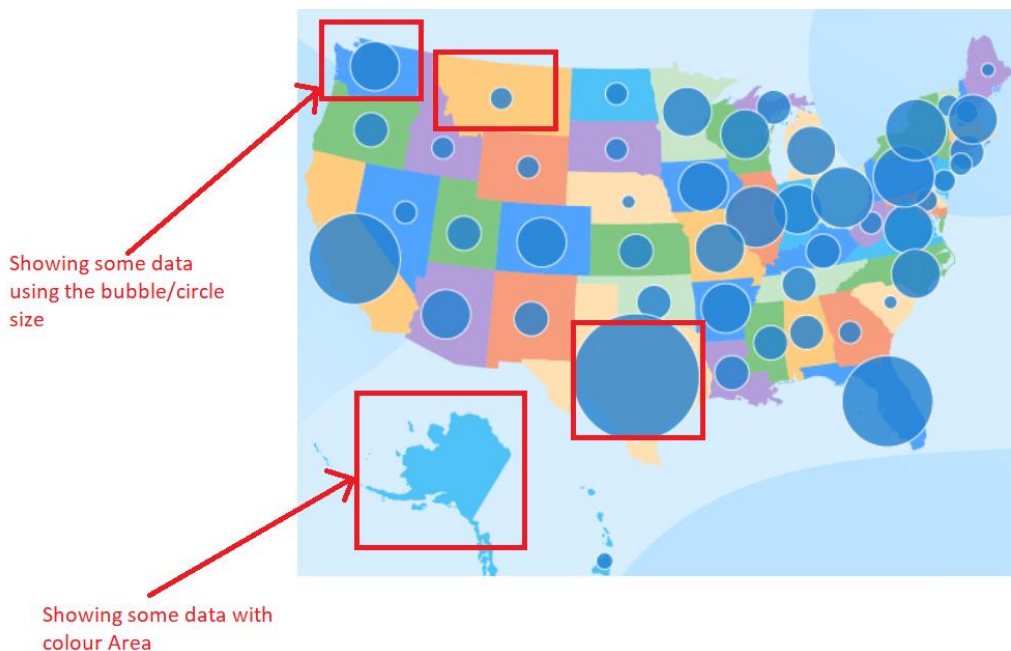
Geo Analytics in Qlik Sense

Introduction

Sometimes it's hard to read the geo data through the bar chart or any other chart. In that case we have better option to show the data on the dashboard with the help of the MAP. Yes, it's very easy to understand the country wise data, region wise data via the MAP. Sometimes MAP shows either the specific region using the colour area or using shape.

Location is a fundamental aspect whenever there is movement of assets (people, vehicles, cargo, parcel) on the ground. For the on-demand economy that we live in, analysing location data across all your dimensions (users, stores, partners) becomes critical in real-time. This is because you must match your supply with demand, do location-based pricing, promotions or faster and more accurate deliveries at scale. And finally, the most successful location-based experiences for consumers are based on sequential activities at a very granular level: Where are you? Where do you need to go? What do you want to do when you get there? Seeing data in the context of a visual map makes it easier to understand how events are unfolding and how to react to those events.

Fundamentally, maps display only two types of data: qualitative and quantitative. Qualitative data differentiates between various types of things. Quantitative data communicates a message of magnitude.



So, above image is showing that using the shape/background we can provide the better readability of the geo data to our client. Visualization on MAP helps client to take the better decision using the insights showing on the MAP.

Note:

Before installing Geo Analytics, make sure that you have the license key. Sometimes Geo Analytics comes with Qlik Sense Enterprise Edition. So, the below article will help you to get Geo Analytic Extension in Qlik Sense Enterprise Edition.

Geo analytics

Qlik Geo Analytics allow you to create smarter location-related decisions by offering dynamic mapping and location-based metrics for Qlik Sense and QlikView. With the help of automatic geodata navigation, you can quickly add maps to your applications and then layer various visualisations on top of them.

Let's understand what is extension in Qlik Sense?

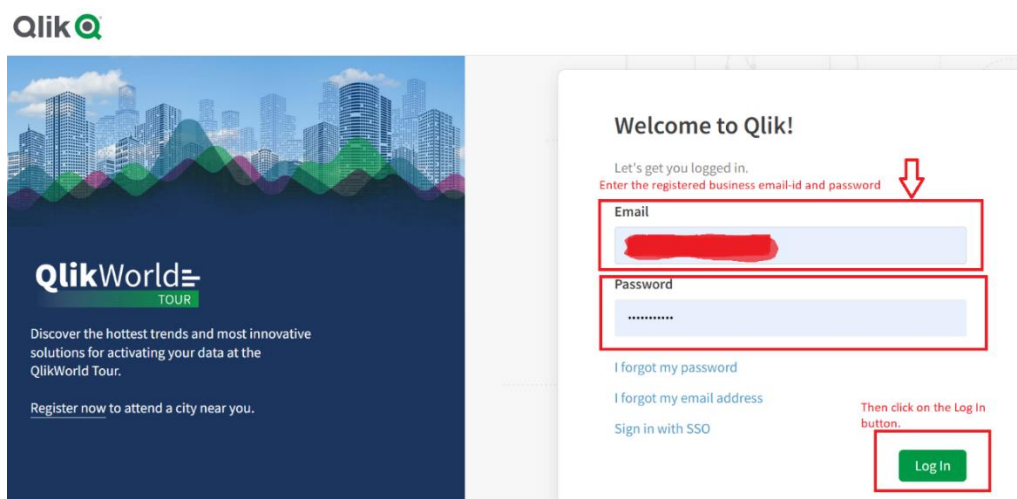
By utilising simply common web technologies, extensions offer a way to increase Qlik Sense's visualisation capabilities. The idea of extensions in general can alternatively be thought of as a plugin-mechanism that enables developers to combine the strength of Qlik Sense's APIs with the nearly unlimited capabilities of the web.

You are essentially leveraging the same collection of technologies as Qlik's R&D because extensions in Qlik Sense use the exact same set of technologies as standard objects do.

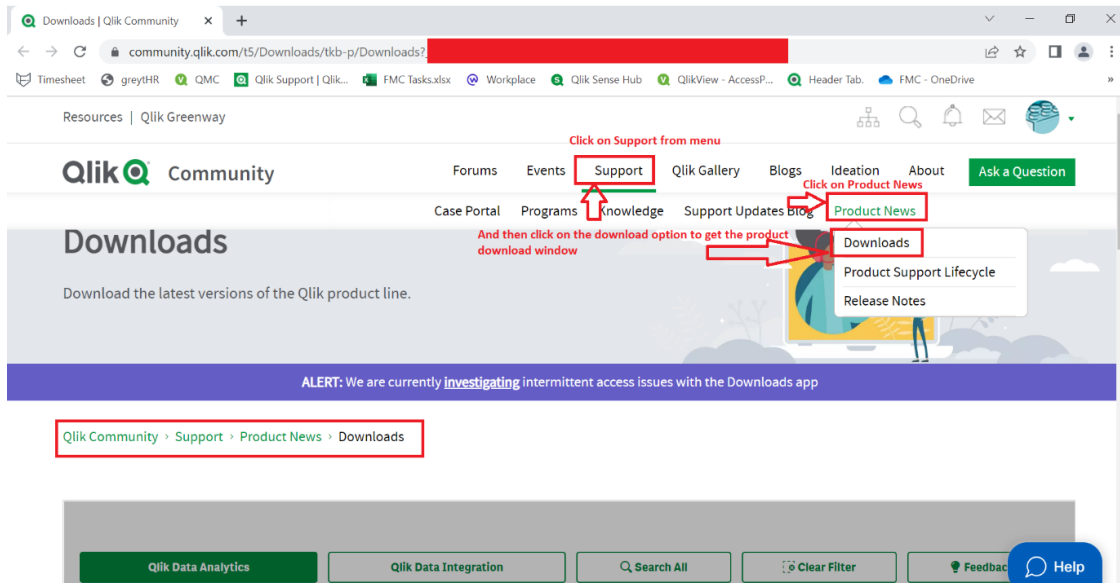
- Dropped onto a sheet using drag-and-drop
- Set up so that they use the same property panels as regular objects, allowing you to build visualisations on top of the information in a Qlik Sense app.
- Like other objects, it can be resized, copied, pasted, and positioned.
- Integrated into any story.

How to get Geo analytics extension for Qlik Sense??

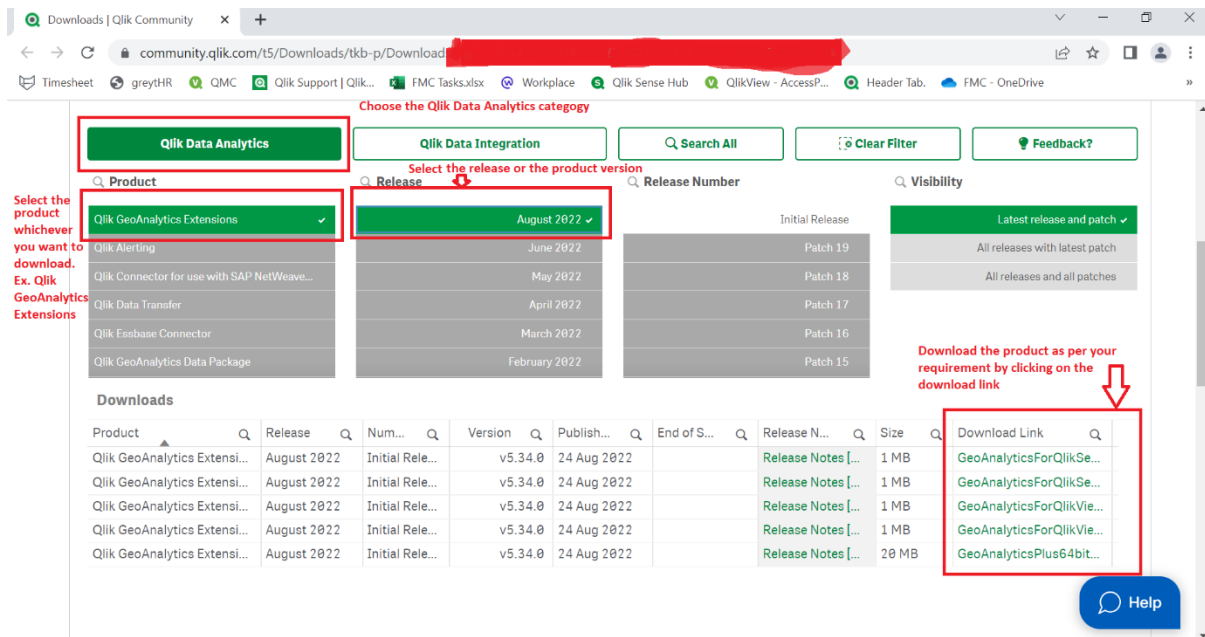
1. Log In the Qlik community portal ([Qlik Community](#)) or follow the below steps showing in the screenshot:



2. After logged in the Qlik community successfully follow the below steps for next move:



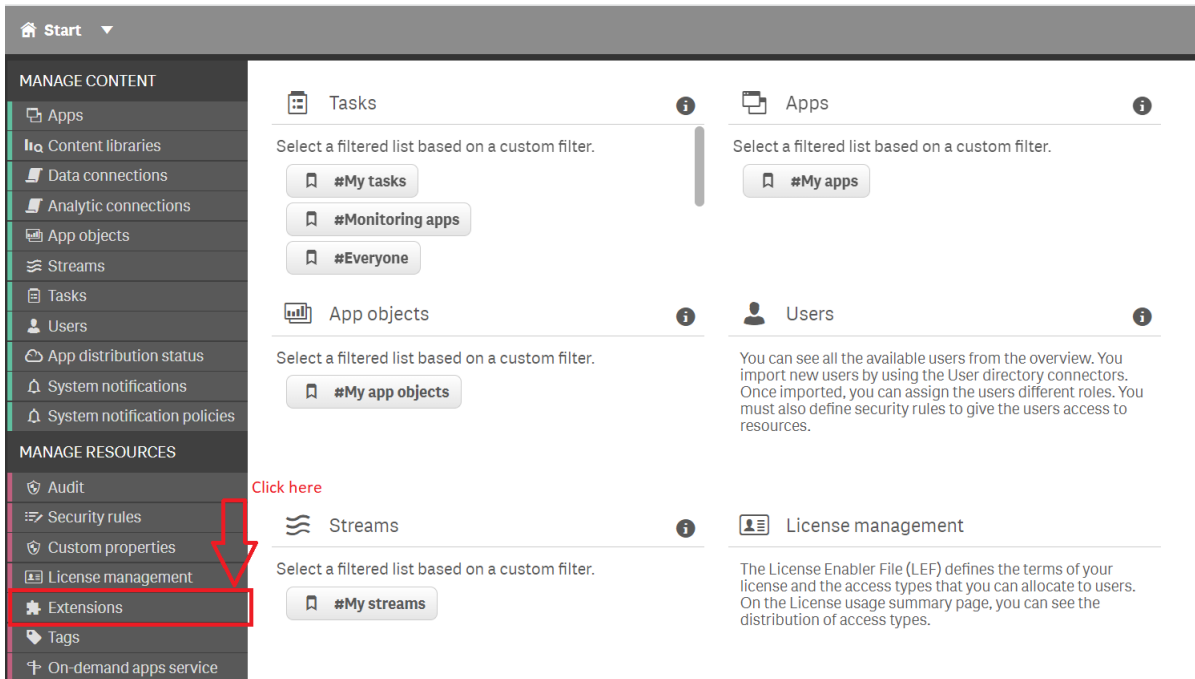
3. After getting into the download section, just make your selection as per the requirement and click on the link to download the suitable version.



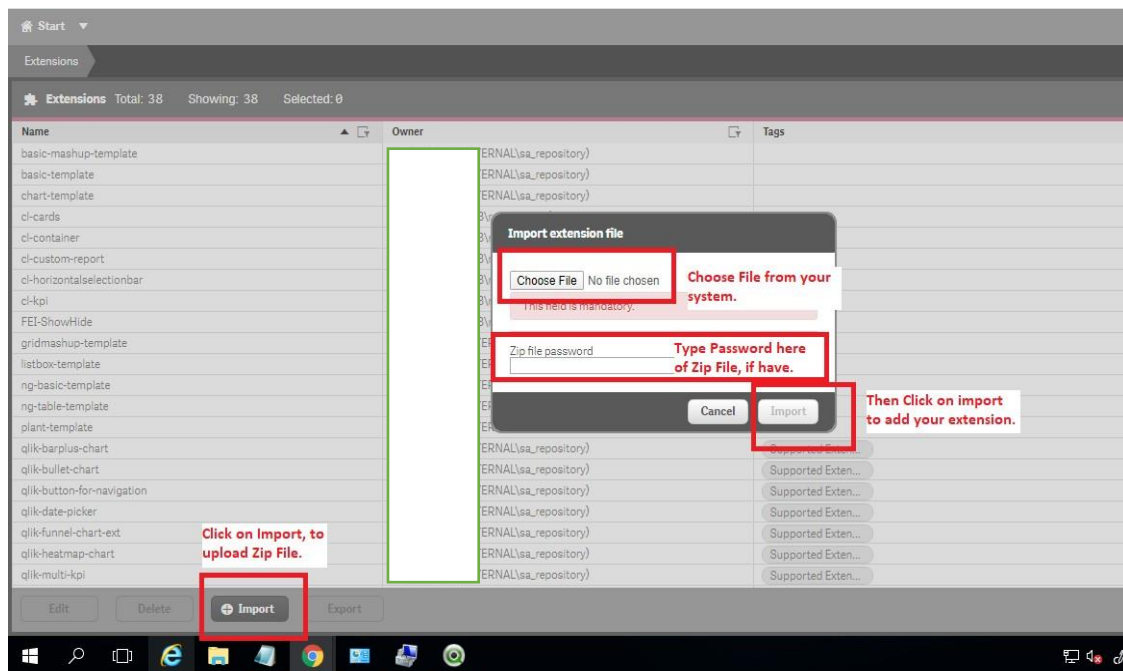
4. After done all the above steps, will get the Zip file of the Geo analytics.

How to add Geo analytics extension in Qlik Sense??

1. Login to QMC and click on Extension from left hand side Tabs.



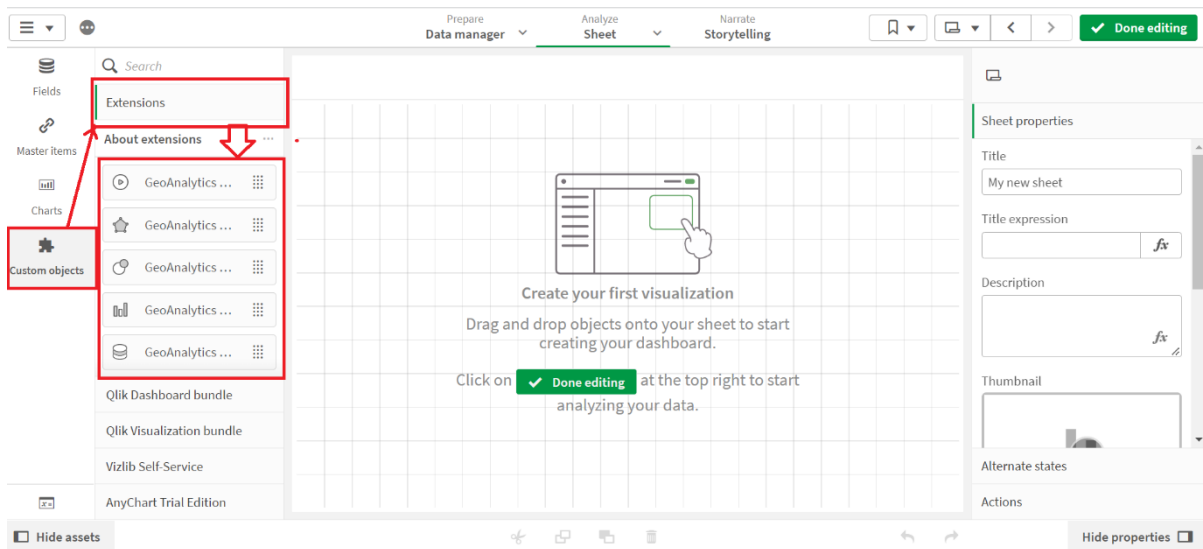
2. Click On Import.



After done with all the above steps. We will find the extension in the Qlik sense extension tab.

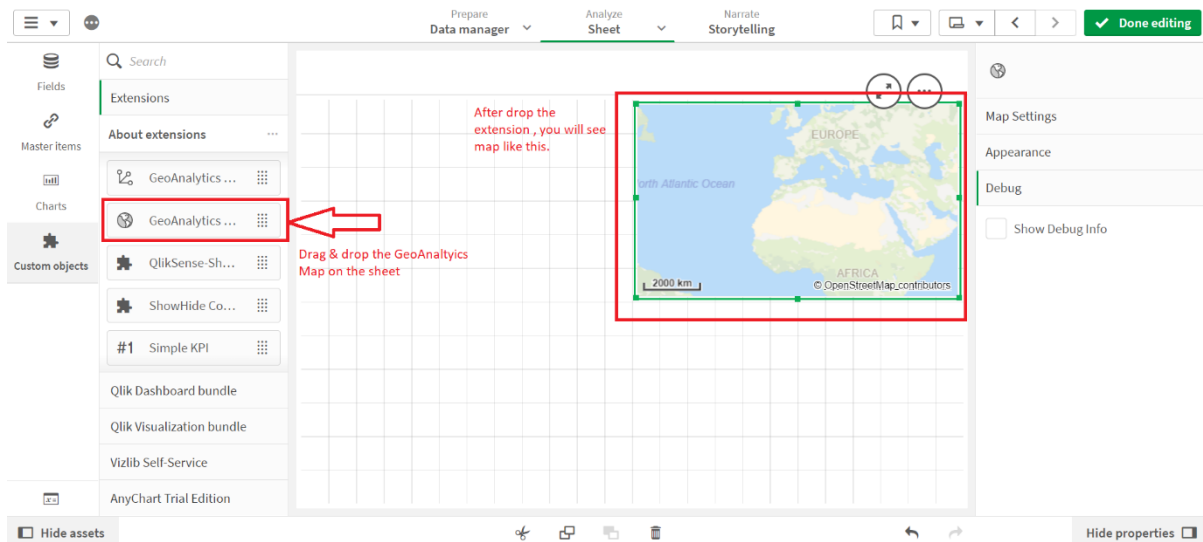
Where to find out the extension in Qlik sense?

Once log In the Qlik Sense enterprise version and create a App → edit the sheet, in the left side panel will find out the custom objects. Custom objects → Extension



Let's create the MAP using the extension.

1. Scroll down in the extension's dialog box and choose Geo Analytics Map from the extensions option. Geo analytics help you to drop a Map and further we can add the layers on it as per the requirement. Follow the steps as showing in the below screenshot.



In the above screenshot we have only drag & drop the extension on the sheet. Currently not apply any layer on it.

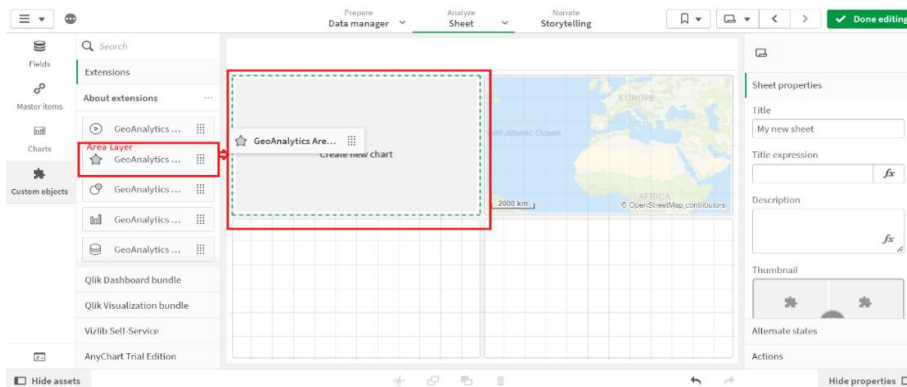
2. Let's apply an area layer on it. Therefore, to create the area layer we need the coordinates. We can't use latitude and longitude to create area layer. The coordinates are needed to create the layer. These polygons help to create the exact area as per your requirement. Sometimes without coordinates, MAP is not able to identify county/city/region name like below screenshot. I have the city names of India, but it is not showing the area on the MAP of India.



Check out the screenshot below to see how the coordinates look.



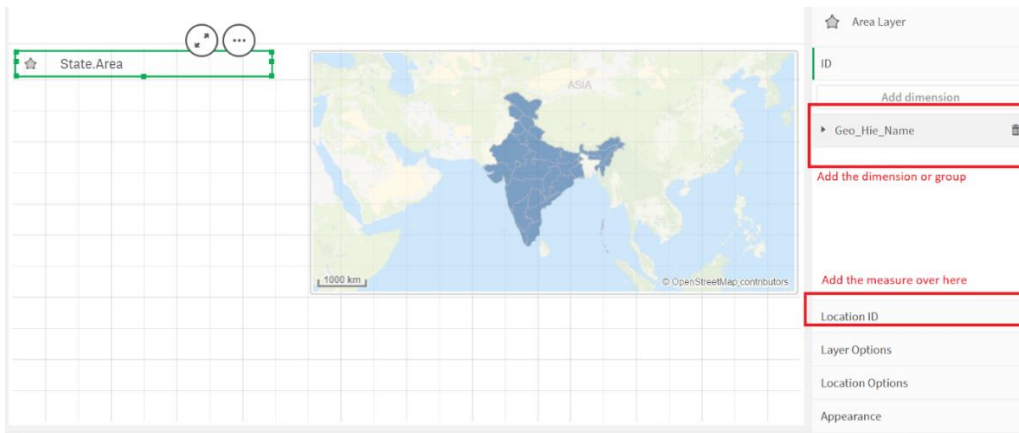
Follow the below steps to create the layer on the map.



In this case I have added a grouping of the hierarchy (country->state->region etc) to the dimension field. Hence the area highlighted in blue represents the India MAP.

Make sure you have the coordinates for each dimension that you have added to the hierarchy as I mentioned in the above points.

Add the measure as per requirement.



Layer options:

In the layer option we have the multiple settings below:

Please go through the document to know about the all options

Increase this value to display more than a thousand items. There will be a warning if there are more objects to display.

You can enter the calculated condition as an expression to limit when the layer is shown.

Zooming in/out beyond these values will not display the layer.

When the dimension is a drill down group it is possible to restrict the layer to be active only for a number of levels.

Determines whether the layer should be included when calculating the area to zoom when the selections are automatically zoomed.

Layer Options

Map ID: GeoAnalytics Map (16620...)

Maximum Number of Objects: 1000

Calculation Condition: [Expression Field]

Zoom Limits In 0 | Out 160000

Restrict Drill Down 0-16

Include in Auto Zoom

Draw Order: Auto

Location:

Location source means - at which level on the MAP you want to create an area. It can be on Dimensions or Measure or the default option is Auto.

URL for Location Service. Either a server based service or a file specified in the "Location Service Type". An expression is accepted that makes it possible to change the source dynamically

Choose the location service type as per requirement- In this case we have 3 options GeoJSON files, GML/WFS files, Geometry Service. So, You can choose according to the file you have from the drop down.

Narrow down a lookup of a location id. For Ex. India

This is a convenient way to specify more information for server based location services such as country codes or types. The alternative is to use an expression in the measure that adds additional information.

It provides a simple solution for misplaced IDs.

Appearance:

In Appearance: We have many settings like setting color, legend, label and info bubble (tooltip). So, set the settings as per the requirement.

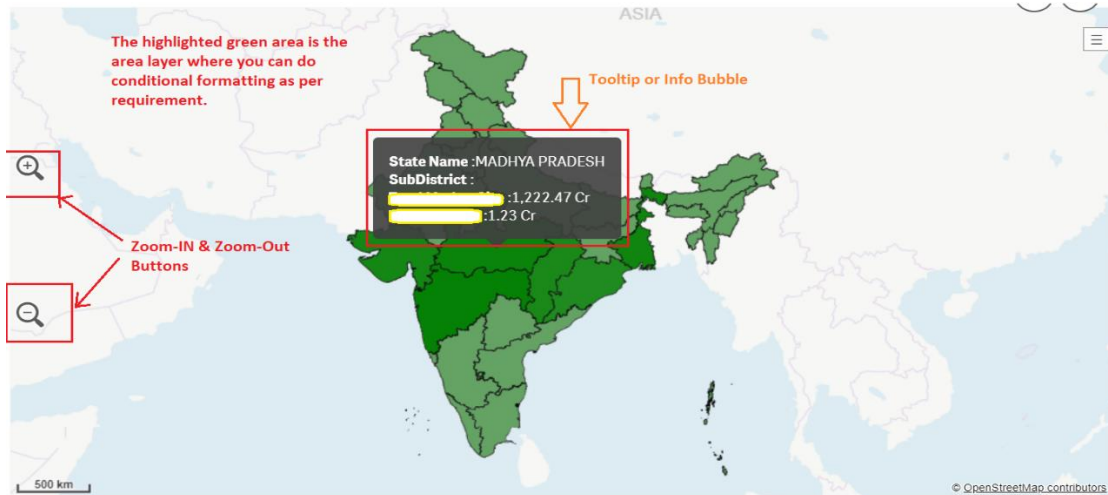
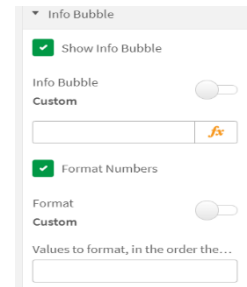
Legend: In the legend you can set the show title, show icon disable hover and many more.

Alternate States: If you want to add the object to master visualization, you need to set state to inherited.

Colors: In the color option you can choose the color based on dimension or measure or an expression. Also, you can increase or decrease the transparency of the color and the outline color using CSS codes.

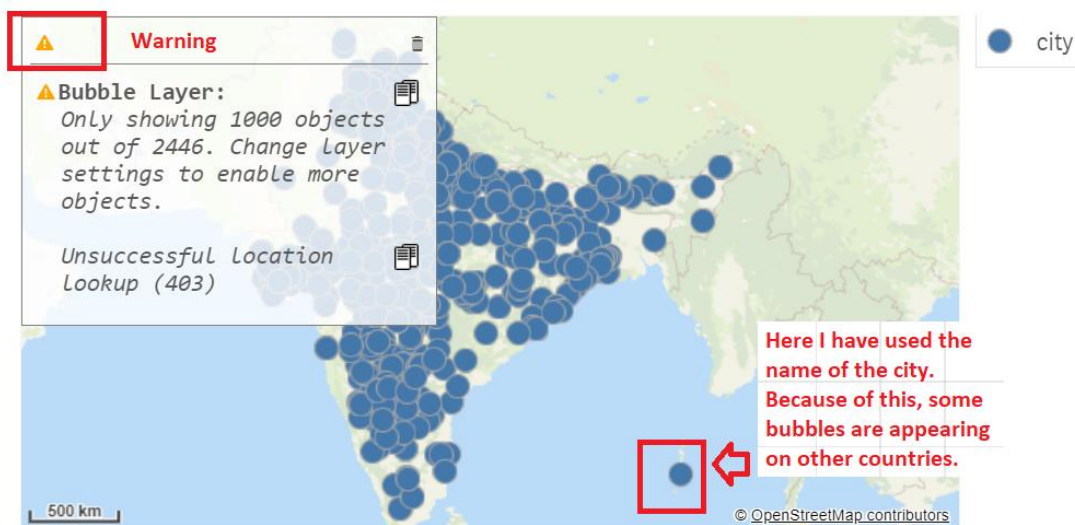
Label: You can show or hide the label.

Info Bubble: When checked, a pop-up is displayed when hovering over the object. When the info bubble is set to Auto, dimensions and measure are displayed in a tooltip. When custom, you can use an expression for whatever you want to appear in the tooltip, an expression can be on a measure or on a dimension. HTML tags can be used for formatting.



So, an area layer displays polygonal areas on a Geo analytics map. The color can be controlled by a measure. The geometry is specified by a location ID which is looked up in a location service.

3. Bubble Layer is used, when to show the data based on symbol like circle, triangle etc. on the MAP. Size and color can be managed by measures, labels and tooltip information by expressions. The position can be specified either as location ids (common names such as country codes, state codes, city names, postal codes etc) or latitude, longitude values. The Lat. Long is important and just try to show the bubble on map using the Lat long because sometimes bubble go any other country or any other country city using geography names just like below screenshot.



If you have the Lat. Long, then just try to create geolocation using the **GeoMakePoint** function at script level. Please see the below screenshot how to create geolocation using lat. Long:

`GeoMakePoint(latitude, longitude) as DistLocation,`

Location, Size:

These are the measures. When coordinates are available specify measures like this:

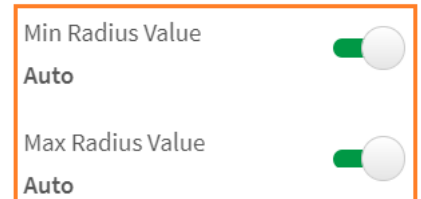
- latitude - the latitude of the point (WGS 84)
- longitude - the longitude of the point (WGS 84)
- size - a numeric measure that controls size, by default the size is auto scaled between the lowest and highest value

When location IDs are available specify measures like this:

- Location ID - an identifier that can be used for looking up a location (see Location Options)
- size - a numeric measure that controls size, by default the size is auto scaled between the lowest and highest value

Shape & Size:

Min Radius Value: - The value in the data that is mapped to the smallest bubble, that is, the bubble of size "minimum radius". When set to Auto, this value is set to the lowest value in the selection. The effect of this is that the size of the bubble for a particular point may change when the selection changes. If this is not the desired behavior, specify a value here.



Max Radius Value: - The value in the data that is mapped to the largest bubble, i.e. the bubble with the size "max radius". When set to Auto, this value is set to the highest value in the selection. The effect of this is that the size of the bubble for a particular point may change when the selection changes. If this is not the desired behaviour, specify a value here.

Annotations on the map:

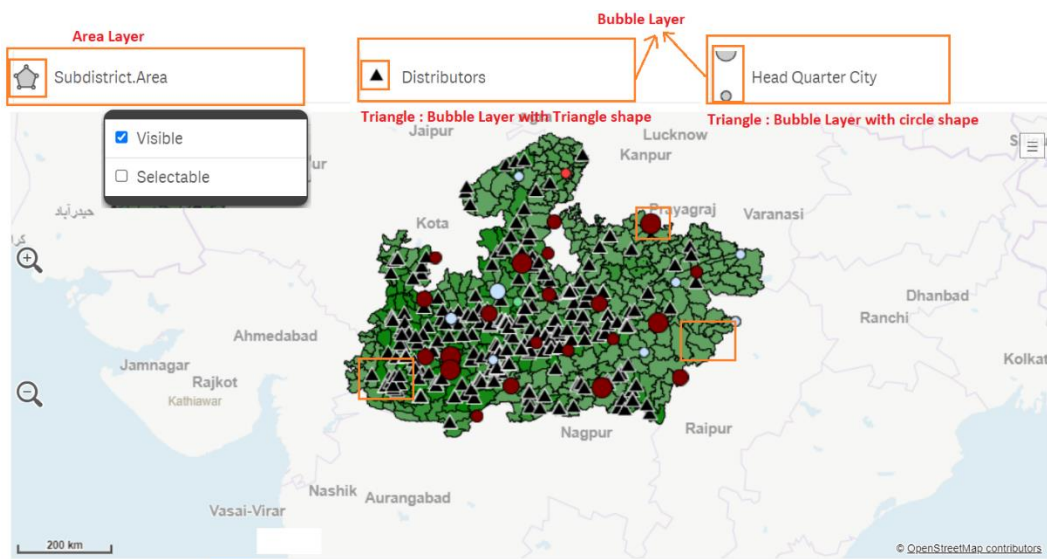
- Go through the document. (points to the 'city' layer in the legend)
- These option Settings are similar to the area layer. (points to the 'Location, Size' and 'Layer Options' sections)
- Whatever shape you want to give to the bubble, you can choose from here (points to the 'Shape' dropdown menu)
- Symbols - Any symbol from an URL can be specified in the Symbol URL expression field. The min/max size of the bubble in pixels. The lowest/highest value will be mapped to this shape. This property is not available when there are shape bars or symbols. (points to the 'Radius Min 1 - Max 15' slider)
- Go through the document. (points to the 'Min Radius Value' and 'Max Radius Value' settings)
- These option Settings are similar to the area layer. (points to the 'Colors', 'Label', and 'Info Bubble' sections)

Toggle/ Selectable on Layers

After creating a MAP with an area layer or bubble layer or any other layer, you can toggle the layer or switch the layer if there is an overlap layer.

->When click on the layer you will see two options visible & selectable. When Visible is clicked, it means that the layer will be visible or appearing on the MAP. When selectable is clicked, it means that you can select the filter by clicking on the bubble or area.

Please go through the below screenshot:



References

https://help.qlik.com/en-US/geoanalytics/Content/Qlik_GeoAnalytics/Home.htm