Qlik GeoAnalytics Data Package Installation Guide

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This is a brief installation guide on how to install and upgrade map data for the Qlik GeoAnalytics Server.

Notice about Enterprise Data Package version 20.04 and 20.09:

Because of increased memory usage in GeoAnalytics Server for Enterprise Data Package compared to a year back we increased minimum and recommended (java heap) "max memory". For 20.09 it is 18 and 20 GB respectively. We have also increased the RAM requirements for GeoAnalytics Enterprise Server to 25 GB in 20.09. For version 19.08 it was 18 GB.

Notice about updating the installed data package:

If this is not a fresh installation (a data package upgrade), make sure you understand the information under section 10 before continuing.

1. Download

Download Enterprise Data Package from the Qlik download site (Since version 19.03 this data package is for all use cases).

Enterprise Data Package 20.09 has been divided into two parts. Please download both EnterpriseDataPackage-20.09-part1.zip and EnterpriseDataPackage-20.09-part2.zip

2. Unpack

Unpack the GeoAnalytics Data Package parts to a location where it is accessible from the Server (with the *Local Service* user the server runs with).

Please extract both zip files to the same folder (for example C:\geodata). Both parts contain the same base folder *EnterpriseDataPackage-20.09*, let the folders be merged during extraction (or merge them after).

When you are done you should have a single folder named EnterpriseDataPackage-20.09 containing these files and folders:
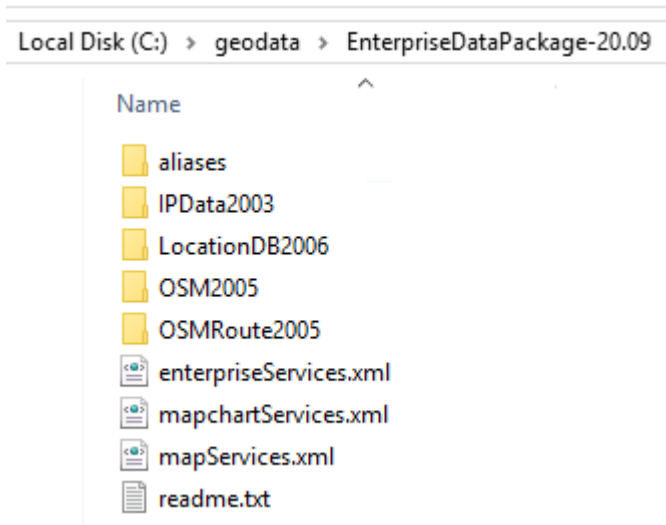
2.1. Disk usage

EnterpriseDataPackage-20.09 requires 24 GB in zipped form, and 29 GB when unzipped.

Map tiles will be cached at:

```
\ProgramData\Qlik GeoAnalytics Server\server3\modules\map2\tiles
```

This will use up to about 100GB per installed data package after some time of use. If there is not enough space on the main disk this folder could be linked to another disk (using mklink in a command window).

3. Install/Upgrade Qlik GeoAnalytics Server

Follow the Qlik GeoAnalytics Server Installation Guide to install/upgrade the server or if one of the settings need to be changed.

Warning! If you want to upgrade GeoAnalytics Server from a version that is older than April 2018 release make sure you first have updated your data package to MapDataPackage-18.04/EnterpriseDataPackage-18.04.1 or later, older data packages will not work with newer versions of the Server. See "Upgrading the map data" later in this guide for how to do this.

4. Configuring the map data

Open the administration interface (http://localhost:<port>/ravegeo/admin/) and go to *Service Administration* in the *Server Administration* part.
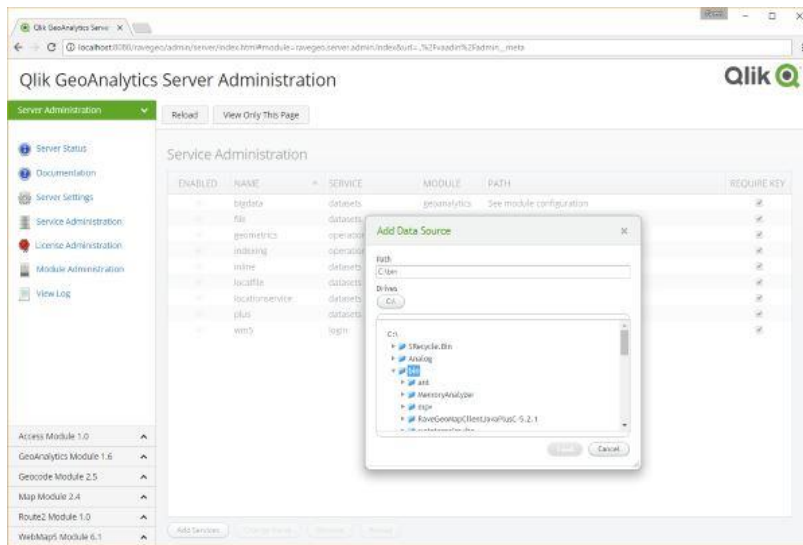
Press Add Services and navigate to the data package (example C:\geodata\EnterpriseDataPackage-20.09). Select the xml file that corresponds to your GeoAnalytics Server license and load it. For Enterprise Bundle license select enterpriseServices.xml, for Local Map Server license select mapServices.xml.

The xml file contains a number of services that will show up in the window but they remain disabled. Check ENABLED for all the new services in the following order:

- Enable all services that are not for module *geoanalytics* or module *webmap5*, service *map*.
- Enable all remaining services.

Note that the services for the *geoanalytics* module as well as the *webmap5* map services depend on other services, and need to be enabled last in order to work.

4.1. Services Troubleshooting:

If a service in the list turn red when it is enabled it means that there was an error, and it looks something like this:

☑	default.19.5	map	webmap5
☑	default		
☑	default	route	geoanalytics
☑	default.19.8	iplookup	geoanalytics
☑	file	datasets	geoanalytics
☑	geocoding	operations	geoanalytics
☑	geometrics	operations	geoanalytics

Could not find VectorTileService 'osm.19.5' (file:///c:/geodata/enterprisedatapackage-19.08/osm1905/config/server/webmap5/admin_areas.xml:5)

You can hover the mouse over the service to read more about the error.
To fix the most common errors, first make sure the zip files were extracted correctly (see section about unpacking).
Then, restart each red service (disable then enable). Restarting the services should fix the most common error that is caused by enabling services in the incorrect order.
Each error is also represented in the log (Server Administration -> View Log).

5. Checking the installation

To verify that the installation went well, check that we can display a map.

In the Qlik GeoAnalytics Server administration interface, go to:

WebMap5 Module -> Diagnostics Pages -> (default) Go To Diagnostics Pages -> Simple Test

It then should display a map that looks something like this:
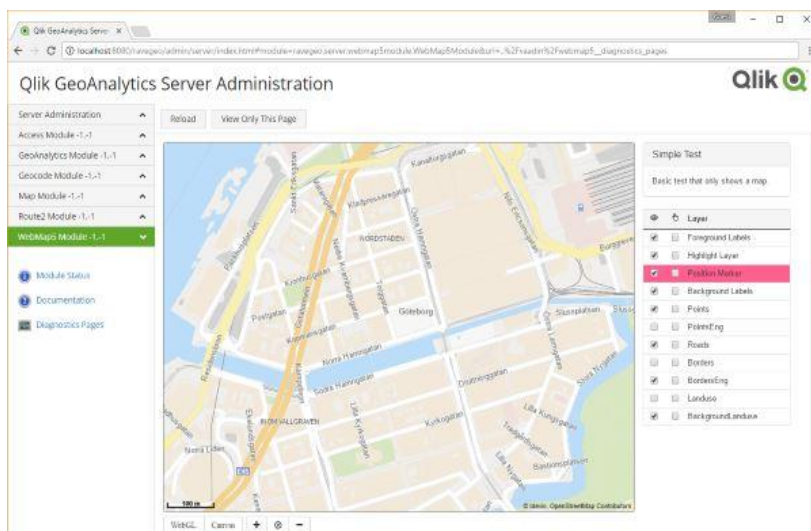
In WebMap5 Module -> Module Status, there should be (versions numbers might differ):

Configured WebMap Service: osm.20.5

Configured Geometry Services: default.20.6

Configured Vector Tile Services: osm.20.5, osm_carre.20.5

Configured Maps (5 of them): default.20.5, plain.20.5, default_adaptive.20.5, plain_adaptive.20.5, tiledraster.20.5

If you have any problems, check the log at:

Server Administration -> View Log

6. Enabling support for Qlik Sense Map (optional)

Since Qlik Sense April 2018 release there is a built-in multi layered map included in Qlik Sense.
If you want to use this map in an On premise solution you must configure your GeoAnalytics Server installation to support this.

6.1. Enable Map chart services
To add support for Qlik Sense Map, you need to add a second service file containing additional services.
To do this, please follow the steps in section 4 of this manual again, but this time add *mapchartServices.xml*. For the new services that appeared, enable them in the correct order like described in section 4 (start with "tilecacher" (Map2 module) services).
You can also check again the installation (see section 5). There should now be additional services listed under Diagnostics pages and Module Status.
Configured Maps: satellite_mercator.20.5, pale_mercator.20.5, pale_adaptive.20.5.
If you want to streamline the installation procedure it is also ok to add both mentioned service files at the same time while performing the steps in section 4 and enable all the services that appeared in the order described in section 4.

6.2. Create a Map chart key

To connect to Qlik GeoAnalytics Server from the Map chart in Qlik Sense you need to setup a key that the client can use. In Qlik GeoAnalytics Server admin interface, go to *Access Module -> Users and Keys*
Click "*Add User/Key*" at the bottom, please fill in "mapchart" in the field User (this name is not critical, only for ease during administration). In the "Key" field type in a key of your choice or use the generated key. Check "*Never expire*" so that your key never expires, and click *Add Remove Services.*
Now select "access:multi:MAPCHART" from the list and click the right arrow (→), click *Done*.

This should add the item to the list "Allowed Services".
Please save the key string as you will need it later.
You can now click the button *Add* to create the key.

The new key should now be listed under the new user "mapchart" under the tab "By User". Click on the user to see the key. You can edit the key if needed by selecting it and clicking *properties.* This also lets you copy the key from the key field if you need it again.

6.3. Adding Map chart key to Qlik Sense Server

Please read the Qlik GeoAnalytics Server Installation Guide, find the section that describes using the Server together with the Qlik Sense map. In short, you need to add the key to mapconf.json stored in *C:\Program Files\Qlik\Sense\Client\assets* (or similar) and then update Qlik Sense.

7. Configuring routing for GeoAnalytics Connector (optional/custom port)

If you want to use the routing based functionality of GeoAnalytics (requires the Enterprise Bundle license) you must edit a file on the Server in the Map data. Editing the file will be necessary if you are using a different port number than the default (80) for http, this step can be skipped if you used port 80.

In case the port number was changed, go to the folder OSMRoute[YYMMDD] under your EnterpriseDataPackage folder. Edit the file GaRouteService.xml and update the url http://localhost/ravegeo/route2/ with your chosen port number applied. For example, if you chose port 8080, then the url should be changed into this: http://localhost:8080/ravegeo/route2/.

After saving the file you will need to restart the GeoAnalytics route service in the Server Admin interface (Under Server Administration -> Service Administration). In the list find the service with service column as "route", and module column as "GeoAnalytics". Reload the service. You can also restart the whole GeoAnalytics Server Windows service under "Configure Service" in the start menu.

If you are using a custom port number and did not update this file you will get an error in the GeoAnalytics client when you use either the route or travel areas operations.

8. Configuring bigdata for GeoAnalytics Connector (optional)

The Connector has a limit of 20000 rows and 400 routes at a time by default, if you need to load more rows than that with a single call then you need to allow it on the Server side. This feature is named "bigdata", to enable it you have to go to *Access Module -> Multialiases.* Select the name "access:multi:GEOANALYTICSBASIC". Click on the button *Add / Remove Services*. This will bring up a window where you can see allowed services in the list to the right, while the list to the left shows more services you can add to the allowed list.
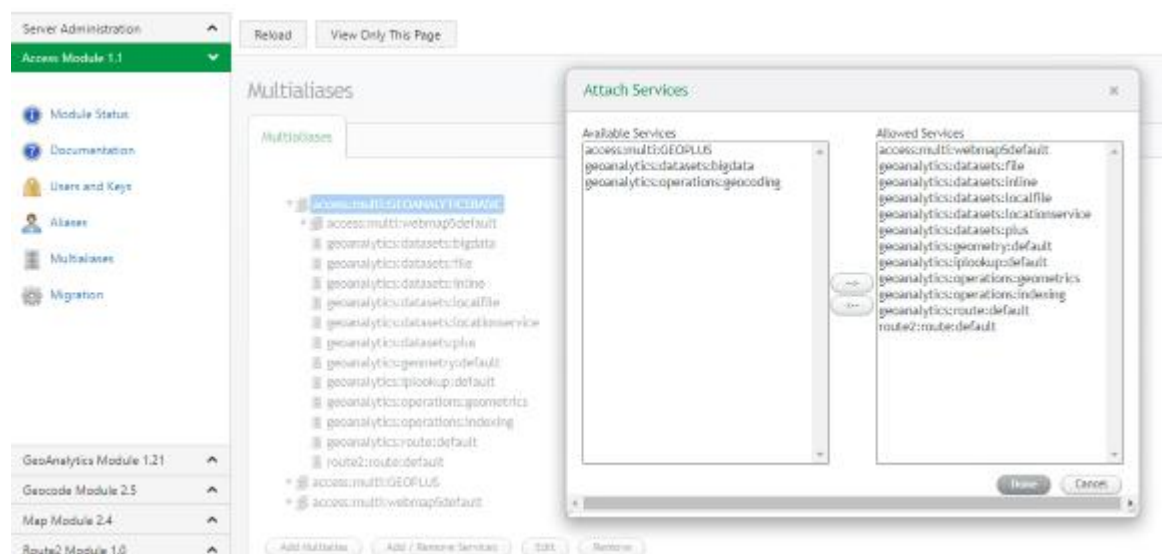
Select geoanalytics:datasets:bigdata which should be in the left list, click on the -> arrow to add it to the allowed services. Then click Done. Now it should be listed under GEOANALYTICSBASIC multialias. If you later want to remove bigdata you can do so by again using Add / Remove Services window but this time find and select the service in the list to the right and use the <- arrow.

The reason that bigdata is not enabled by default is because it can cause trouble and slow down the Server too much with too many users and/or loading too many rows.

9. Allowing the server to read local files (optional)

If you want to allow users to use files from the GeoAnalytics server local filesystem in connector operations you will need to add an additional

permission. To do this, follow the steps in section 8 above but add the "geoanalytics:datasets:localfile" service instead of the bigdata service.

This will allow users to load any file that the service user (defaults to "Local Service") can read.

Note that if you do not need this it is recommended to leave it disabled for security reasons as they might be able to read files not intended for sharing.

10. Upgrading the map data

To upgrade the map data, follow all steps in section 1 to 5 of this guide. The optional sections 6-9 also need to be done during an upgrade. However, before upgrading consider the following things:

- GeoAnalytics Server max memory setting may need to be adjusted when a different version of the data package is installed, this could sometimes mean that more physical memory is required as well. The memory requirements for the latest versions can be found in the online Server documentation: https://help.qlik.com. Click on GeoAnalytics and continue navigate to "GeoAnalytics Server requirements". On the same page you can find the Server installation guide which describes how to configure the max memory setting. All online information is for the latest versions of GeoAnalytics Server and data packages but should work for older versions as well.

- During data package upgrade on a GeoAnalytics Enterprise Server (not Map Server), you need twice as much configured memory to keep the previous data services enabled while you are enabling the new services (section 4). The one service that takes up most of the memory is the route service (Module: Route2). To avoid running out of memory, you will need to disable the old version of this service before you enable the new service. For example: disable "default.19.11" (route) before you enable "default.20.5" (route).

- If you decide to upgrade to the latest version of GeoAnalytics Server, keep in mind that map data packages older than 18.04 are not compatible with GeoAnalytics Server 2018 April release or newer. If you want to minimize interruptions of the map services, then please upgrade the data package before you upgrade the server. However, as soon as the new data package is installed correctly then all map services should work again regardless of the order you installed it in.

When the new data services have been successfully enabled the server will automatically start using them as it always selects the service with the highest version if there are more than one version with the same name.

Note that the server can experience a higher load when users start to use the new map version as new tiles then will be generated and cached when needed.

After you have verified that the new map data works as it should, you can remove the old data after a while. Clients that logged in before new data was added will use the old data until they log out. Therefore, wait a day or so before removing it. Do so by first removing the services for that version in the server admin interface. Since each service has its own version it can be easier to look at the Path column to see which data package it belongs to. When you have removed every service that is part of that data package then you can remove the data package from the hard drive. Also cached map tiles can be removed to free up additional space. Do so by removing the folders with the version no longer used at:

```
\ProgramData\Qlik GeoAnalytics Server\server3\modules\map2\tiles
```

11. Links to more info

https://help.qlik.com/

http://developer.idevio.com/ravegeoserver/