



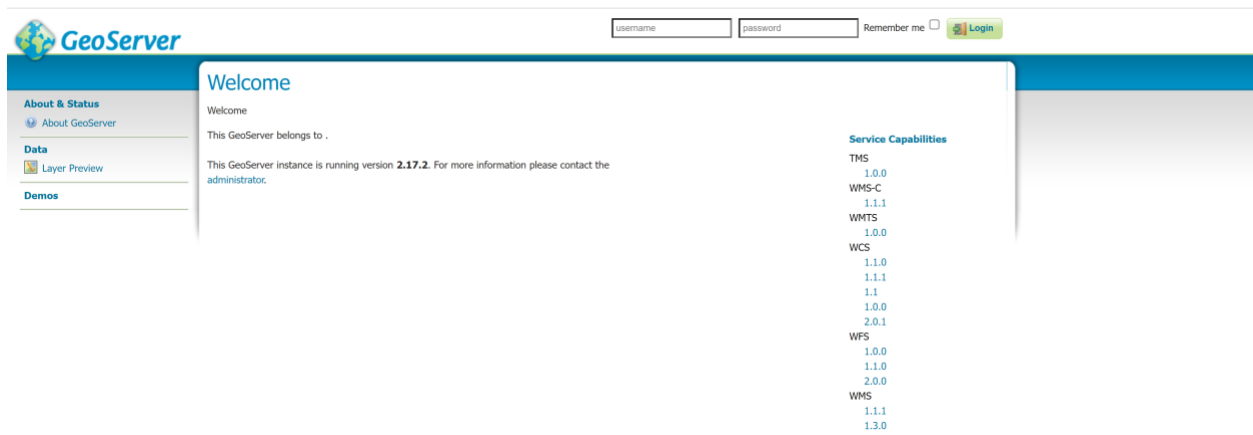
Food and Agriculture  
Organization of the  
United Nations

# **How to Publish Vector Data**

# Vector /Raster Data Publishing using Geoserver Editor

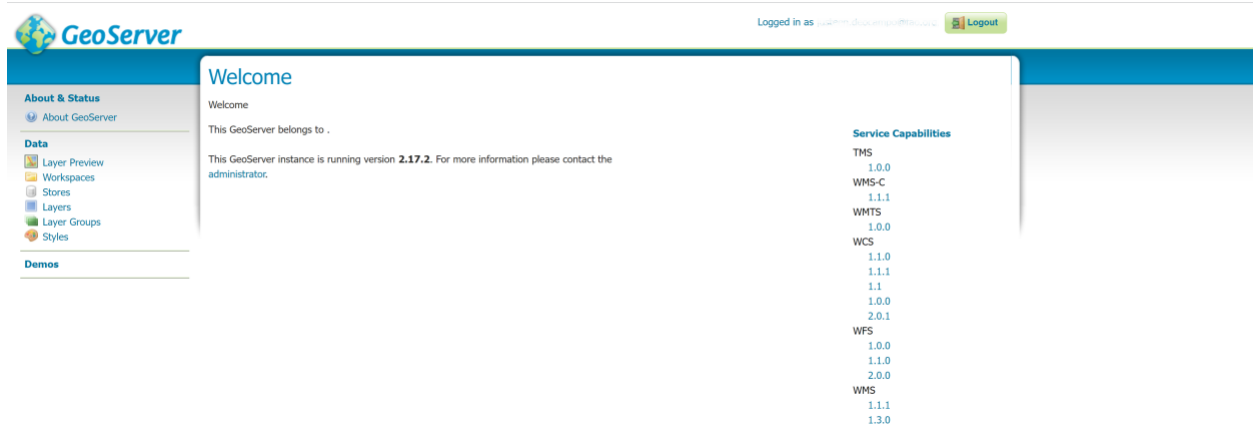
Go to the Geoserver main page by clicking on the following link.

<https://data.apps.fao.org/map/gsrv/edit/web/>



Insert the provided credential details in **username** and **password**.

After successfully logging in, the Geoserver page will be displayed.



In the left section under **Data**, it shows the different sections to view the published dataset.

To begin the data publication process, our first step is preparing the data for the publication.

Let's take an example of the vector and raster data.

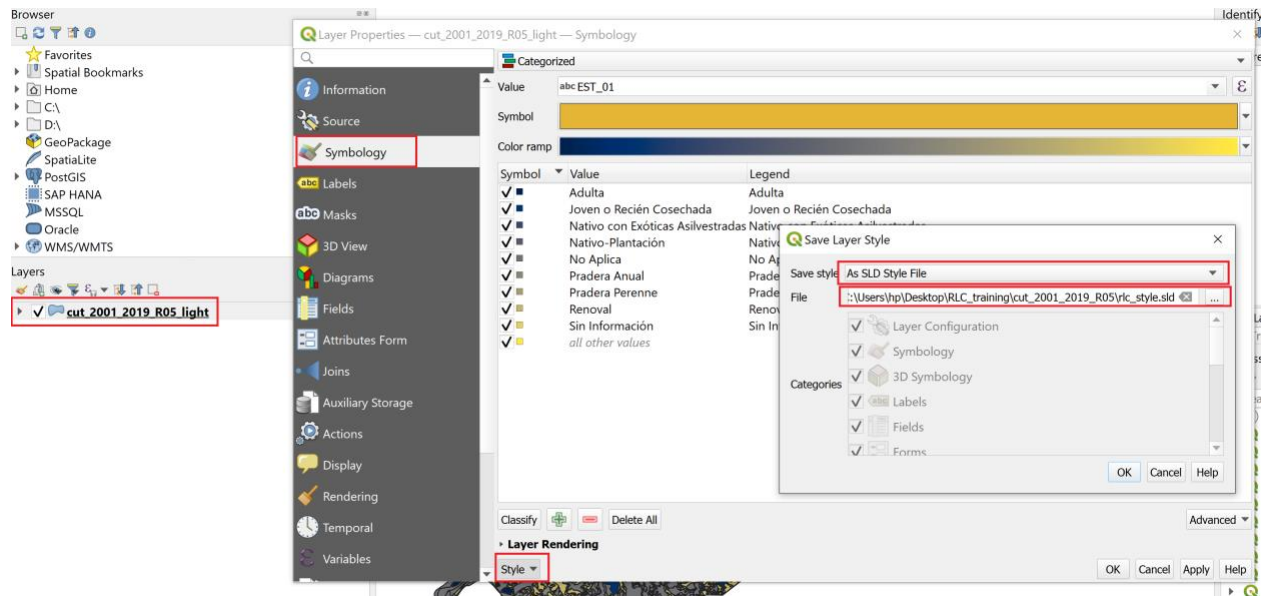
Open the shapefile in the software of your choice (QGIS, Arc Map). We recommend QGIS because it will also help to create the symbology style file that accepted in Geoserver.

Go to QGIS and open the datasets that you want to publish in Geoserver.

In QGIS prepare the symbology and then export style file for Geoserver.

As shown in the image, right click on the shapefile as highlighted and go to symbology.

Then select style type **As SLD Style File** and save the SLD file in preferred folder.



The SLD file will be look like this and it can be edited with any editor like notepad.

```
<?xml version="1.0" encoding="UTF-8"?>
<StyledLayerDescriptor xmlns="http://www.opengis.net/sld" version="1.1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ogc="http://www.opengis.net/ogc">
  <NamedLayer>
    <se:Name>cut_2001_2019_R05_light</se:Name>
    <UserStyle>
      <se:Name>cut_2001_2019_R05_light</se:Name>
      <se:FeatureTypeStyle>
        <se:Rule>
          <se:Name>Adulta</se:Name>
          <se:Description>
            <se:Title>Adulta</se:Title>
            </se:Description>
          <ogc:Filter xmlns:ogc="http://www.opengis.net/ogc">
            <ogc:PropertyIsEqualTo>
              <ogc:PropertyName>EST_01</ogc:PropertyName>
              <ogc:Literal>Adulta</ogc:Literal>
            </ogc:PropertyIsEqualTo>
          </ogc:Filter>
          <se:PolygonSymbolizer>
            <se:Fill>
              <se:SvgParameter name="fill">#00204d</se:SvgParameter>
            </se:Fill>
            <se:Stroke>
              <se:SvgParameter name="stroke">#232323</se:SvgParameter>
              <se:SvgParameter name="stroke-width">1</se:SvgParameter>
              <se:SvgParameter name="stroke-linejoin">bevel</se:SvgParameter>
            </se:Stroke>
          </se:PolygonSymbolizer>
        </se:Rule>
        <se:Rule>
          <se:Name>Joven o Recién Cosechada</se:Name>
          <se:Description>
            <se:Title>Joven o Recién Cosechada</se:Title>
            </se:Description>
          <ogc:Filter xmlns:ogc="http://www.opengis.net/ogc">
            <ogc:PropertyIsEqualTo>
              <ogc:PropertyName>EST_01</ogc:PropertyName>
              <ogc:Literal>Joven o Recién Cosechada</ogc:Literal>
            </ogc:PropertyIsEqualTo>
          </ogc:Filter>
          <se:PolygonSymbolizer>
            <se:Fill>
              <se:SvgParameter name="fill">#00204d</se:SvgParameter>
            </se:Fill>
            <se:Stroke>
              <se:SvgParameter name="stroke">#232323</se:SvgParameter>
              <se:SvgParameter name="stroke-width">1</se:SvgParameter>
              <se:SvgParameter name="stroke-linejoin">bevel</se:SvgParameter>
            </se:Stroke>
          </se:PolygonSymbolizer>
        </se:Rule>
      </se:FeatureTypeStyle>
    </UserStyle>
  </NamedLayer>
</StyledLayerDescriptor>
```

If you like to read about Gserever layer style. The documentation page is available here:  
<https://docs.geoserver.org/stable/en/user/styling/sld/index.html>

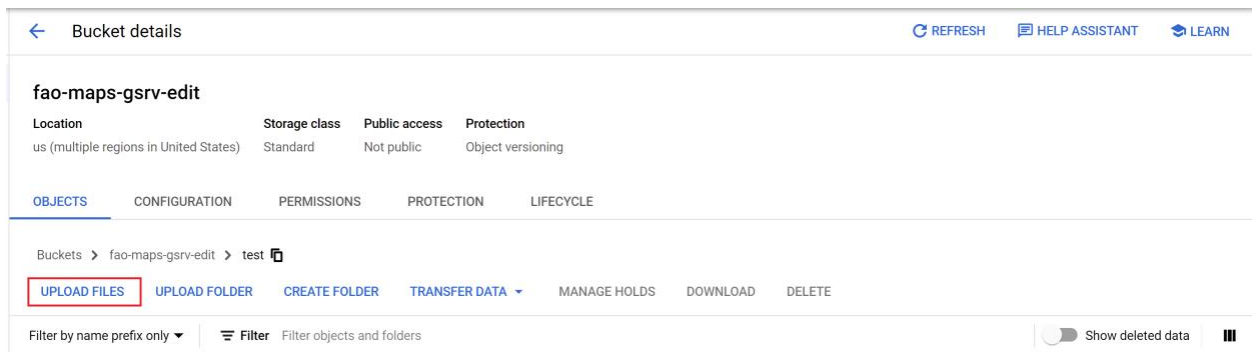
After finalizing the data to be published, please check the projection of dataset. The recommended projection for the datasets are EPSG:4326 , EPSG:3857.

The next step for the data publishing:

Go to GCP bucket by clicking on the following link:

<https://console.cloud.google.com/storage/browser/fao-maps-gsrv-edit;tab=objects?forceOnBucketsSortingFiltering=false&authuser=1&project=fao-maps&prefix=&forceOnObjectsSortingFiltering=false>

Open the folder and upload the data to publish.



Click on the upload files as shown in image to upload the shapefile in the bucket. Please take a note the shapefile should not be in zip folder.

Select the following files .shp , .dbp ,.prj , .shx ,.cpg to upload.

After uploading the shapefile it will be look like this in the bucket

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">cut_2001_2019_R05_light.cpg</a>	5 B	application/octet-stream	Nov 3, 20...	Standard	Nov 3, 202...	Not public	–	Google-mi	⬇
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">cut_2001_2019_R05_light.dbf</a>	10.5 MB	application/octet-stream	Nov 3, 20...	Standard	Nov 3, 202...	Not public	–	Google-mi	⬇
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">cut_2001_2019_R05_light.prj</a>	409 B	application/octet-stream	Nov 3, 20...	Standard	Nov 3, 202...	Not public	–	Google-mi	⬇
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">cut_2001_2019_R05_light.sbn</a>	61.9 KB	application/octet-stream	Nov 3, 20...	Standard	Nov 3, 202...	Not public	–	Google-mi	⬇
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">cut_2001_2019_R05_light.sbx</a>	3.4 KB	application/octet-stream	Nov 3, 20...	Standard	Nov 3, 202...	Not public	–	Google-mi	⬇
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">cut_2001_2019_R05_light.shp</a>	55.5 MB	application/octet-stream	Nov 3, 20...	Standard	Nov 3, 202...	Not public	–	Google-mi	⬇
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">cut_2001_2019_R05_light.shx</a>	50.7 KB	application/octet-stream	Nov 3, 20...	Standard	Nov 3, 202...	Not public	–	Google-mi	⬇

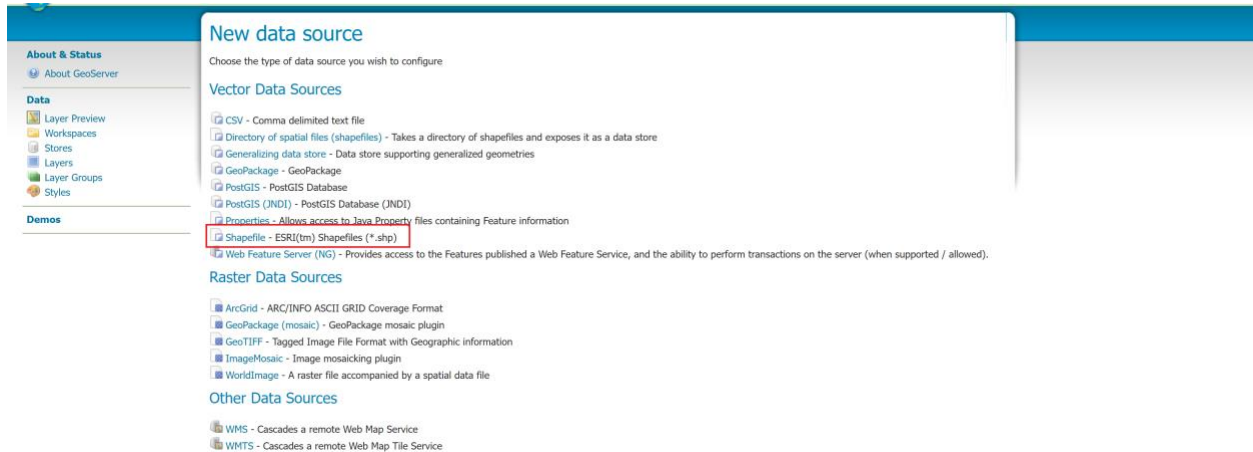
The data uploading into the bucket is completed .

Next step is to open Gserever Editor.

From the left menu section click on **Stores**.

Then click on the **Add new store**.

Click on the shapefile as shown in the image.

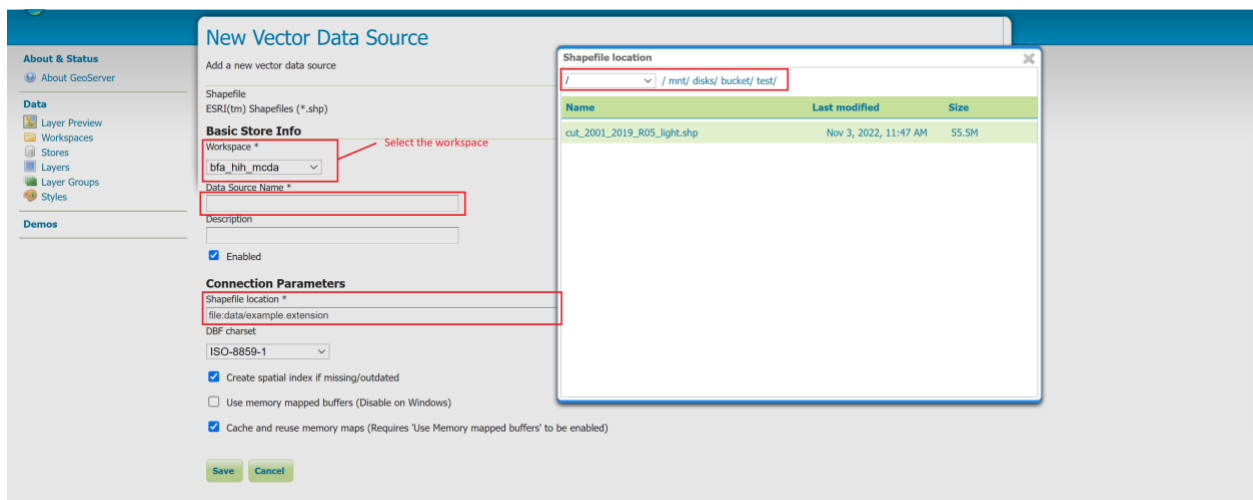


Enter the details as shown in the image.

**Workspace**

**Data Source name**

**Shapefile location from the bucket: /mnt/disks/bucket/{shapefile\_folder}/**



After inserting the details click on the save button

## New Layer

Add a new layer

You can create a new feature type by manually configuring the attribute names and types. [Create new feature type...](#)  
Here is a list of resources contained in the store 'cut\_2001\_2019\_R05\_light'. Click on the layer you wish to configure

<< < 1 > >> Results 1 to 1 (out of 1 items)

Published	Layer name	Action
	cut_2001_2019_R05_light	<a href="#">Publish</a>

<< < 1 > >> Results 1 to 1 (out of 1 items)

Click on the publish button as shown in the image

## Bounding Boxes

Native Bounding Box

Min X	Min Y	Max X	Max Y
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

[Compute from data](#)  
[Compute from SRS bounds](#)

Then the layer section will open where we will calculate the bounding box of the layer by clicking **compute from data**.

Lat/Lon Bounding Box

Min X	Min Y	Max X	Max Y
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

[Compute from native bounds](#)

Calculate the layer **native bounds** as well.

After inserting these mandatory details click the Save button to save the changes and publish the layer in Geoserver.

To view the published layer click on **Layer Preview** from the left menu.

Once the layer is published successfully, the next step is to create the style for the layer.

Click on the **Styles** from left menu section.

In the **Styles** click on the **Add new style**

Enter the name of the style and select the workspace for the style. Make sure the style is stored in the same workspace as your layer.

Click on upload button to upload the style file created in QGIS

Finally click on **Submit**

The screenshot shows the QGIS Style Manager interface. The 'Style Data' section has a 'Name' field containing 'rlc\_style' and a 'Workspace' dropdown menu set to 'hih\_test'. The 'Style Content' section has an 'Upload a style file' section with a 'Choose File' button, 'No file chosen' text, and an 'Upload ...' button. Below the form is a toolbar with icons for undo, redo, save, and other actions, along with 'Font 12pt' and 'Height 300px' settings. A code editor at the bottom displays XML code for a Styled Layer Descriptor (SLD).

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <StyledLayerDescriptor xmlns="http://www.opengis.net/sld" version="1.1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:ogc="http://www.opengis.net/ogc" xsi:schemaLocation="http://www.opengis.net/sld
  http://schemas.opengis.net/sld/1.1.0/StyledLayerDescriptor.xsd" xmlns:se="http://www.opengis.net/se"
  xmlns:xlink="http://www.w3.org/1999/xlink">
3   <NamedLayer>
4     <se:Name>cut_2001_2019_R05_light</se:Name>
5     <UserStyle>
6       <se:Name>cut_2001_2019_R05_light</se:Name>
7       <se:FeatureTypeStyle>
8         <se:Rule>
9           <se:Name>Adulta</se:Name>
10          <se:Description>
11            <se:Title>Adulta</se:Title>
12          </se:Description>
13          <ogc:Filter xmlns:ogc="http://www.opengis.net/ogc">
14            <ogc:PropertyIsEqualTo>
15              <ogc:PropertyName>EST_01</ogc:PropertyName>
16              <ogc:Literal>Adulta</ogc:Literal>
17            </ogc:PropertyIsEqualTo>
18          </ogc:Filter>
19          <se:PolygonSymbolizer>
20            <se:Fill>
```

Once the style has been created successfully, we will now assign this style to layer already published in Geoserver.

Click on **Layers** from left menu and locate the shapefile you have published. Open shapefile.

Inside layer editing section click on the **Publishing** tab.

Select the style for the layer as shown in the image and save changes.

### NumberMatched skip

Skip the counting of the numberMatched attribute

### Extra SRS codes for WFS capabilities generation

Override WFS wide SRS list

### Coordinates Encoding

Encode coordinates measures

## WMS Settings

### Layer Settings

Queryable

Opaque

Default Style

hih\_test:rlc\_style

Adulta

Joven o Recién Cosechada

Nativo con Exóticas Asilvestradas

Nativo-Plantación

No Aplica

Pradera Anual

Pradera Perenne

Renoval

Sin Información

EST 01 is "

After assigning the style to the layer next step is to create dimensions for the layer (Time , Elevation or Custom Dimension).