

# Instructions for using INSPIRE interface services in the QGIS geographic information software

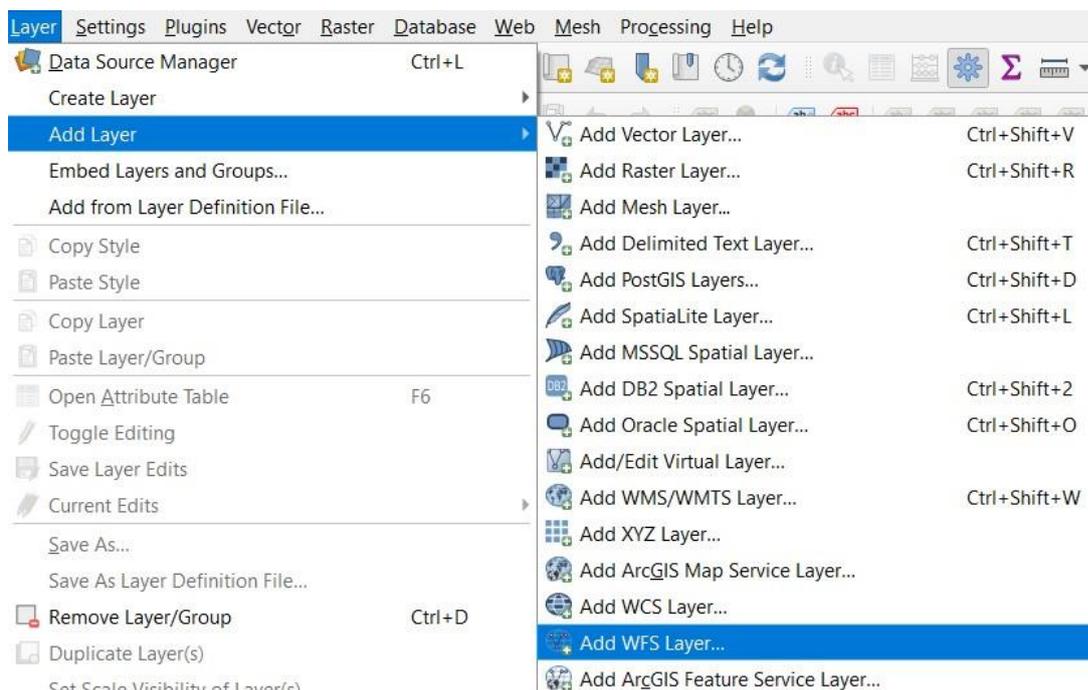
You can use interface services with geographic information software, for example. These instructions provide advice on how to use data with the QGIS software, which is an open source code geographic information software. You can download QGIS here: <https://qgis.org/en/site/>. The recommended QGIS version is 3.18 or newer because older versions contain bugs that may hamper the use of the data.

## 1. INITIAL STEPS

1. Install the program and open it from the QGIS Desktop icon. If you wish, you can change the language of the program to English by selecting Settings -> Options, which opens the General tab. Under User interface translation, select American English. After this the program must be restarted for the language setting to be confirmed.
2. Make sure that the QGIS project coordinate system is EPSG:3067. The code appears in the bottom right corner of the window. If the code is different, it can be changed by clicking the button in question in the bottom right corner.

## 2. ADDING AN OGC API - Features LAYER

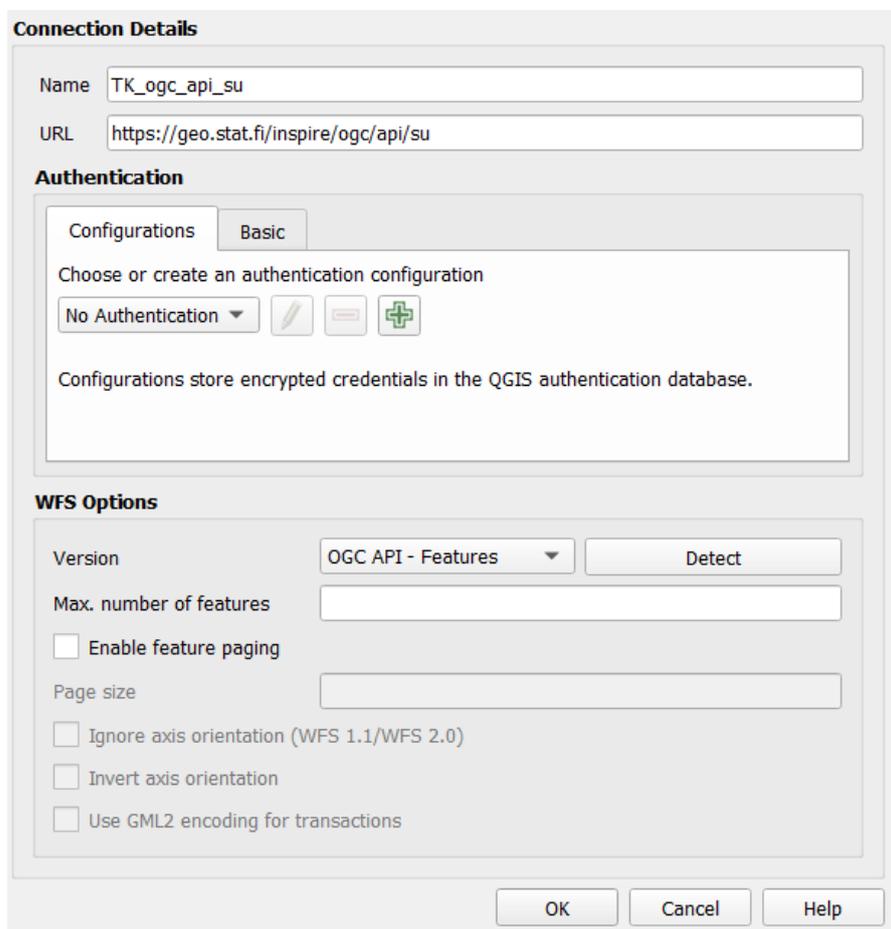
1. Select Layer -> Add Layer -> Add WFS Layer



2. After that, you can enter the interface information. You can access the OGC API - Features interfaces with these addresses:

- SU data product or Statistical Units: <https://geo.stat.fi/inspire/ogc/api/su>  
 -municipality-based statistical areas  
 -1 km and 5 km statistical grids
- US data product or Governmental Service Education: <https://geo.stat.fi/inspire/ogc/api/us>  
 -educational institutions
- PF data product or Production Facility: <https://geo.stat.fi/inspire/ogc/api/pf>  
 -production and industrial facilities
- PD data product or Population Distribution: <https://geo.stat.fi/inspire/ogc/api/pd>  
 -population by statistical area  
 -1 km and 5 km population grid data

3. For example, if you want to search for all statistical areas, select New, enter the name you want for the service connection, give the URL address <https://geo.stat.fi/inspire/ogc/api/su>, and select OGC API – Features under Version:



The screenshot shows the 'Connection Details' dialog box in QGIS. The 'Name' field contains 'TK\_ogc\_api\_su' and the 'URL' field contains 'https://geo.stat.fi/inspire/ogc/api/su'. Under the 'Authentication' section, the 'Basic' tab is selected, and 'No Authentication' is chosen from a dropdown menu. Below this, there are icons for editing, deleting, and adding configurations, along with a note: 'Configurations store encrypted credentials in the QGIS authentication database.' The 'WFS Options' section includes a 'Version' dropdown set to 'OGC API - Features' with a 'Detect' button next to it. Other options include 'Max. number of features', 'Enable feature paging' (unchecked), 'Page size', 'Ignore axis orientation (WFS 1.1/WFS 2.0)' (unchecked), 'Invert axis orientation' (unchecked), and 'Use GML2 encoding for transactions' (unchecked). At the bottom, there are 'OK', 'Cancel', and 'Help' buttons.

*TIP: By default, QGIS downloads at most 10,000 items. To download fewer items, you can limit the number of items under Max. number of features.*

*TIP: For some data, the quantities to be downloaded are so large that it is necessary to use paging, that is, to tick the box Enable feature paging. If the page size is too big or too small problems may arise. For example, in the case of population grid data, it is advisable to set the page size to 5,000 items.*

4. Click OK and Connect. Now all SU layers are visible and you can choose the layer you want:

Title	Name	Abstract
INSPIRE SU StatisticalGridCell RES 5000m EPSG:3067	StatisticalGridCell_RES_5000m_EPSG_3067	INSPIRE SU StatisticalGridCell RES 5000m in Finland EPSG:3067
INSPIRE SU StatisticalGridCell RES 1000m EPSG:3067	StatisticalGridCell_RES_1000m_EPSG_3067	INSPIRE SU StatisticalGridCell RES 1000m in Finland EPSG:3067
INSPIRE SU StatisticalGrid EPSG:3067	StatisticalGrid_EPSG_3067	INSPIRE SU StatisticalGrid in Finland EPSG:3067
INSPIRE SU AreaStatisticalUnit 4500k EPSG:4326 2020	AreaStatisticalUnit_4500k_EPSG_4326_2020	INSPIRE SU AreaStatisticalUnit in Finland in 4500k scale EPSG:4326 year 2020
INSPIRE SU AreaStatisticalUnit 4500k EPSG:3067 2020	AreaStatisticalUnit_4500k_EPSG_3067_2020	INSPIRE SU AreaStatisticalUnit in Finland in 4500k scale EPSG:3067 year 2020
INSPIRE SU AreaStatisticalUnit 1000k EPSG:4326 2020	AreaStatisticalUnit_1000k_EPSG_4326_2020	INSPIRE SU AreaStatisticalUnit in Finland in 1000k scale EPSG:4326 year 2020
INSPIRE SU AreaStatisticalUnit 1000k EPSG:3067 2020	AreaStatisticalUnit_1000k_EPSG_3067_2020	INSPIRE SU AreaStatisticalUnit in Finland in 1000k scale EPSG:3067 year 2020

5. Due to the type of data, some layers are only available in the ETRS-TM35FIN coordinate system (EPSG:3067) and some are also available in the WGS84 coordinate system (EPSG:4326). QGIS handles these slightly differently and both methods are explained below.

6. ETRS-TM35FIN layers

- i. Select the data “INSPIRE SU StatisticalGridCell RES 5000m EPSG:3067” and click Add.
- ii. The data appear in the layer menu but they are not visible on the map.
- iii. In the layer menu, hover over the layer and right click Layer CRS -> Set Layer CRS... and select EPSG:3067. Now the items are also visible on the map. Downloading of large data sets may be slow.

7. WGS84 layers

- i. Select the data “INSPIRE SU AreaStatisticalUnit 4500k EPSG:4326 2020” and click Add.
- ii. The data appear in the layer menu and also on the map.

8. Please note that the AreaStatisticalUnit layers consists of all municipality-based statistical areas in the same data set. If you only want certain statistical areas at a time, use layer filtering: In the layer menu, hover over the layer and right click to select Filter and enter a filter condition. For example, the condition “tessellation” = ‘maakunta’ (region) has been entered here, which produces only the regions:

Query Builder

Set provider filter on AreaStatisticalUnit\_4500k\_EPSG\_4326\_2020

**Fields**

- endLifespanVersion
- country
- geographicalName\_fin
- geographicalName\_swe
- geographicalName\_eng
- nationalCode
- tessellation
- tessellationId
- thematicId
- referencePeriod\_beginPosition
- referencePeriod\_endPosition
- areaValue
- areaValue uom

**Values**

Q maakunta

maakunta

Sample All

Use unfiltered layer

**Operators**

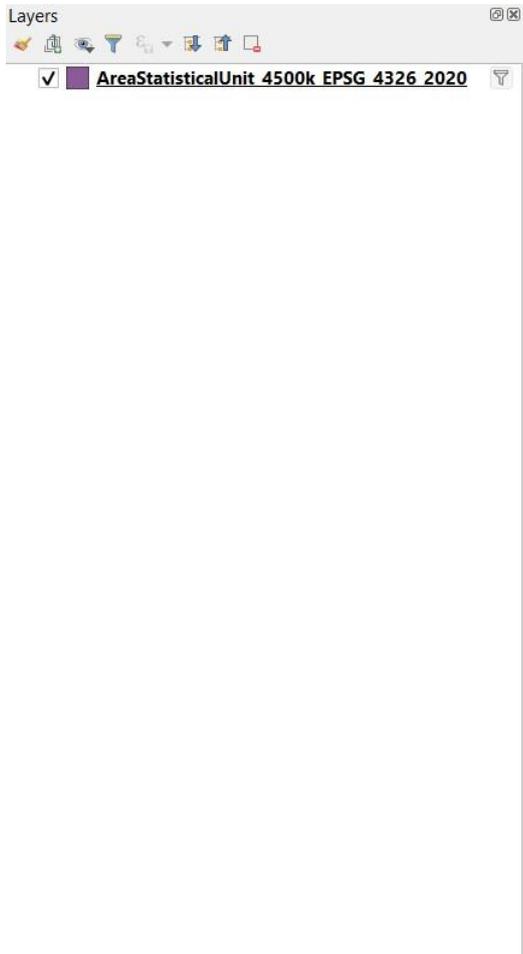
=	<	>	LIKE	%	IN	NOT IN
<=	>=	!=	ILIKE	AND	OR	NOT

**Provider Specific Filter Expression**

```
"tessellation" = 'maakunta'
```

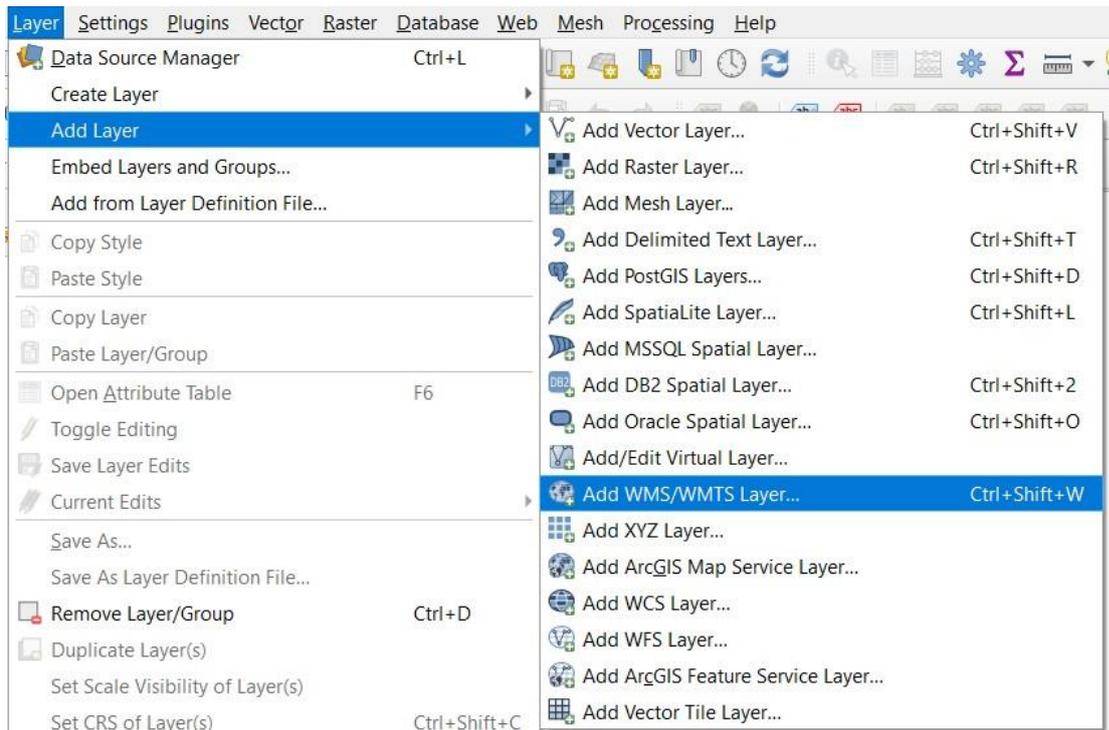
OK Test Clear Save... Load... Cancel Help

9. Now only regions are shown on the map and in the table:



### 3. ADDING WMS layers

1. Select Layer->Add Layer->Add WMS/WMTS Layer



2. After that, you can enter the interface information. You can access the WMS interfaces at this address: <https://geo.stat.fi/inspire/ogc/wms>
3. Select New, enter the URL <https://geo.stat.fi/inspire/ogc/wms>

**Connection Details**

Name

URL

**Authentication**

Configurations **Basic**

Choose or create an authentication configuration

Configurations store encrypted credentials in the QGIS authentication database.

**HTTP**

Referer

**WMS/WMTS Options**

DPI-Mode

Ignore GetMap/GetTile URI reported in capabilities

Ignore GetFeatureInfo URI reported in capabilities

Ignore axis orientation (WMS 1.3/WMTS)

Ignore reported layer extents

Invert axis orientation

Smooth pixmap transform

4. Click OK and Connect. Now all layers are visible and you can choose the layer you want:

ID	Name	Title	Abstract
0		Statistics Finland's INSPIRE View Service (WMS)	Statistics Finland's INSPIRE View Service (WMS)
1	SU.StatisticalGridCell	SU.StatisticalGridCell	INSPIRE SU StatisticalGridCell in Finland
6	SU.VectorStatisticalUnit	SU.VectorStatisticalUnit	INSPIRE SU VectorStatisticalUnit in Finland year 2020
39	PF.ProductionFacility	PF.ProductionFacility	INSPIRE PF ProductionFacility in Finland
41	US.Education	US.Education	INSPIRE US GovernmentalService Education in Finland

The PD data product is not available as a viewing service, so it is missing from the list.

