

FRIENDLY EDITING WFS-T



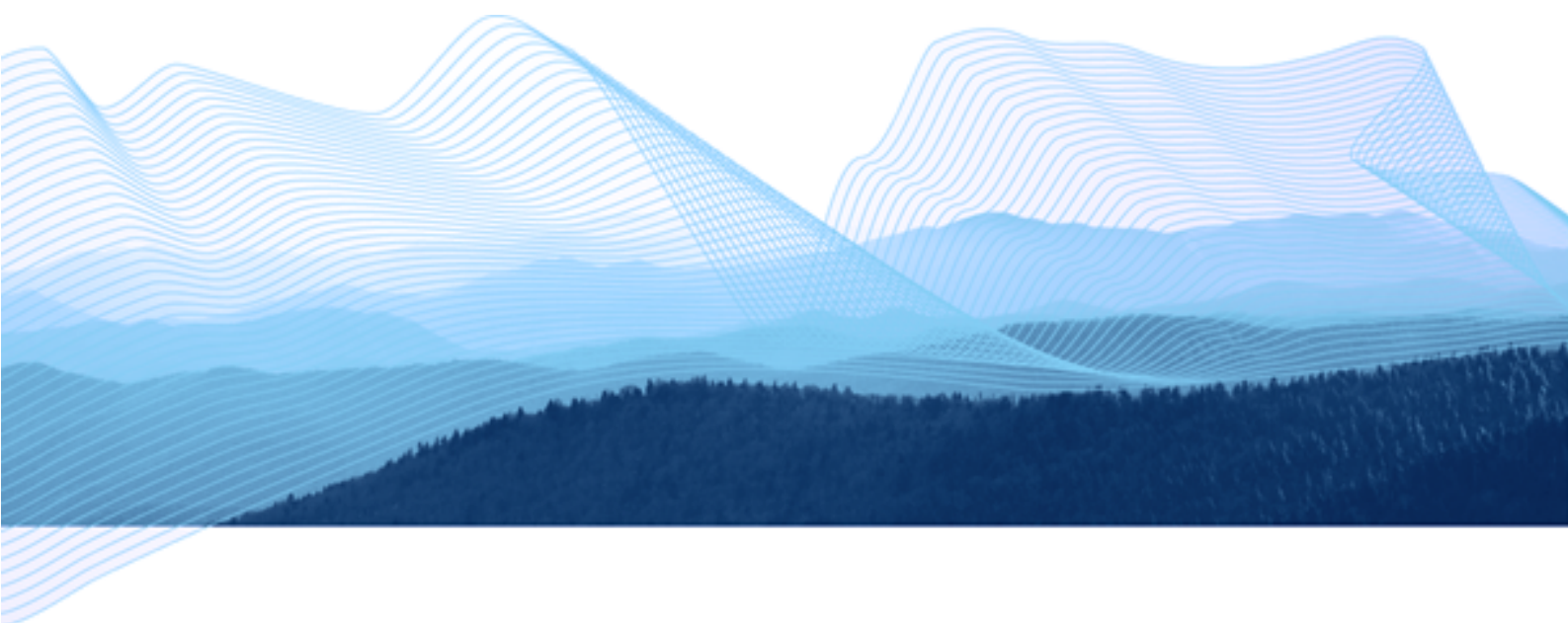
A Friendly Survey of Popular Geospaital Services

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HydroloGIS
Environmental Engineering

TABLE OF CONTENTS

1 Welcome.....	3
2 WMS and WFS Integration.....	4
3 Editing Geometry with WFS.....	8
4 Working with Attributes.....	11
5 Exporting to Shape file.....	14
6 What to Do Next.....	15

1 WELCOME

In this workbook we are going to cover a couple of topics. The first is a tour of Web Feature Server functionality using the GeoServer on the LiveDVD. We will use a WFS to edit both feature geometry and feature attributes. We will also show how to export information out of a WFS using both a local shape file and the system clip board.

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Jody is the lead uDig architect and on the steering committee for GeoTools; GeoServer and uDig. Jody Garnett is an employee of LISAsoft with a background in training and mentoring.

Mark Leslie

Mark has broad experience at LISAsoft integrating proprietary and open source solutions. An active PostGIS committer he has developed and extended software across the Open Source Geospatial stack, including UMN MapServer, PostGIS, uDig and GeoTools.

Andrea Antonello

Andrea from HydroloGIS develops geospatial open source solutions for environmental analysis. Andrea is well known as the lead developer of the JGrass project and is part of the uDig project steering committee.

2 WMS AND WFS INTEGRATION

In this section we will use uDig to display contents from our local GeoServer using both Web Map Service (pictures!) and Web Feature Server (data!).

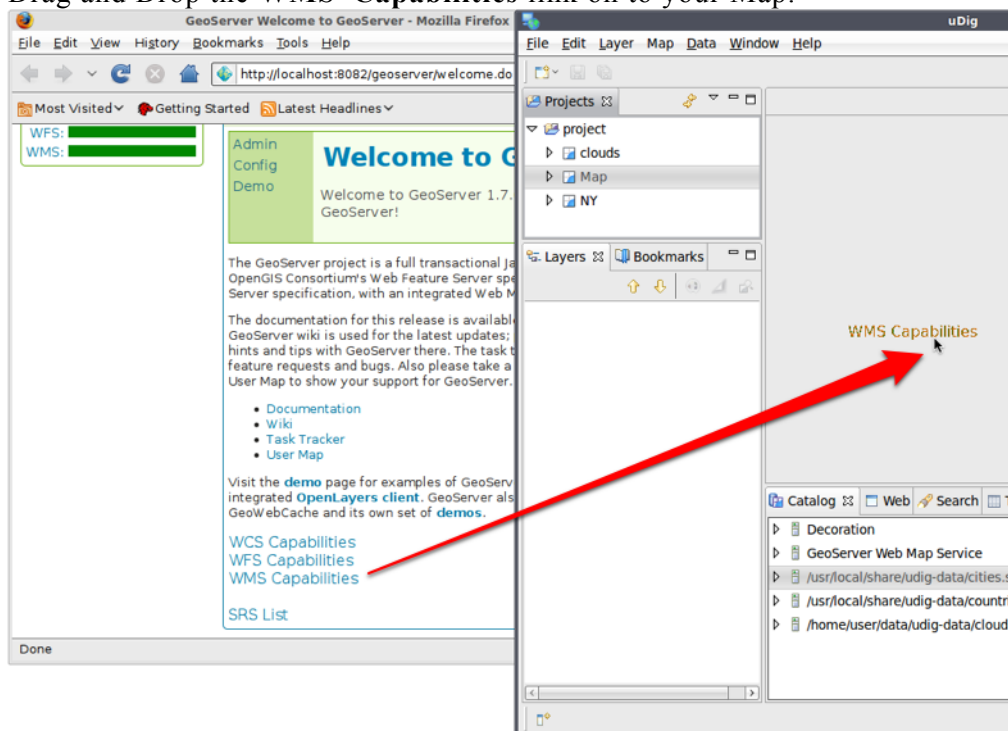
You can run this workbook from the LiveDVD; or use the windows installers for uDig and GeoServer included on the DVD.

We will also make use of some of the more interesting selection capabilities.

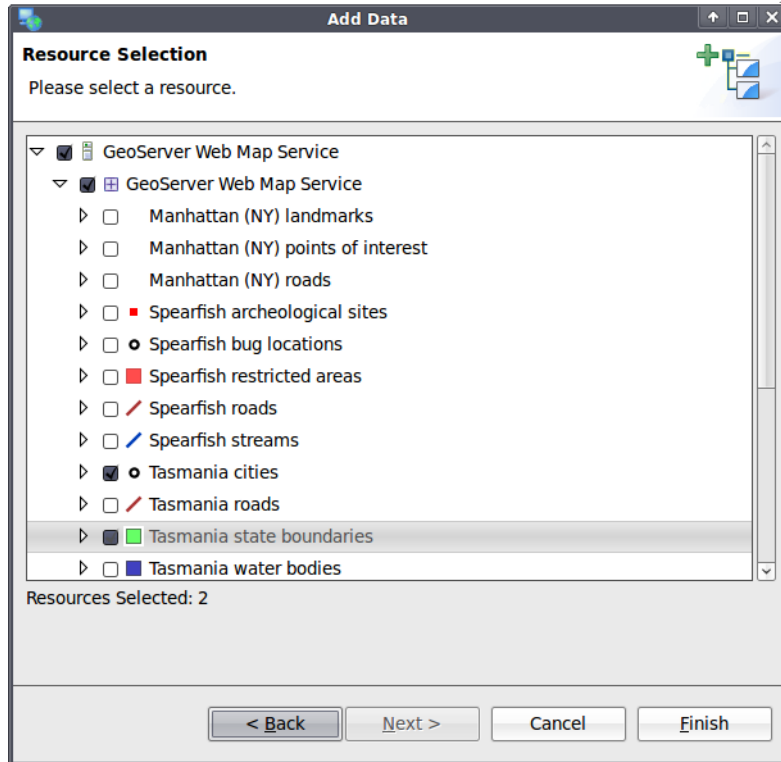
1. In the **uDig**, under the **File** menu select **New-> New Map** to create a new map.
2. Make sure your local GeoServer is started and ready to go.
3. Navigate to that GeoServer **Welcome** page:

<http://localhost:8082/geoserver/>

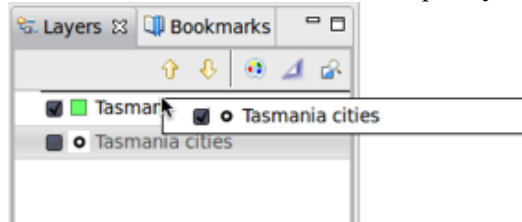
4. Drag and Drop the **WMS Capabilities** link on to your Map.



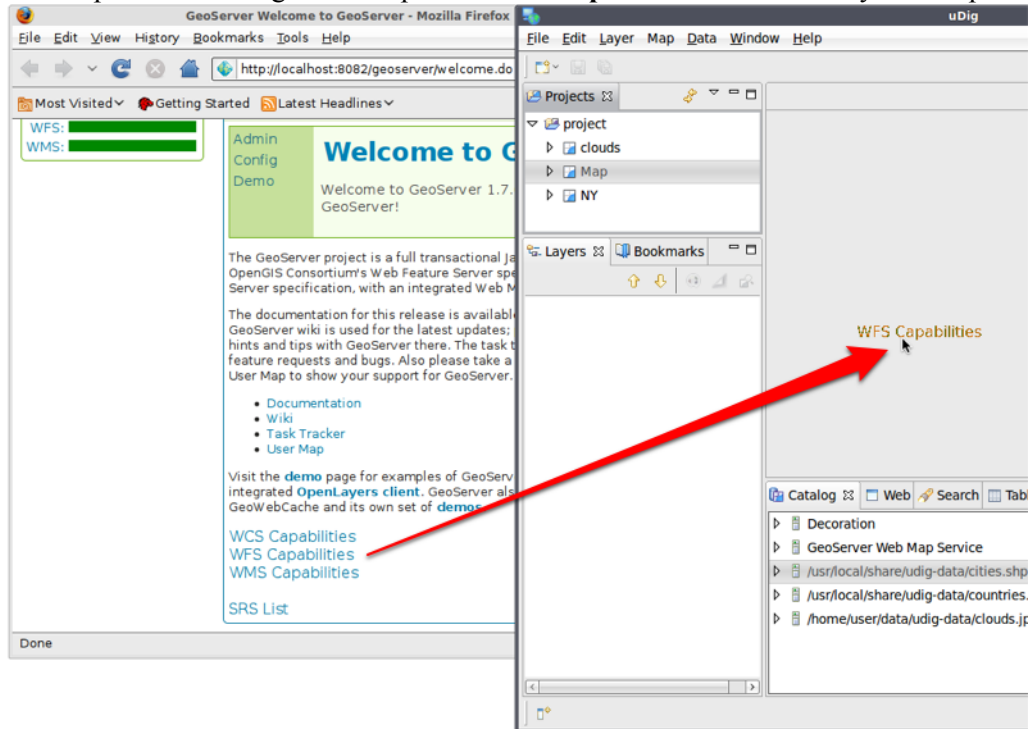
5. This will bring up a Wizard allowing you to choose which Layers you wish to see. Select **Tasmania cities** and **Tasmania boundaries** and then press the **Finish** button.



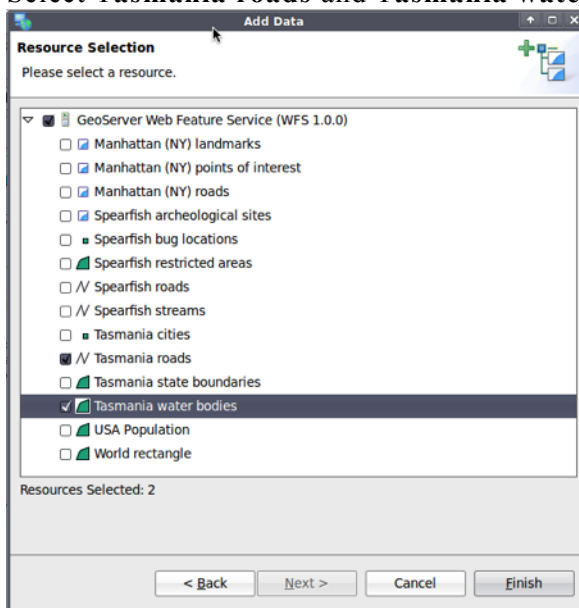
6. The layers will be added to your Map.
(You may need to select **Navigation** > **Show All** or zoom to the correct area)
7. Move **Tasmania cities** to the top of your layers view.



8. Next up we will Drag and Drop the **WFS Capabilities** link on to your Map.

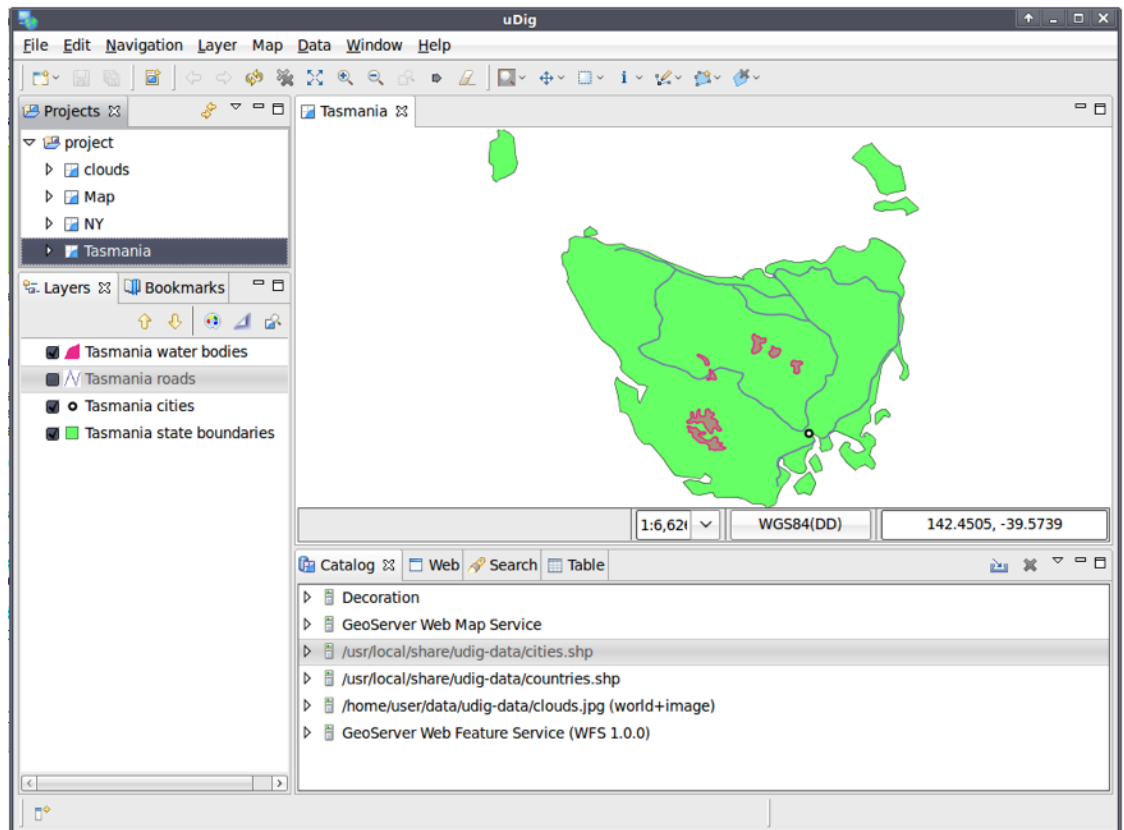


9. This will bring up a Dialog allowing you to choose which Layers you wish to see. Select **Tasmania roads** and **Tasmania water bodies** and press the **Finish** button.

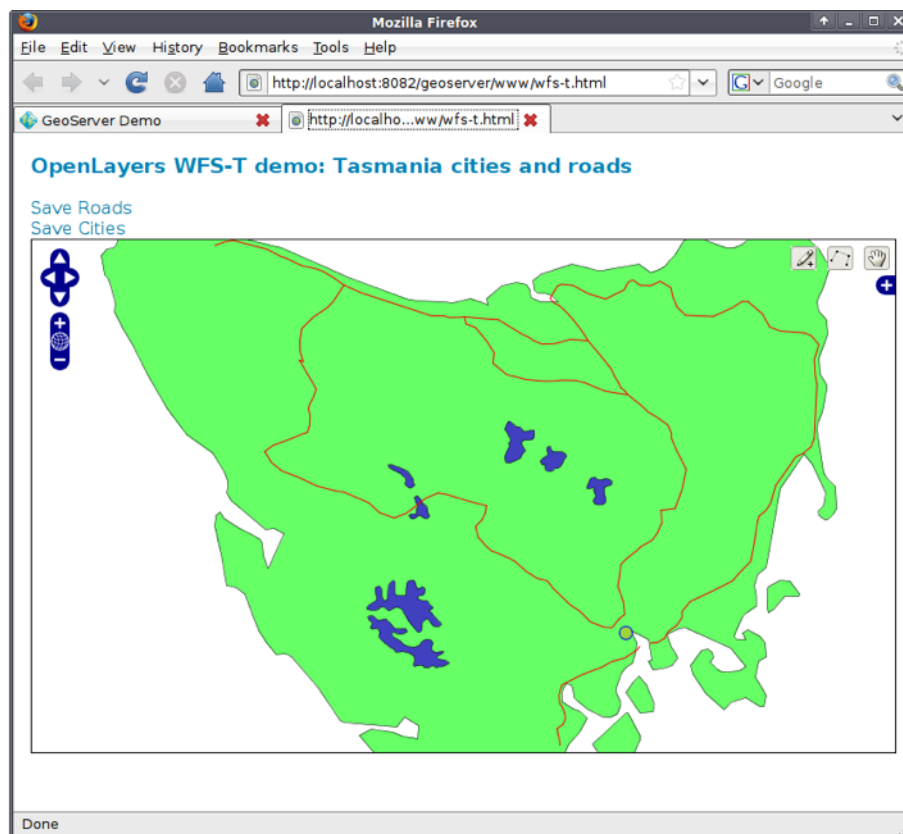


10. Select the Map in the projects view and choose **File->Rename** menu item. Rename to **Tasmania**.

You may wish to adjust the styles so that lakes are blue as shown in the picture.



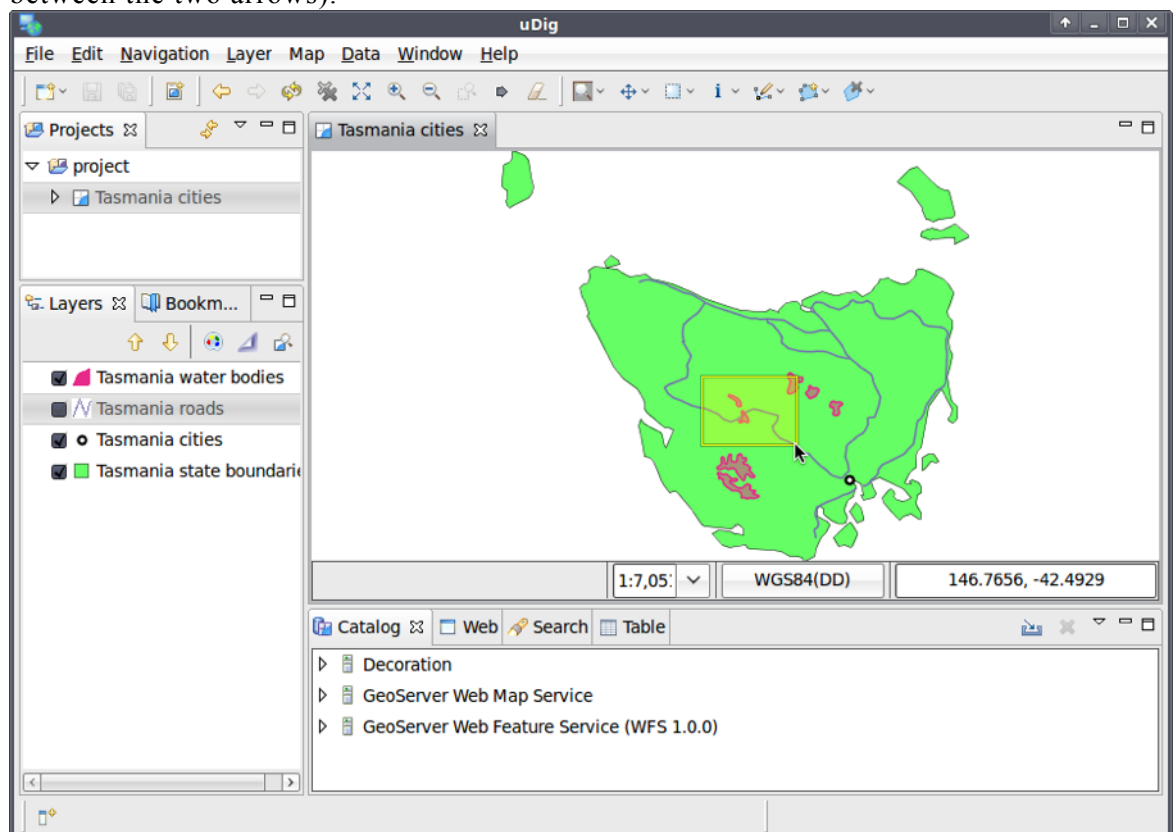
11. You can compare your map with what is shown in the OpenLayers demonstration page
- <http://localhost:8082/geoserver/www/wfs-t.html>



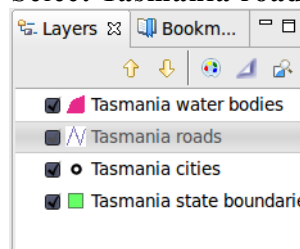
3 EDITING GEOMETRY WITH WFS

We will use the Edit Geometry tool to move the road around the lake.

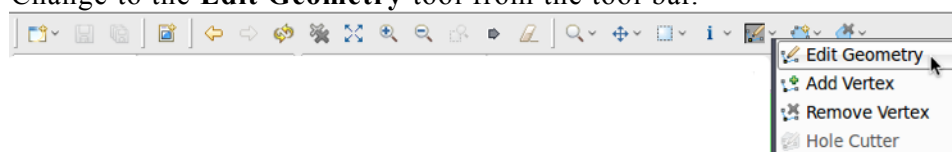
1. Zoom into the road that is crossing the lake in the center of the country (draw a box between the two arrows).



2. Select **Tasmania roads** in the **Layers** view.

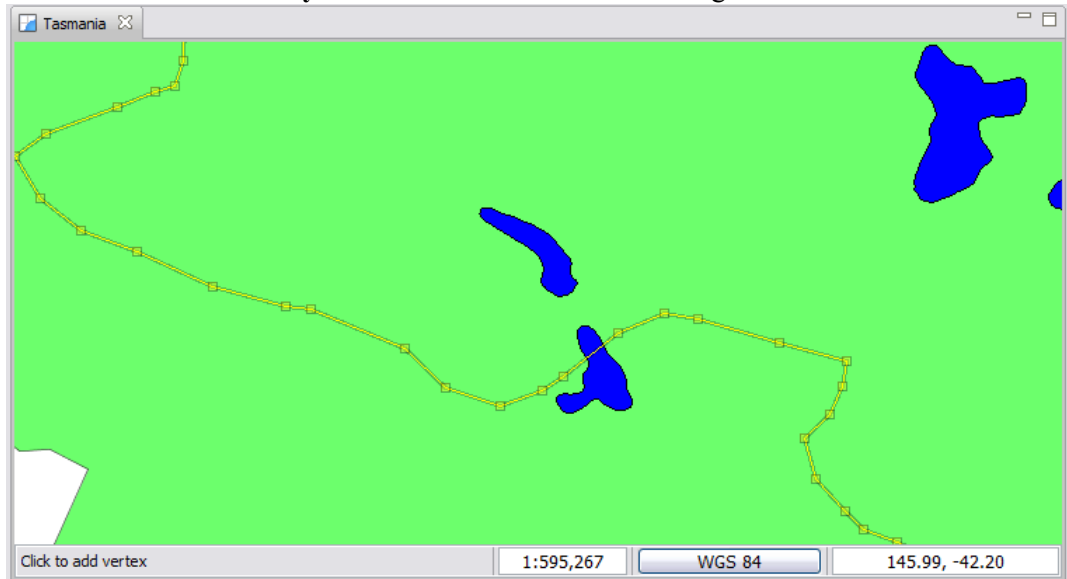


3. Change to the **Edit Geometry** tool from the tool bar.



You can use the keyboard short-cut 'e' to choose the edit tool

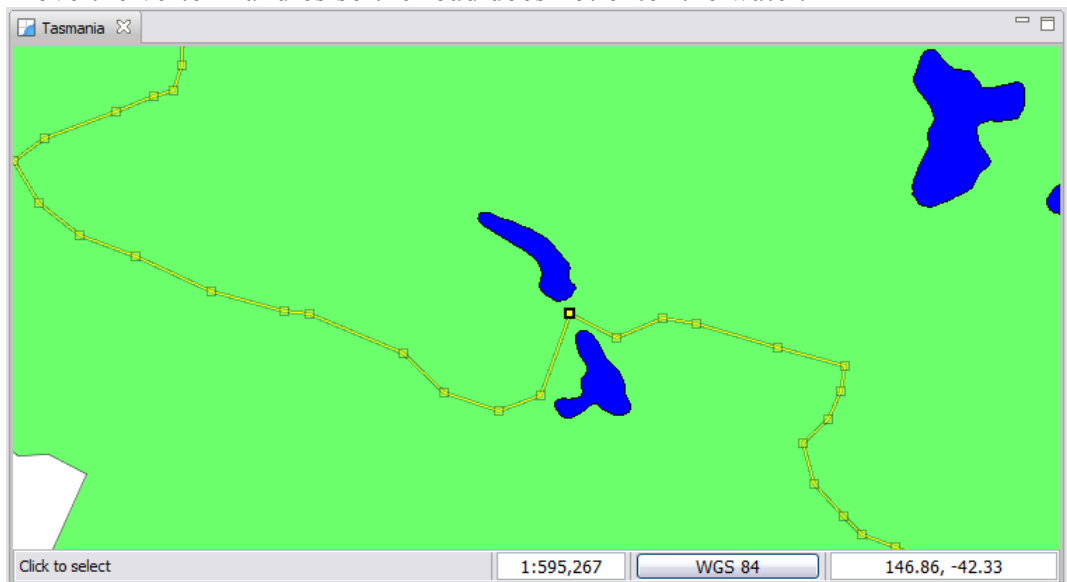
4. Use the **Edit Geometry** tool to select the road crossing the lake.



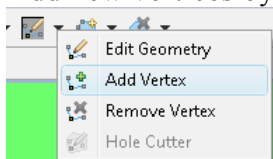
The road will change color and develop “vertex handles”.

5. Move the vertex handles so the road does not enter the water.

By default no snapping takes place. We will show how to turn on snapping later in this workbook.

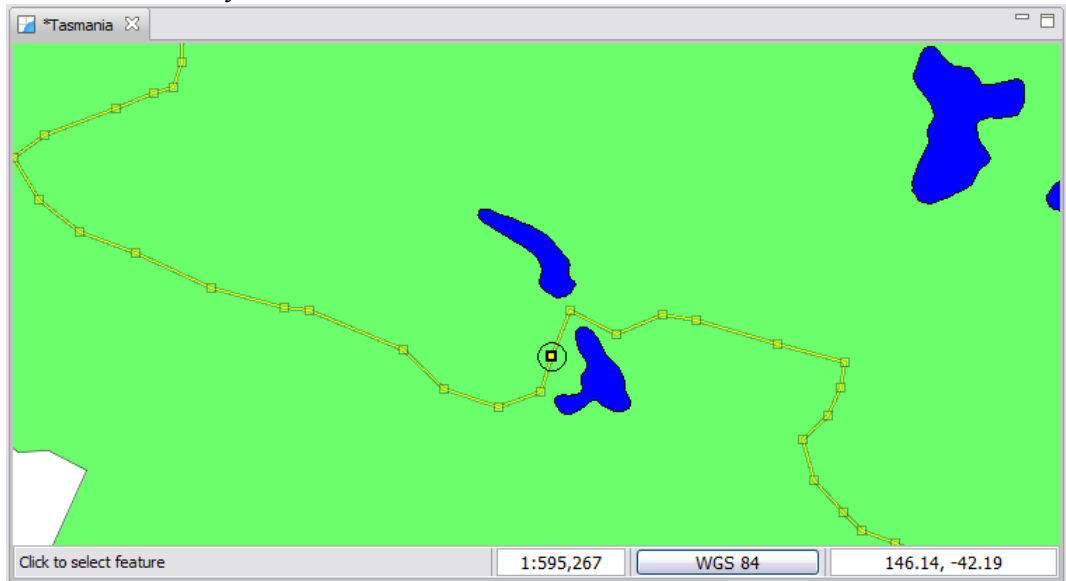


6. Add new vertices by switching to the **Add Vertex** tool:



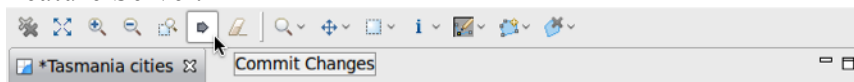
7. You can click anywhere on the road to add a new vertex.

You can cycle through the available edit tools by pressing “e”.



8. Press the **Commit Changes** button in the tool bar to send your changes off to the Web Feature Server.

You may also press Revert (

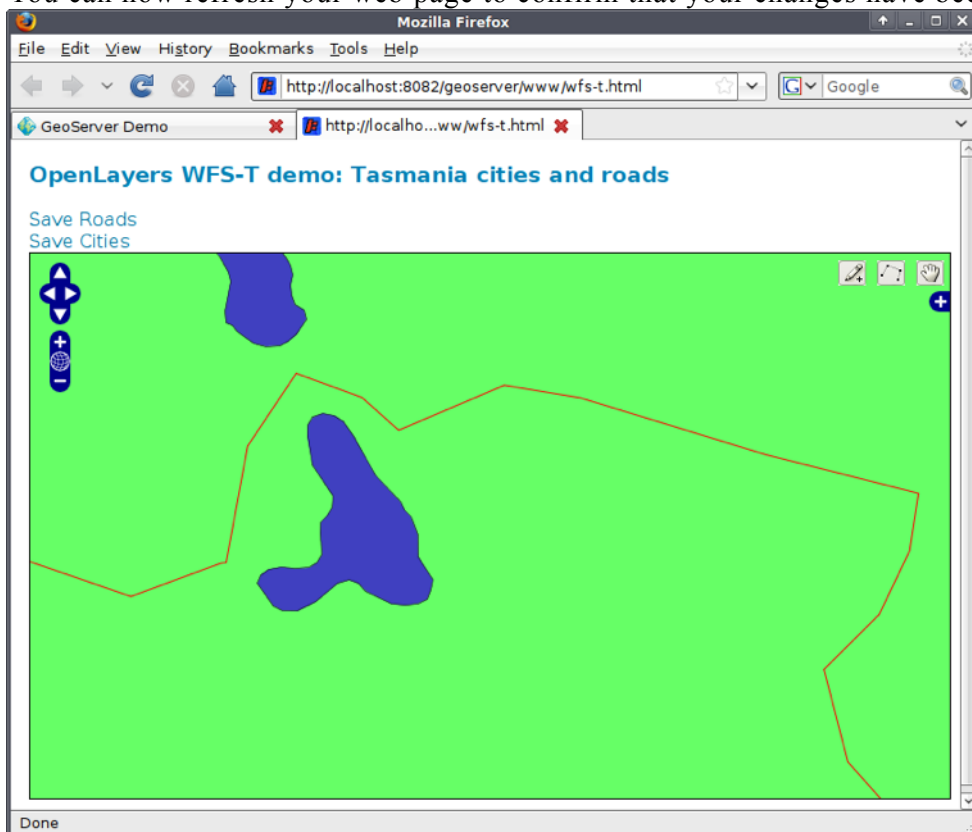


in the tool bar)

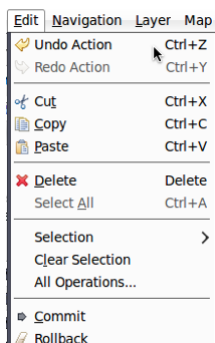
9. Your line has now been moved.

to rollback any changes you have made.

10. You can now refresh your web page to confirm that your changes have been made.



You can use Undo and Redo in the Edit Menu while editing.



- **GeoServer with Open Layers**
<http://localhost:8082/geoserver/www/wfs-t.html>

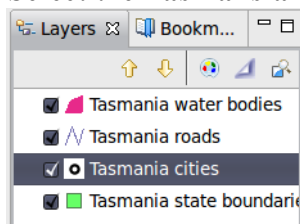
11. You can edit many Features at once, from different layers, or from different sources of data. Pressing **Commit Changes** will send off all the changes made in the current map.

4 WORKING WITH ATTRIBUTES

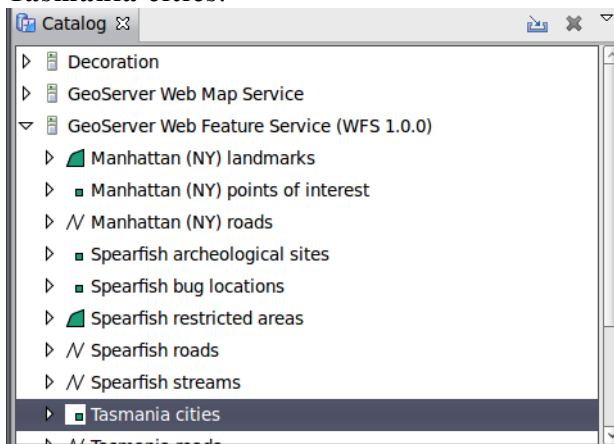
In this section you will learn how to edit an Attribute, along the way we will explore the use of styling.

To start out with let's figure out the name of that city:

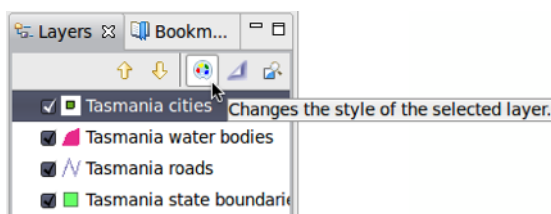
1. Select **Navigation > Show All** from the menu bar.
2. Select the **Tasmania cities** in the Layers View.



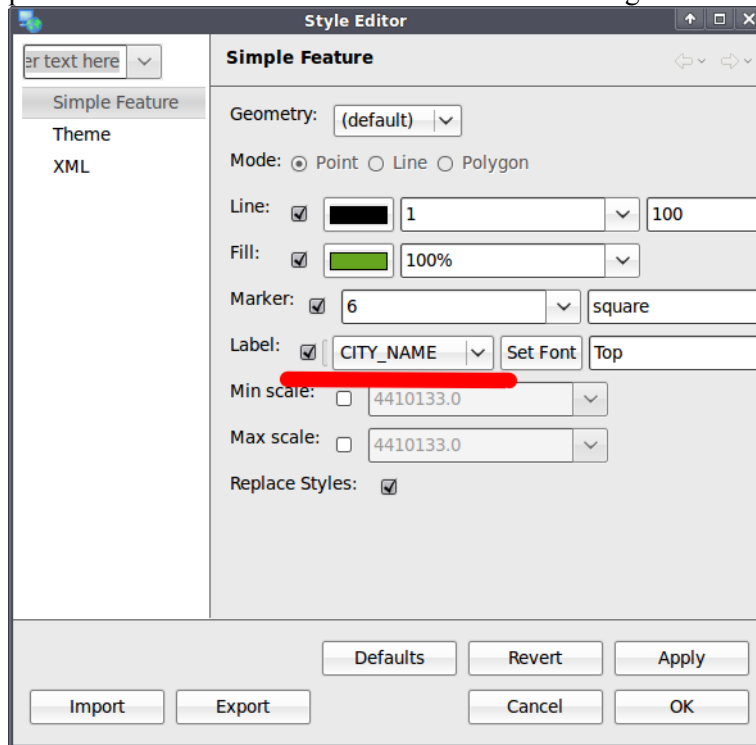
3. Select the **Edit > Delete** command from the menu bar
4. In the **Catalog** view expand the **GeoServer Web Feature Service** entry and select **Tasmania cities**.



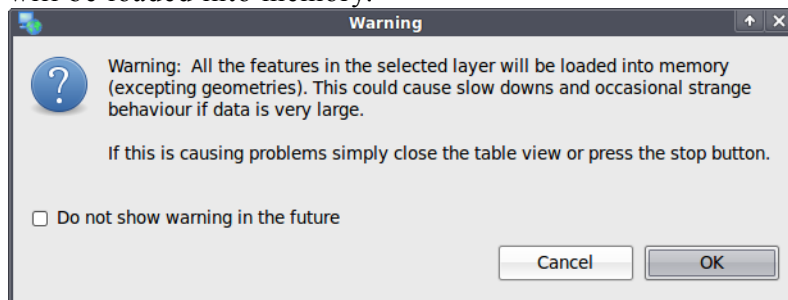
5. Right Click and select **Add to Current Map**.
6. Select **Tasmania cities** in the **Layers** view, and click on **Change Style**.



- This opens the **Style Editor**. Select “**Simple**” from the list on the left hand side, and place a check next to “**Label**” to enable labeling.



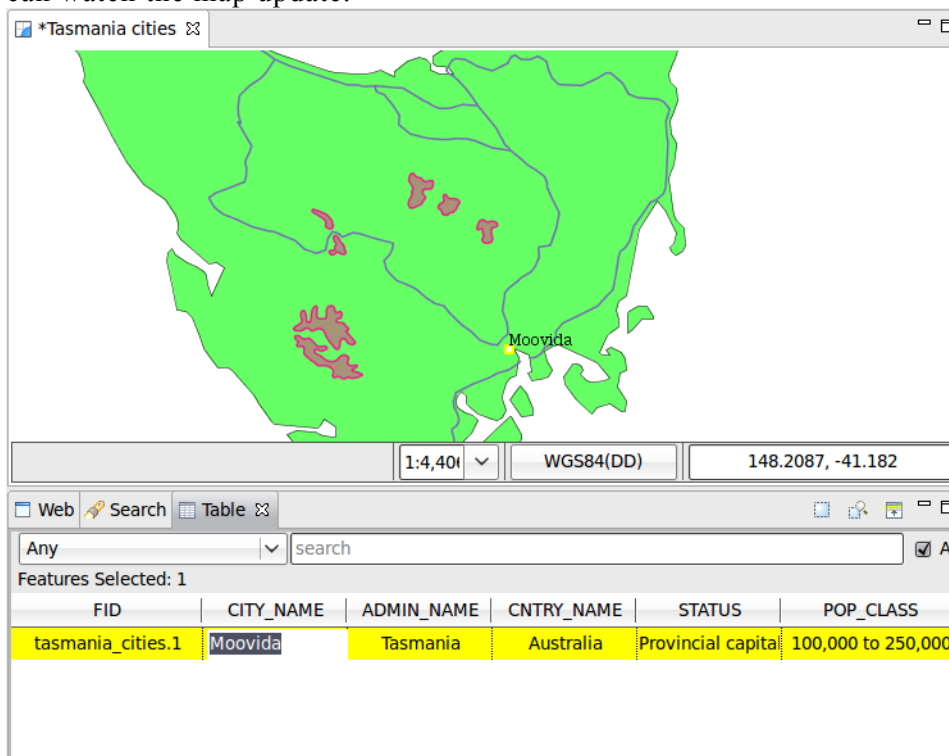
- After making changes, hit the **Apply** button to update the map, you can experiment with the settings if you like, and press OK when you are finished.
- Ensure that **Tasmania cities** is still selected in the **Layers** view, and select the **Table** view.
- The first time you use table view you will need to accept a warning that all the features will be loaded into memory.



- The Table view shows all the features for the current layer.

Web	Search	Table				
Any		search			A	
Features Selected: 0						
FID	CITY_NAME	ADMIN_NAME	CNTRY_NAME	STATUS	POP_CLASS	
tasmania_cities.1	Hobart	Tasmania	Australia	Provincial capital	100,000 to 250,000	

12. Go ahead and rename the city after yourself. Change the CITY_NAME attribute and you can watch the map update.

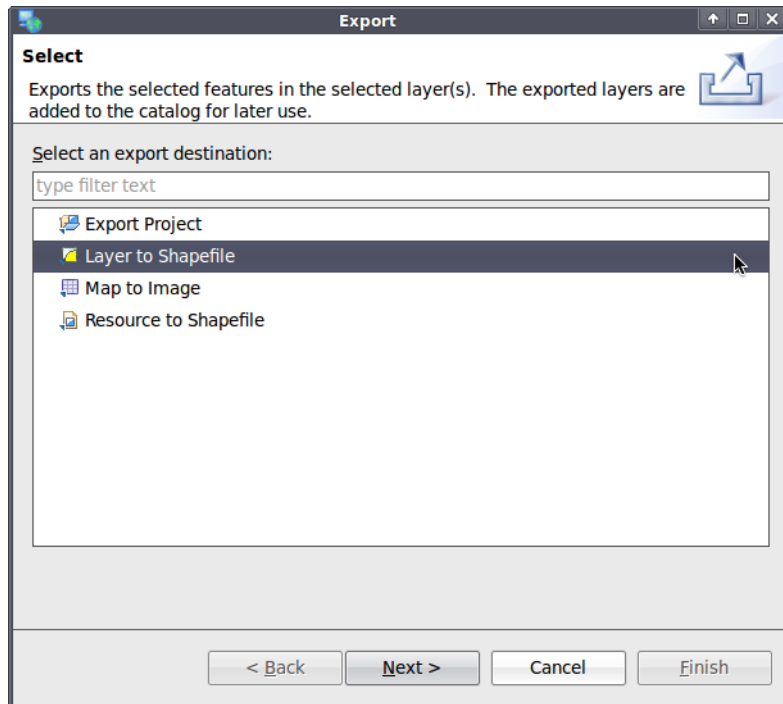


13. Press the **Commit Changes** button, in the tool bar, to send your changes off to the Web Feature Server.

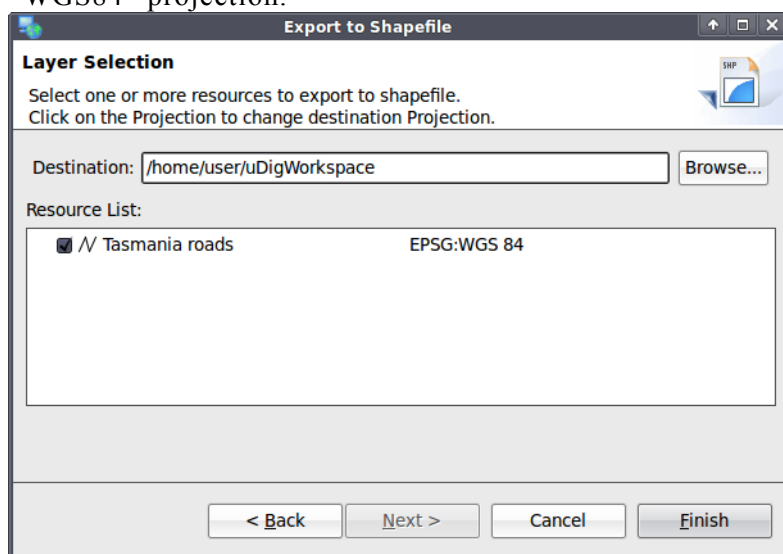
5 EXPORTING TO SHAPE FILE

In addition to editing content from many sources, you can also export content to a shapefile.

1. With the **Tasmania roads** selected, choose **File > Export** from the menu bar
2. Select the **Layer to Shapefile** and press **Next**



3. Your new **Tasmania roads** layer will be available for export, you can see that it is in the “WGS84” projection.



*The projection
for your data is
listed to the right.*

*Click on this
value to
transform your
data into a
different
projection.*

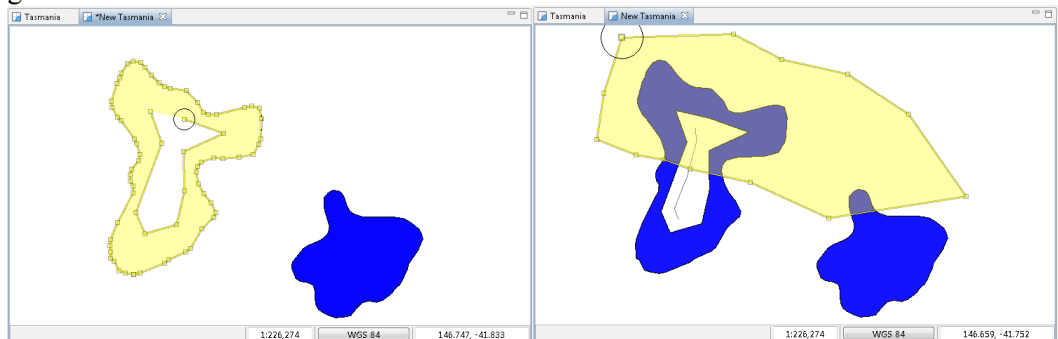
4. Press **Finish** to save the file to disk.

6 WHAT TO DO NEXT

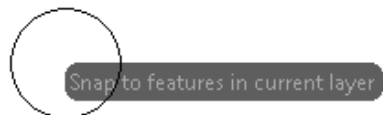
Where to go from here? Try out the following:

- The OpenLayers demo supplied with GeoServer includes the ability to edit, see if you can edit something in the browser and get the change to show up in uDig.
- If you are connected to the Internet try the Web View; there are additional Web Feature Servers listed here in an embedded browser.
- You can press “e” to cycle between the different edit tools. If you would like to try out some polygon editing tools such as Hole Cutter; and Fill the Lakes layer is a good candidate.

The official Walkthrough 2 will go through many of these concepts.

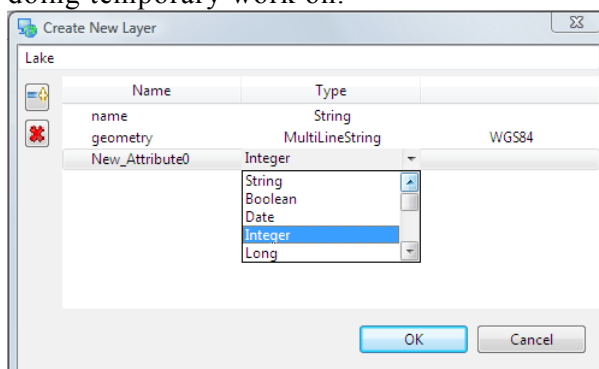


- While editing press CTRL+SHIFT+S to change how snapping works.



(you can explore the options in Windows > Preferences dialog as well)

- Use can use Layer > Create Layer to define a new “scratch” layer for editing; you are asked to Save any scratch layers before closing your map. They are good for doing temporary work on.

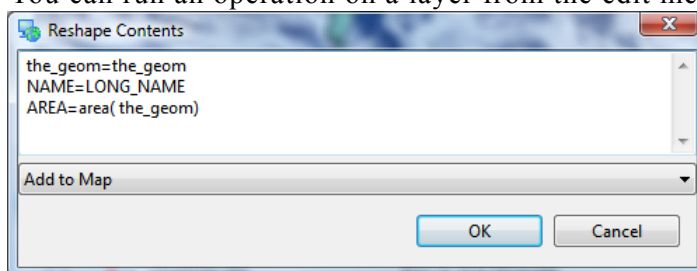


Look at the
“Common Query
Language” in the
online help for a
complete function
list.

In Advanced
mode Edit
Geometry lets you
add points by
clicking along the
line.

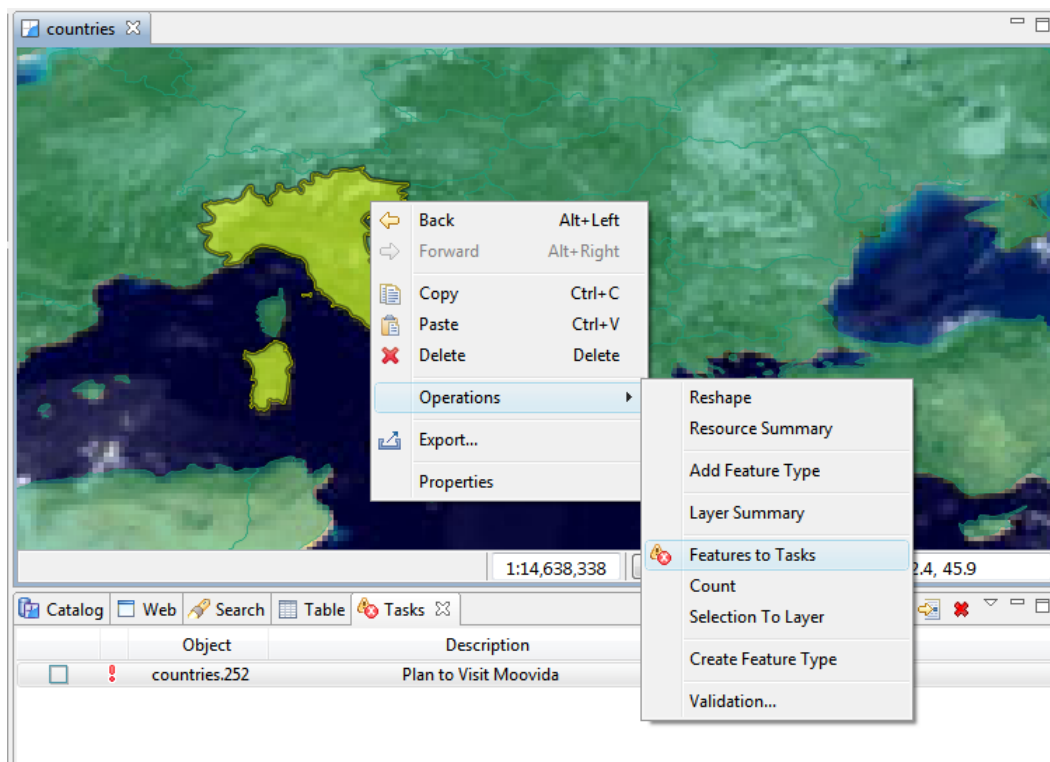
Workflow
components like
the validation
engine can use
the tasks view to
schedule items
for human
review.

- You can run an operation on a layer from the edit menu; or by right clicking.



As an example you can use the **Reshape** operation to reorder and rename attributes and even create new ones using simple formulas

- Enable Advanced Editing Tools in **Windows > Preferences** and see what ideas the developers are considering. You will need to close and open your Map for the new tools to take effect.
- You can define your own issues by right clicking on a selected Feature. In a work group setting your team can use a shared issues list to track and review each failure in turn.



- The uDig community site has additional editing tools.
Try out the tools provided by Axios.

What ideas do these exercises give you? How can you use PostGIS, GeoServer and uDig in your organization?