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Publishing data using Geoserver and GeoNode Tutorial.

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Learning Objective

After this tutorial you will be able to:

- Interact with Geoserver and Geonode while at the same time publish data on both platforms.

1. Introduction

This tutorial is meant to guide you through the steps of publishing data. The first part involves publishing data with Geoserver while the second part is publishing data with Geonode.

Note: This tutorial assumes that Geoserver and Geonode are running on http://http://192.81.212.100:8080/geoserver/web and http://http://192.81.212.100 Respectively.

2.Publishing data with Geoserver

This step walks through the process of publishing a Shapefile with GeoServer.

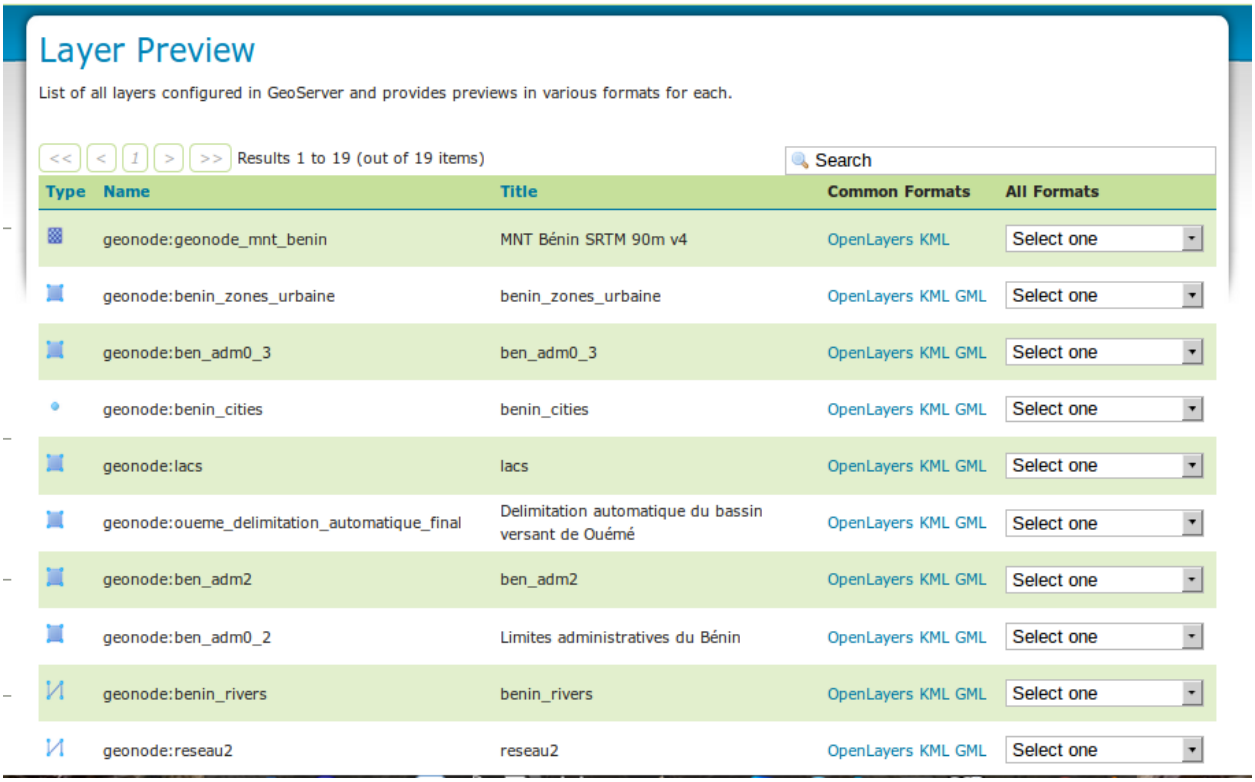


Figure 1.0:*Layer Preview page*

2.1 Getting Started

1. Copy the file benin_rivers.zip from the USB stick to the exercise folder. This archive contains a Shapefile of rivers for Benin that will be used during in this tutorial.

2. Unzip the benin_rivers.zip. The extracted folder benin_rivers contains the following four files:

benin_rivers.shp
benin_rivers.shx
benin_rivers.dbf
benin_rivers.prj

#. Move the benin_rivers folder into :/usr/share/geoserver/data/, where <:/usr/share/geoserver/data/>is the root of the GeoServer data directory.

2.2 Create a New Workspace

The first step is to create a workspace for the Shapefile. A workspace is a container used to group similar layers together.

1. In a web browser in the VM navigate to http://192.81.212.100:8080/geoserver/web.
2. Log into GeoServer username:admin password:geoserver.
3. Navigate to Data →Workspaces

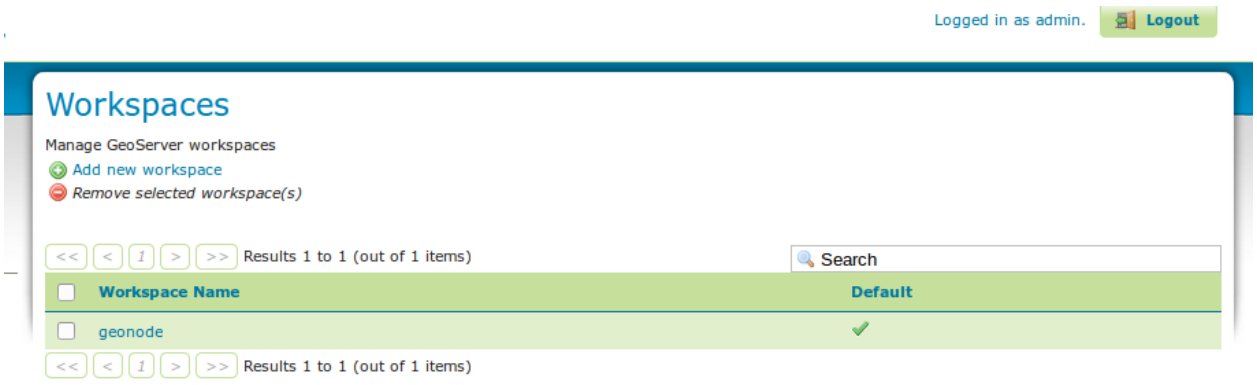


Figure 1.1:*Workspace page*

4. To create a new workspace click the *Add new workspace* button. You will be prompted to enter a workspace Name and Namespace URI.

Figure 1.2: *Configure a New Workspace*

5. Enter the Name as `benin_rivers` and the Namespace URI as `http://www.geonode.org/benin_rivers`. A workspace name is an identifier describing your project. It must not exceed ten characters or contain spaces. A Namespace URI (Uniform Resource Identifier) is typically a URL associated with your project, perhaps with an added trailing identifier indicating the workspace.

6. Click the *Submit* button. The benin_rivers workspace will be added to the Workspaces list.

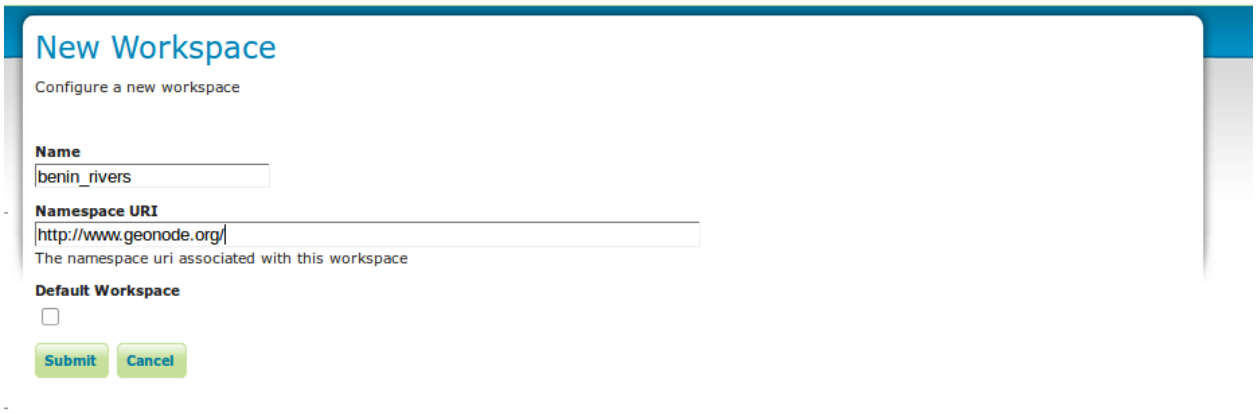
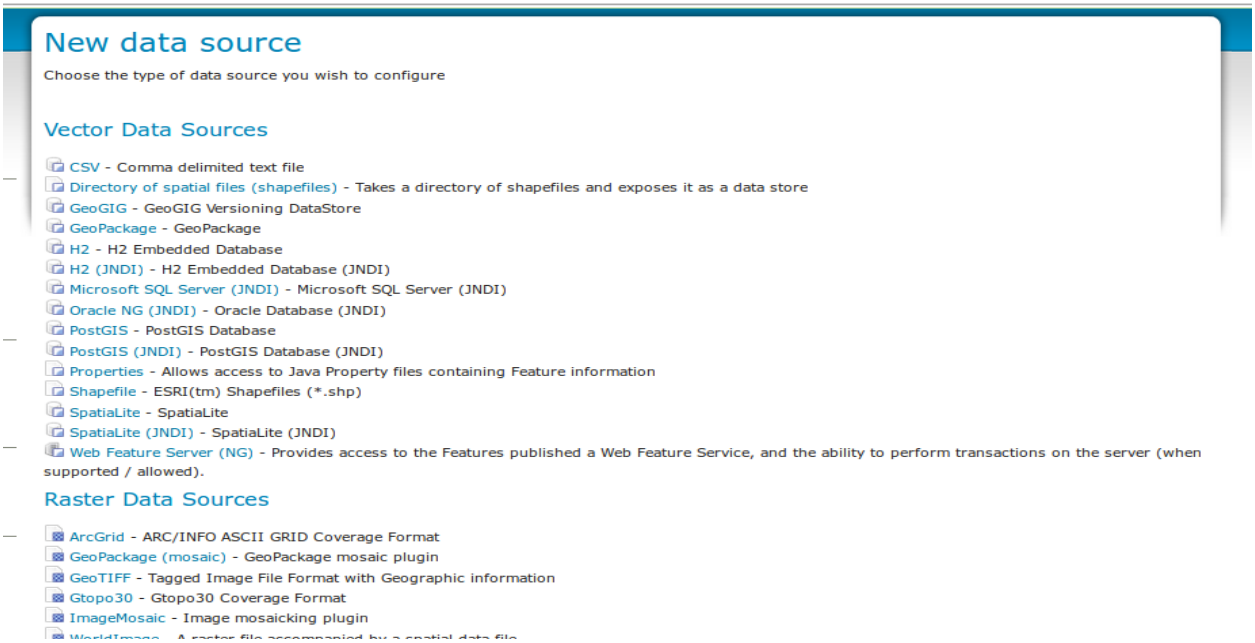


Figure 1.3: *New Workspace*

2.3 Create a Data Store

1. Navigate to *Data* ➡ *Stores*.

2. In order to add the `benin_rivers` Shapefile, you need to create a new Store. Click on the *Add new store* button. You will be redirected to a list of the



data sources supported by GeoServer.
Figure 1.4: *Data sources*

3. Select *Shapefile-ESRI(tm) Shapefiles (.shp)*. The New Vector Data Source page will display.

4. Begin by configuring the Basic Store Info. Select the workspace benin_rivers from the drop down menu. Enter the Data Source Name as Benin Rivers and enter a brief Description.

5. Under Connection Parameters specify the location URL of the Shapefile as file:data/benin_rivers/benin_rivers.shp.

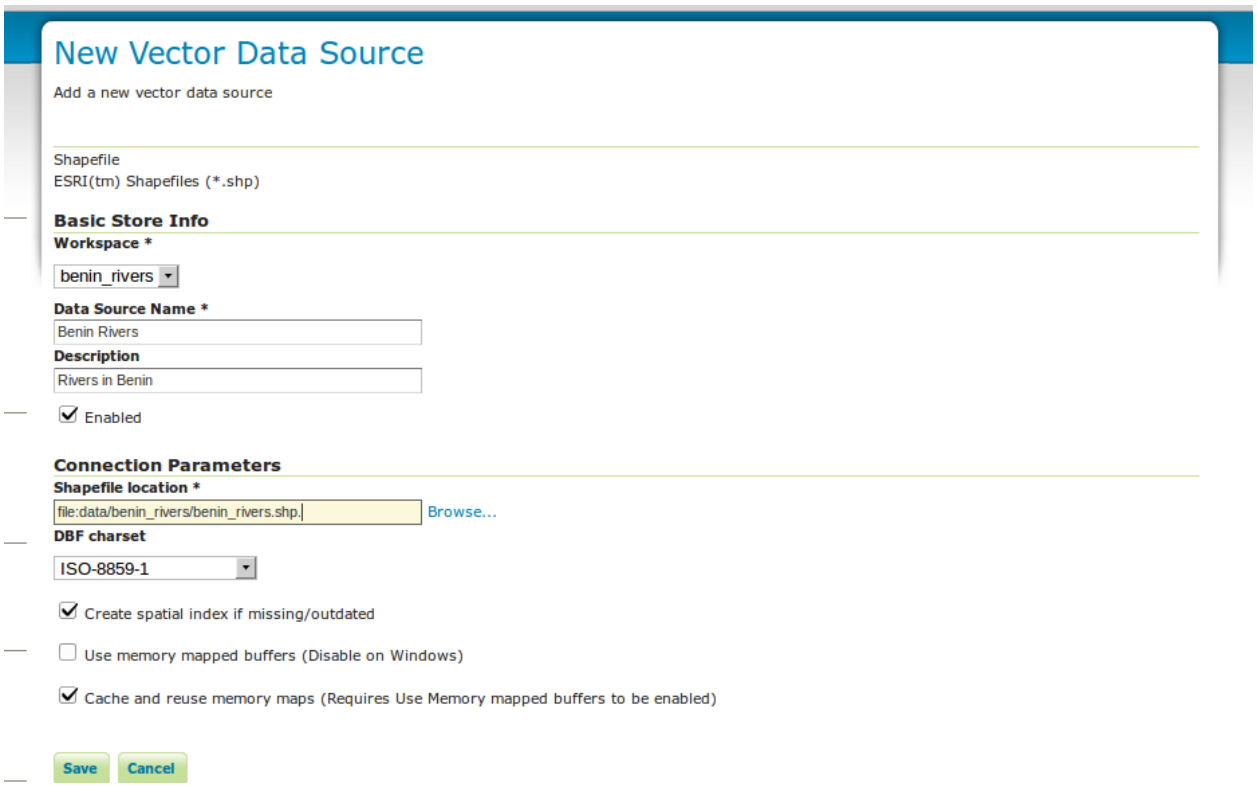


Figure 1.5:*Basic Store Info and Connection Parameters*

6. Click *Save*. You will be redirected to the New Layer chooser page in order to configure the benin_rivers layer.

2.4 Create a Layer

1. On the New Layer chooser page, select the layer benin_rivers.

2. The Edit Layer page defines the Data and Publishing parameters for a layer. Enter a short Title and an Abstract for the benin_rivers layer.

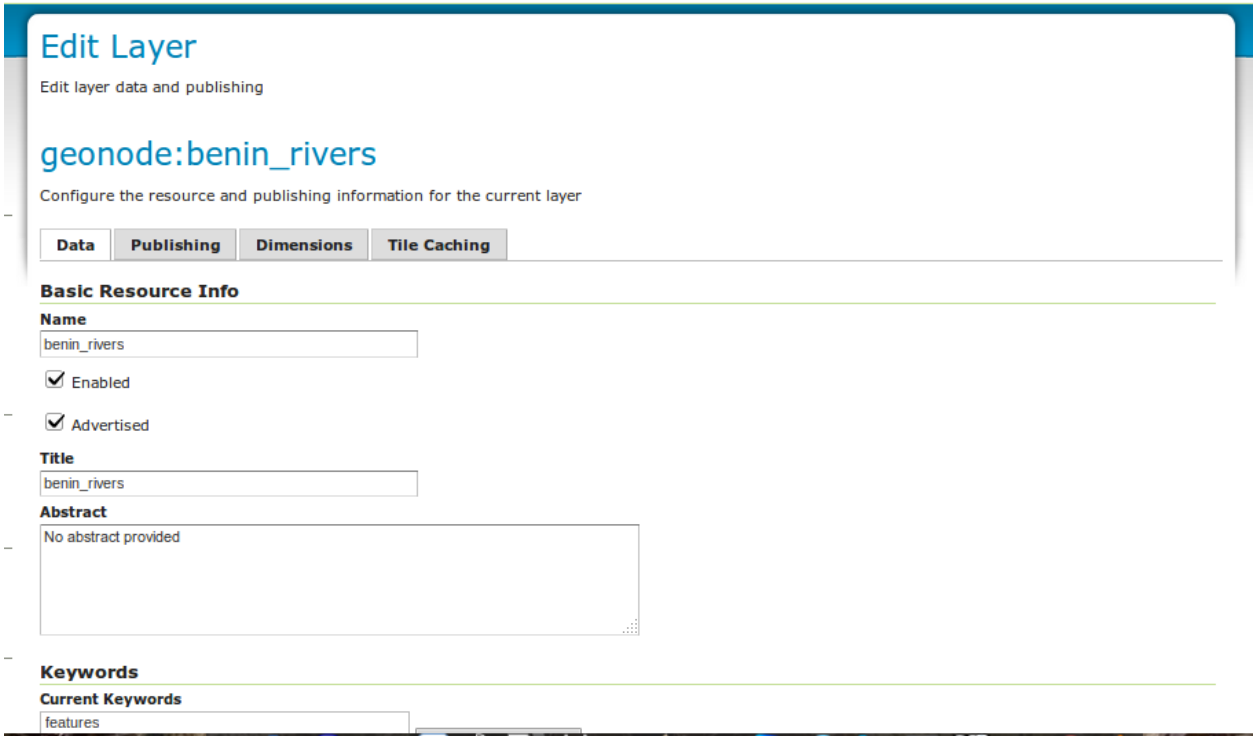


Figure 1.6:*Basic Resource Information*

3. Generate the layer's bounding boxes by clicking the *Compute from data* and then *Compute from Native bounds*.

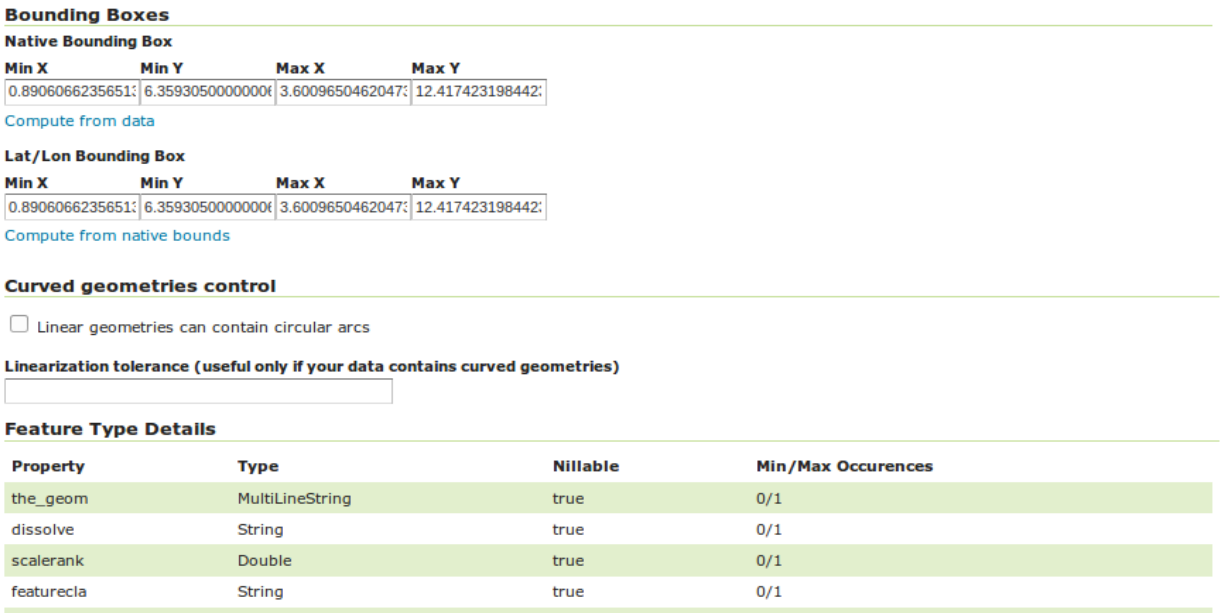


Figure 1.7:*Generate Bounding Boxes*

4. Set the layer's style by switching to the Publishing tab.

5. Select the line style from the Default Style drop down list.

6. Finalize the layer configuration by scrolling to the bottom of the page and clicking
Save.

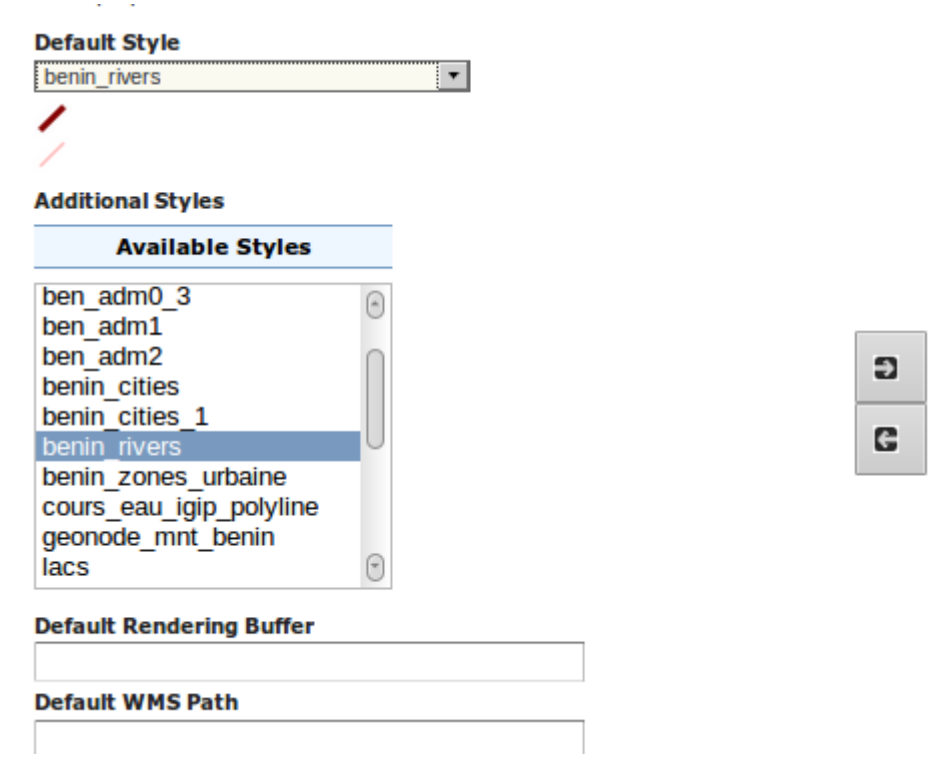


Figure 1.8:*Select default style*

2.5 Preview the Layer

1. In order to verify that the benin_rivers layer is published correctly you can preview the layer. Navigate to the Layer Preview screen and find the geonode:benin_rivers layer.

2. Click on the OpenLayers link in the Common Formats column.

3. Success! An OpenLayers map loads in a new page and displays the Shapefile data with the default line style. You can use the Preview Map to zoom and pan around the dataset, as well as display the attributes of features.

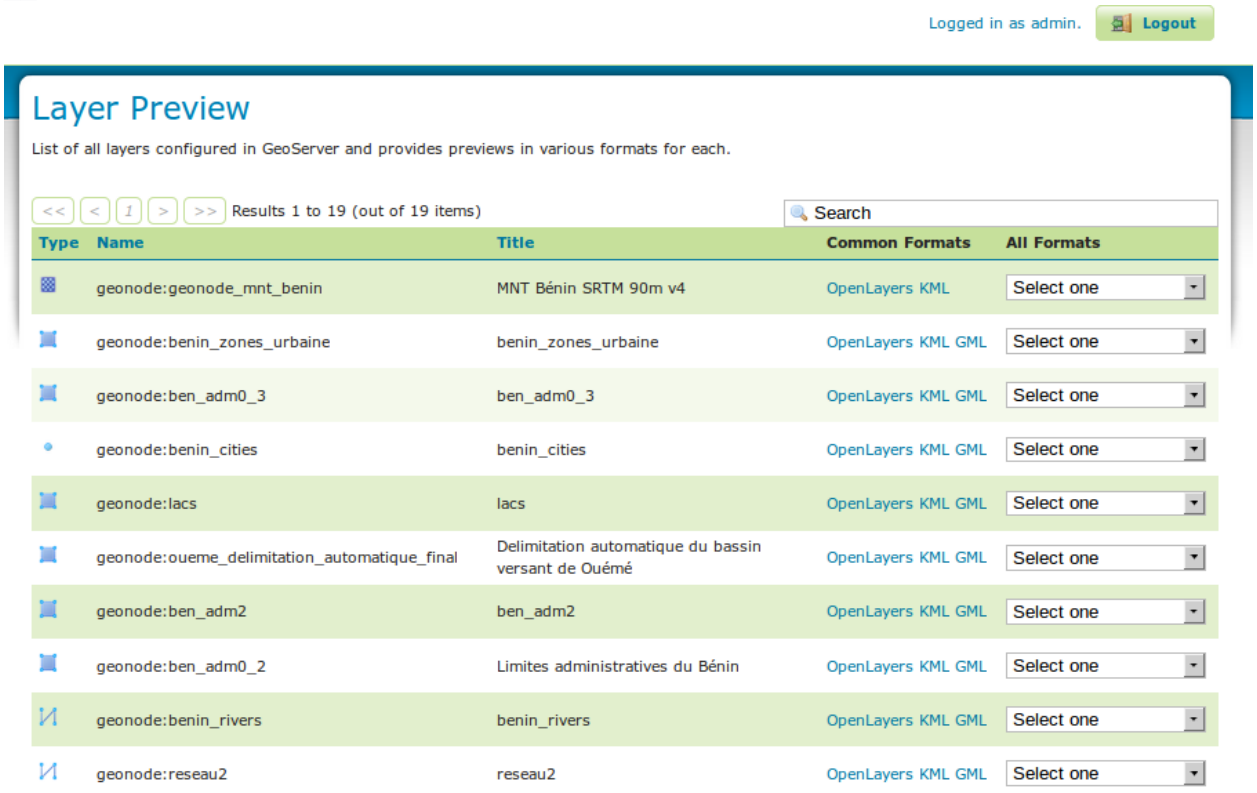


Figure 1.9:*Layer Preview*

Figure 1.10: *Preview map of benin_rivers*

3.Publishing data with Geonode

This second part involves steps of publishing a map with Geonode.

3.1 Adding layers

1. Click the *Maps* link on the top toolbar. This will bring up the list of maps.

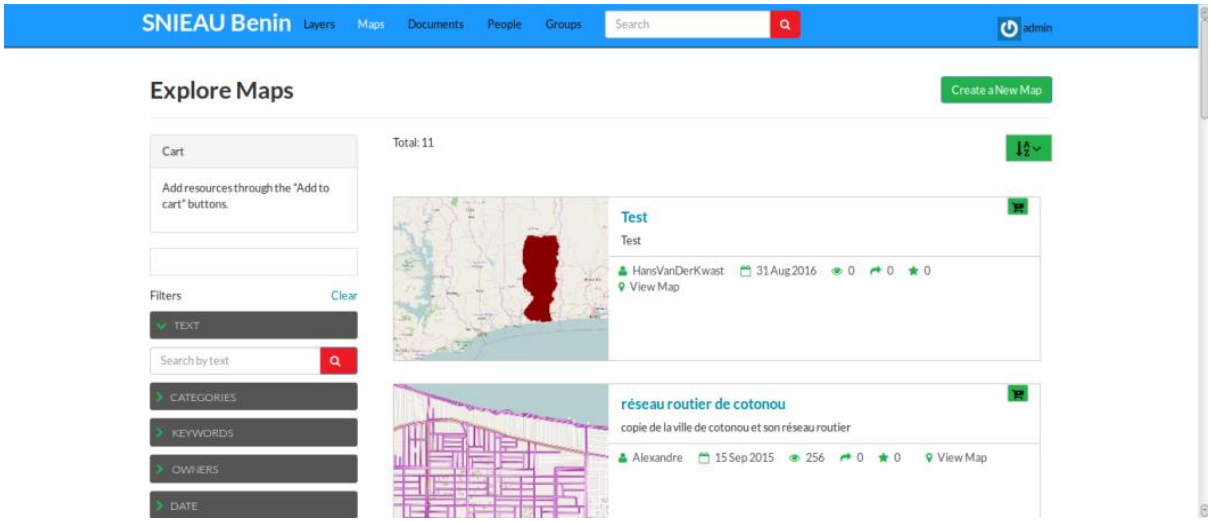


Figure 1.11: *Maps page*

2. Click the *Create a New Map* button.
3. A map composition interface will display.

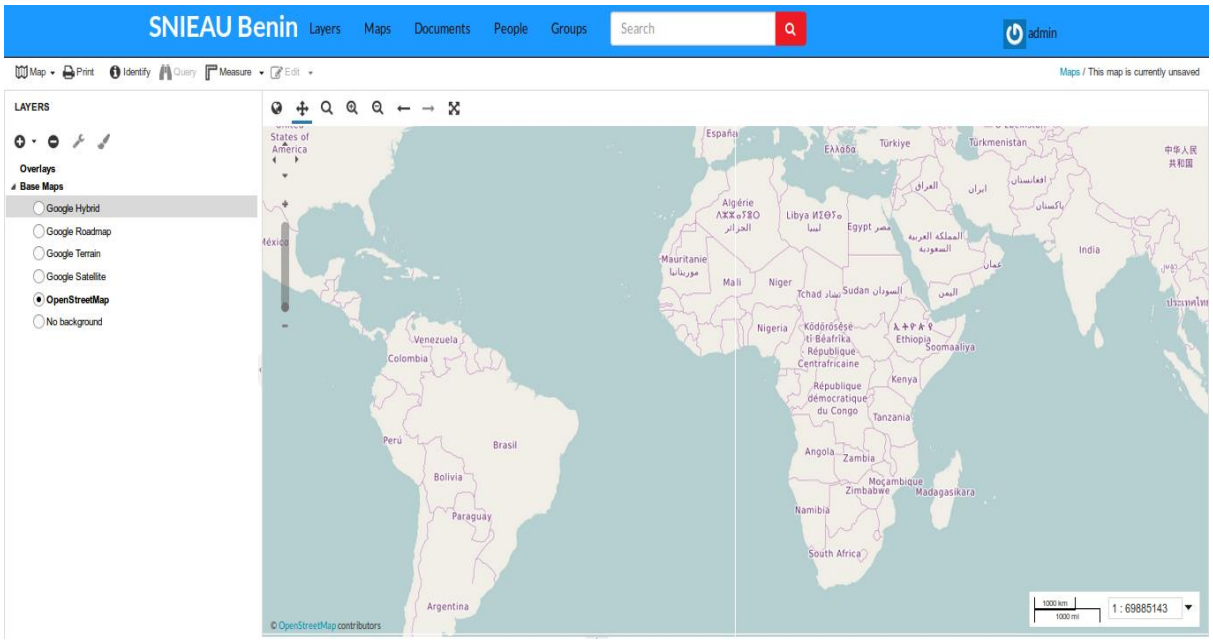


Figure 1.12: *Create maps interface*
In this interface there is a toolbar, layer list, and map window. The map window contains the OpenStreetMap layer by default. Also Google satellite, Google hybrid, Google terrain and Google roadmap base maps have been added.

4. Click on the *New Layers* button and select *Add Layers*.

Figure 1.13: *Add layers link.*

5. Select `ben_adm1` layer by clicking the top entry. Click *Add Layers* to add the layer to the map.

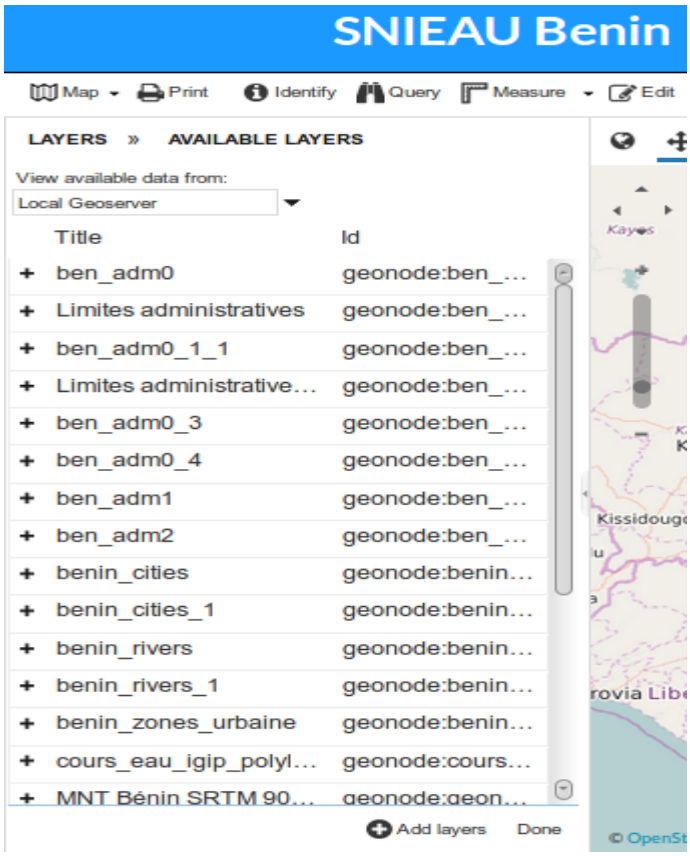


Figure 1.14: *Selecting layers.*

6. The layer will be added to the map. Click *Done* (right next to *Add Layers* at the bottom) to return to the main layer list.

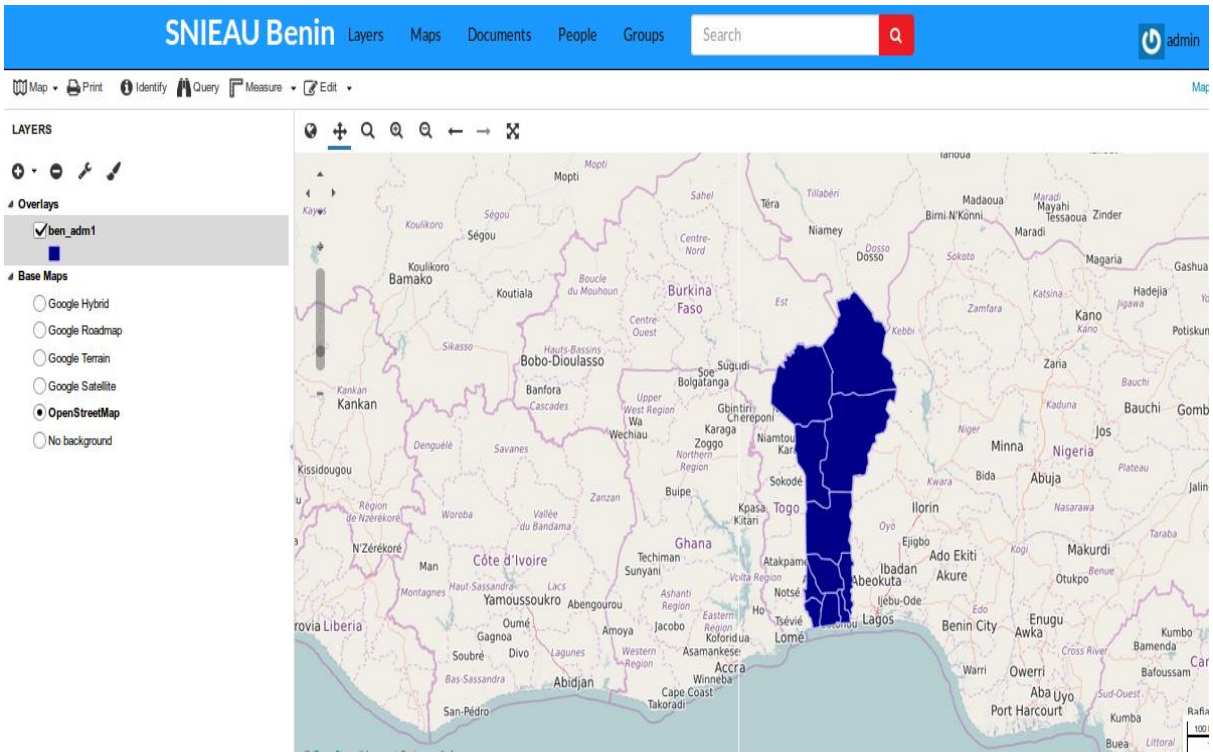


Figure 1.15: *Layer added to the map*

3.2 Saving map

7. Click on the *Map* button in the toolbar, and select *Save Map*.

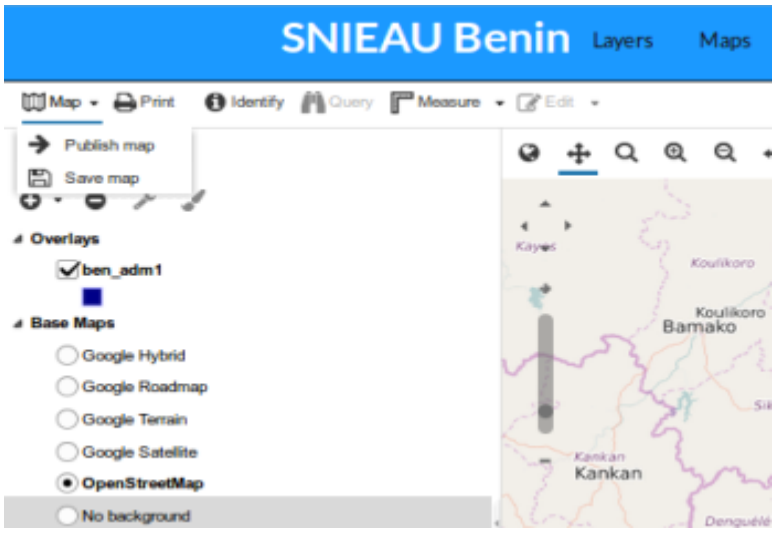


Figure 1.16: *Save map link*

8. Enter a title and abstract for your map.

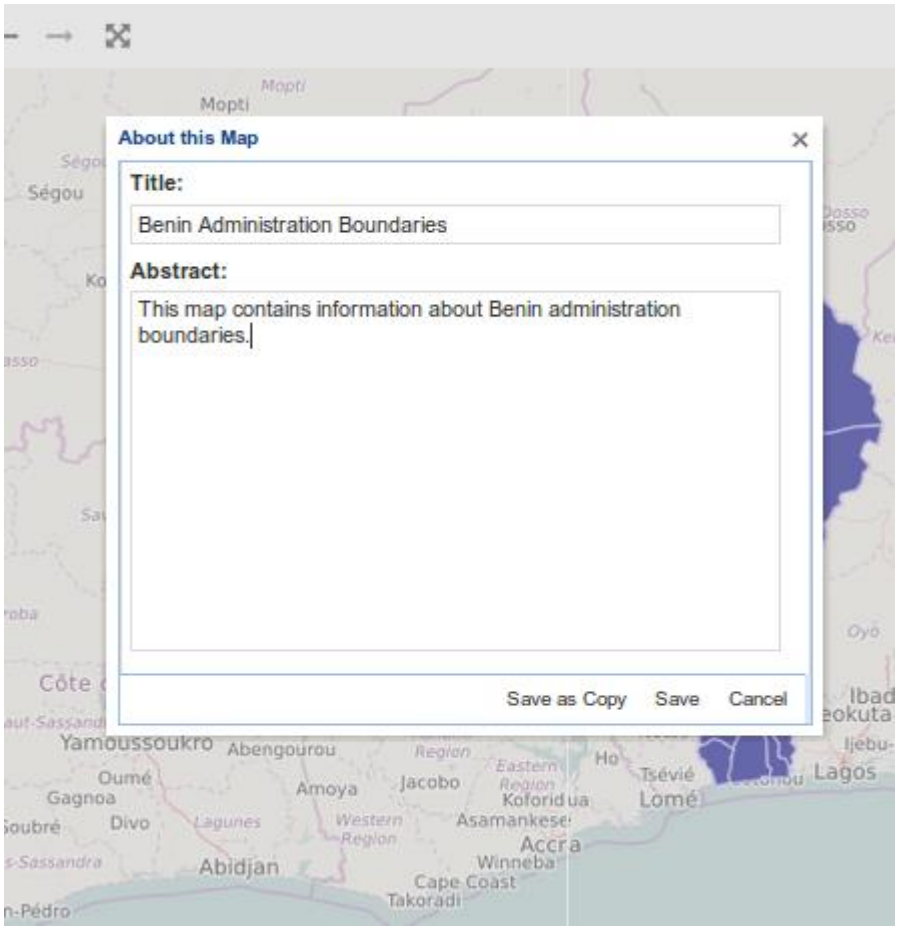


Figure 1.17: *Save map dialog*

9. Click Save.

3.3 Publishing the map

10. Make any final adjustments to the map composition as desired, including zoom and pan settings.

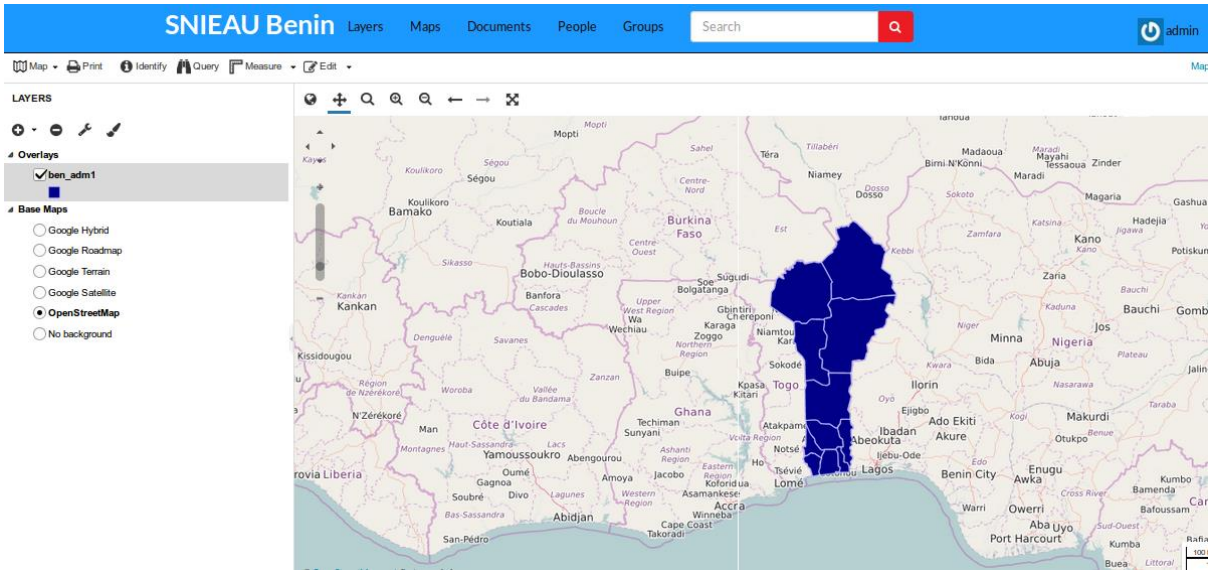


Figure 1.18: *Adjusting map composition*

11. Click the *Map* button in the toolbar, and then click *Publish Map*.

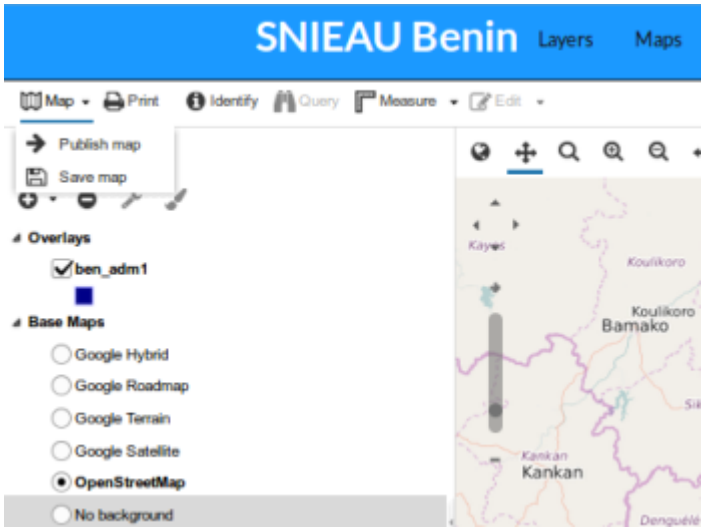


Figure 1.19: *Publish map link*

12. The title and abstract as previously created should still be there. Make any adjustments as necessary, and click *Save*.

13. A new dialog will appear with instructions on how to embed this map in a webpage, including a code snippet. You can adjust the parameters as necessary.

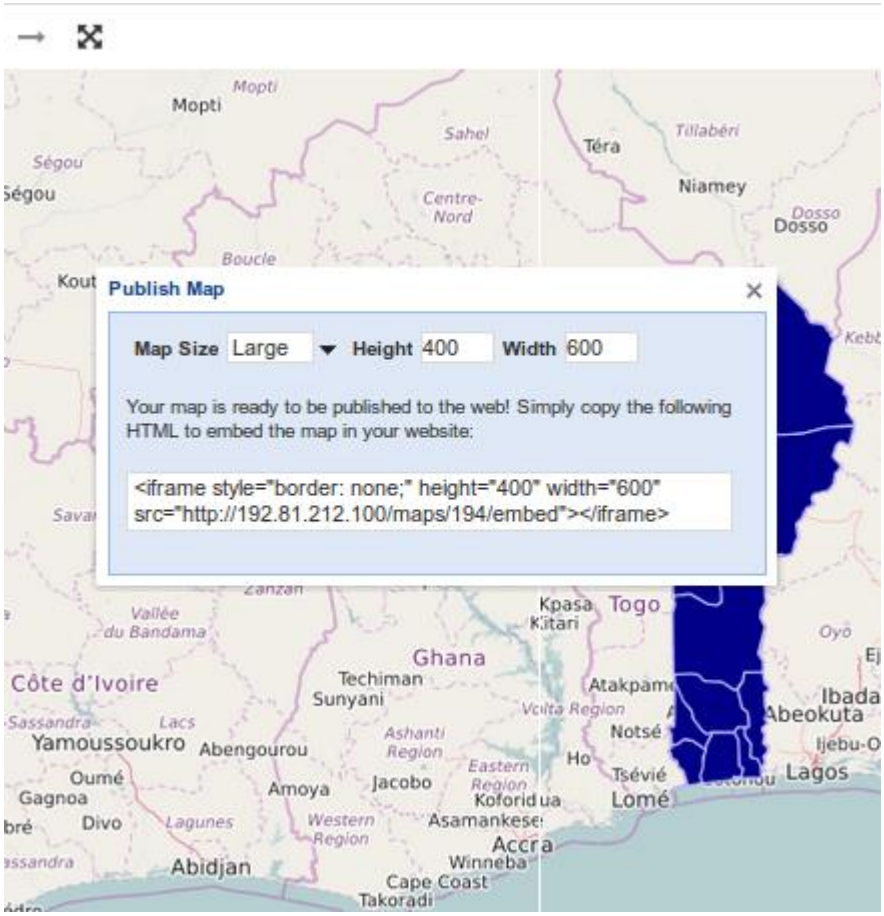


Figure 1.20: *Map publishing options*

Your map is now published and can now be shared.