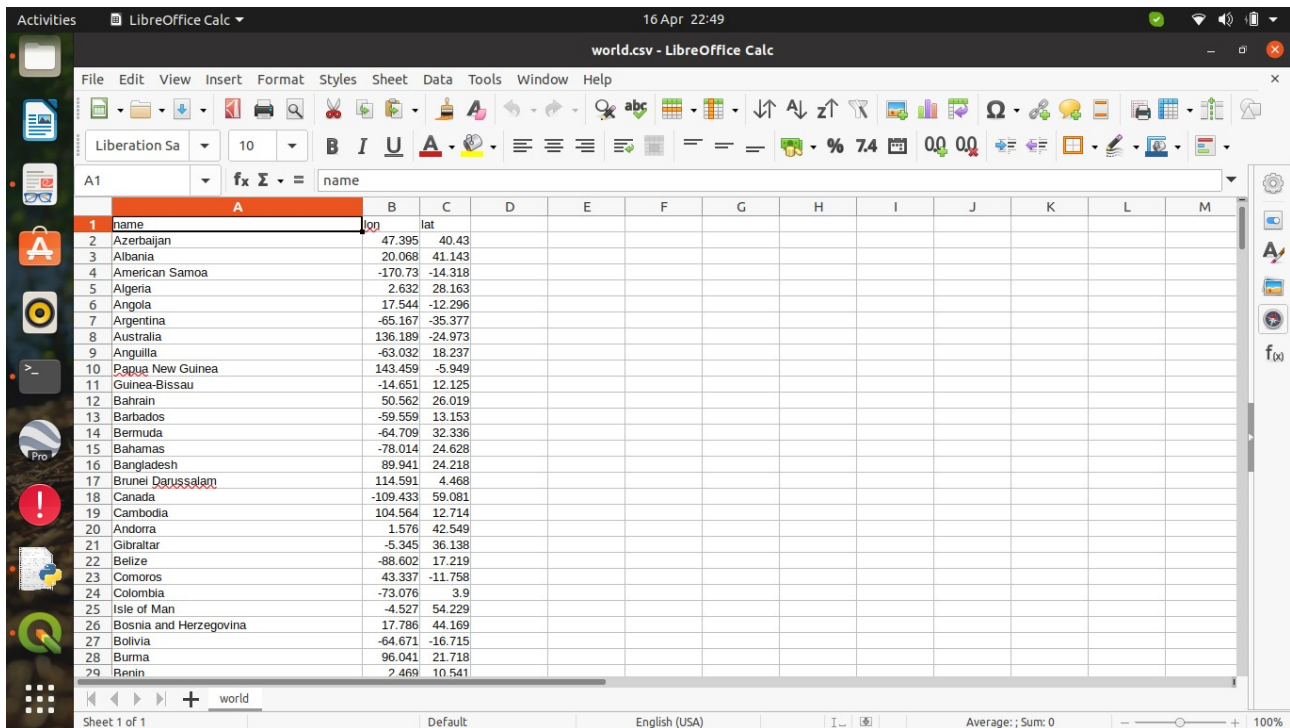


**Title: Create a vector layer out
of Latitude, longitude and a
location-wise characteristics
(for example, name of the
location) data**

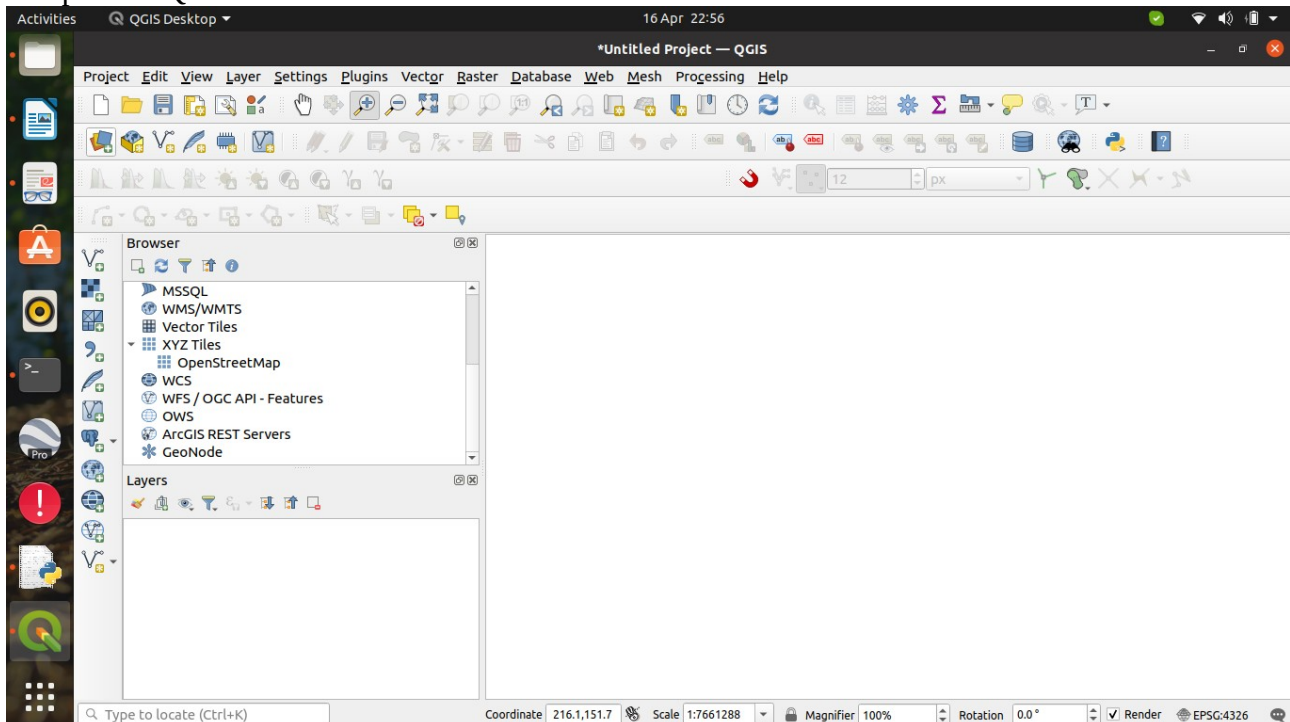
**By
Md. Nazmus Sanib Chowdhury**

1. First look at our used csv file (if you have excel file format, than you can convert it by export as csv in microsoft excel) for this tutorial, our example csv file has 3 column, name, lon and lat.



| | A | B | C | D | E | F | G | H | I | J | K | L | M |
|----|------------------------|----------|---------|---|---|---|---|---|---|---|---|---|---|
| 1 | name | lon | lat | | | | | | | | | | |
| 2 | Azerbaijan | 47.395 | 40.43 | | | | | | | | | | |
| 3 | Albania | 20.068 | 41.143 | | | | | | | | | | |
| 4 | American Samoa | -170.73 | -14.318 | | | | | | | | | | |
| 5 | Algeria | 2.632 | 28.163 | | | | | | | | | | |
| 6 | Angola | 17.544 | -12.296 | | | | | | | | | | |
| 7 | Argentina | -65.167 | -35.377 | | | | | | | | | | |
| 8 | Australia | 136.189 | -24.973 | | | | | | | | | | |
| 9 | Anguilla | -63.032 | 18.237 | | | | | | | | | | |
| 10 | Papua New Guinea | 143.459 | -5.949 | | | | | | | | | | |
| 11 | Guinea-Bissau | -14.651 | 12.125 | | | | | | | | | | |
| 12 | Bahrain | 50.562 | 26.019 | | | | | | | | | | |
| 13 | Barbados | -59.559 | 13.153 | | | | | | | | | | |
| 14 | Bermuda | -64.709 | 32.336 | | | | | | | | | | |
| 15 | Bahamas | -78.014 | 24.628 | | | | | | | | | | |
| 16 | Bangladesh | 89.941 | 24.218 | | | | | | | | | | |
| 17 | Brunei Darussalam | 114.591 | 4.468 | | | | | | | | | | |
| 18 | Canada | -109.433 | 59.081 | | | | | | | | | | |
| 19 | Cambodia | 104.564 | 12.714 | | | | | | | | | | |
| 20 | Andorra | 1.576 | 42.549 | | | | | | | | | | |
| 21 | Gibraltar | -5.345 | 36.138 | | | | | | | | | | |
| 22 | Belize | -88.602 | 17.219 | | | | | | | | | | |
| 23 | Comoros | 43.337 | -11.758 | | | | | | | | | | |
| 24 | Colombia | -73.076 | 3.9 | | | | | | | | | | |
| 25 | Isle of Man | -4.527 | 54.229 | | | | | | | | | | |
| 26 | Bosnia and Herzegovina | 17.786 | 44.169 | | | | | | | | | | |
| 27 | Bolivia | -64.671 | -16.715 | | | | | | | | | | |
| 28 | Burma | 96.041 | 21.718 | | | | | | | | | | |
| 29 | Benin | 2.469 | 10.541 | | | | | | | | | | |

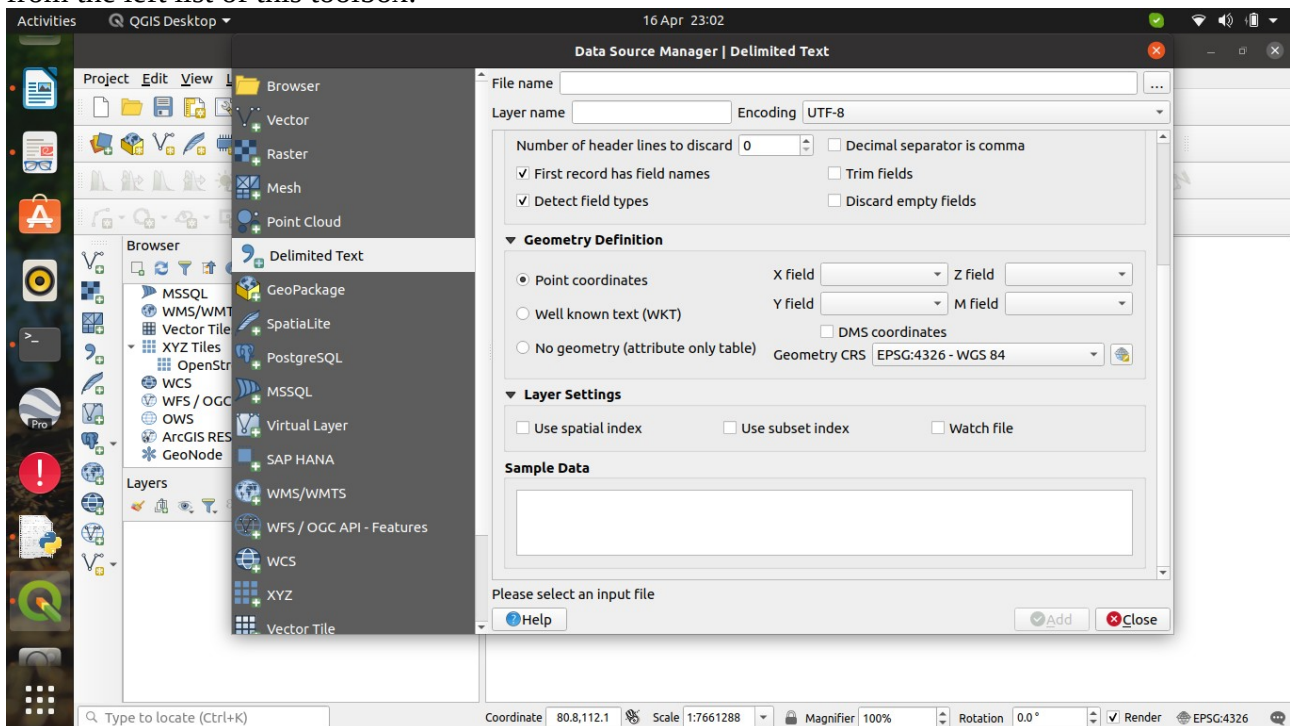
2. Open the QGIS software:



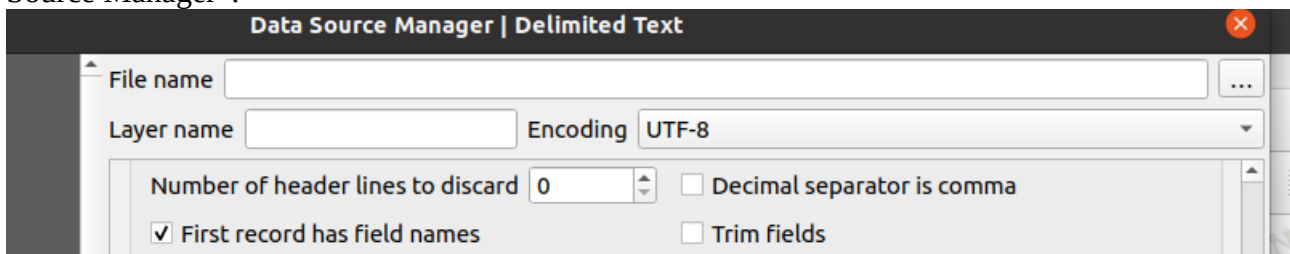
3. Click the “+” sign from the upper ribbon of the QGIS to add a layer:



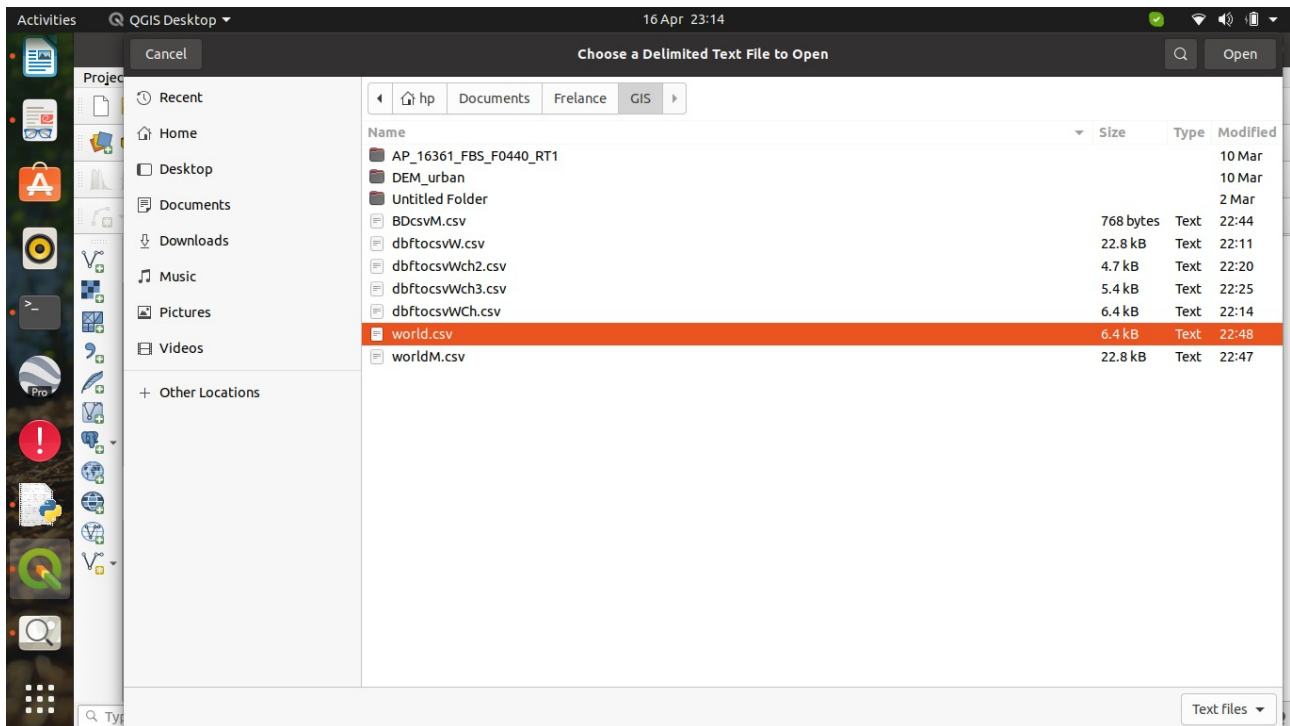
4. Then, a dialog-box named, “Data Source Manager” will be open, select “Delimited Text” option from the left list of this toolbox:



5. To import the CSV file of the step-1, click on the ‘...’ besides the ‘File name’ tab of the “Data Source Manager”:

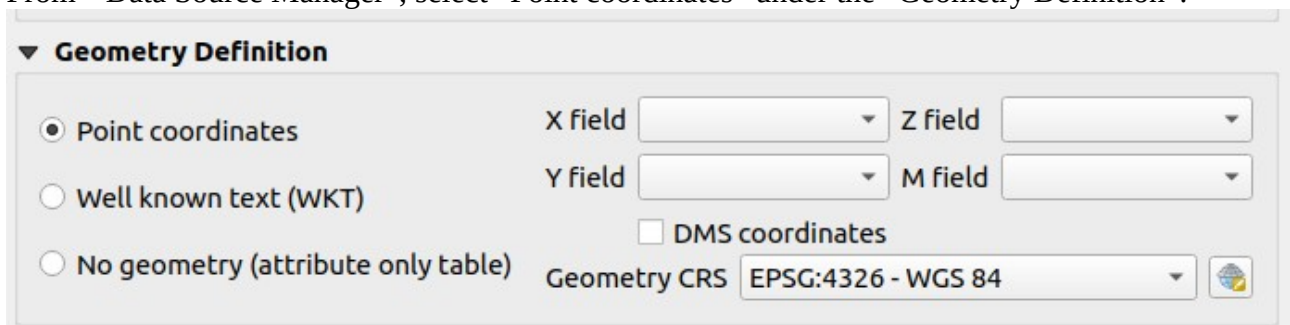


6. Then open the desired CSV file from the directory of your laptop:



7. Read the step-1, there we said that our example CSV file has 3 column; name, lon and lat. We will use lon and lat column.

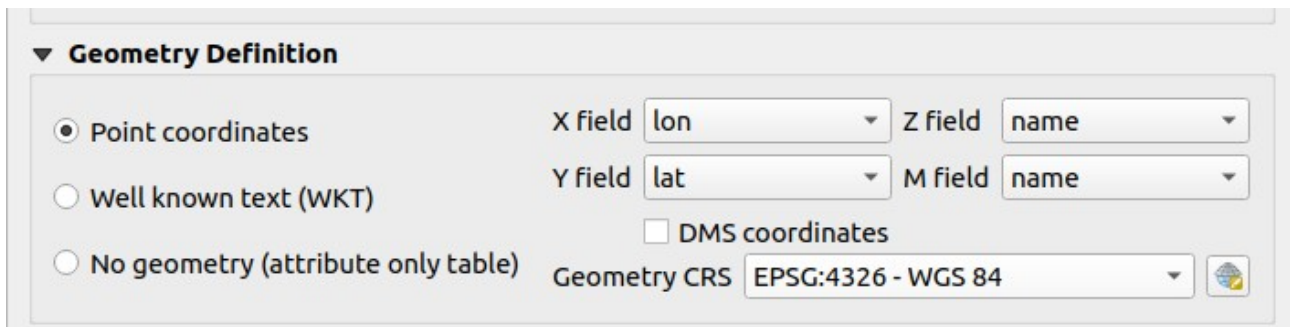
From “Data Source Manager”, select “Point coordinates” under the “Geometry Definition”:



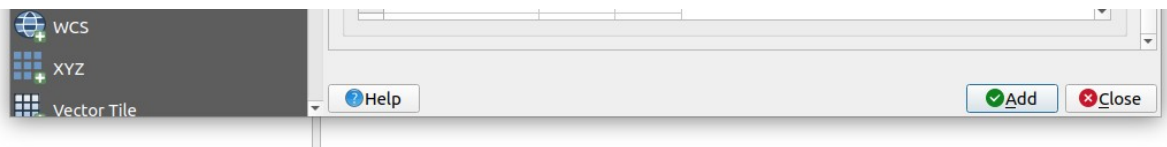
Remember that, our example CSV file has ‘name’, ‘lon’ and ‘lat’ columns. Now set ‘lon’ as the X field and set ‘lat’ as the Y field (I mean, X field and Y field can’t be set to different than the column name of the used CSV file).

Set ‘name’ as the Z-field and M-field.

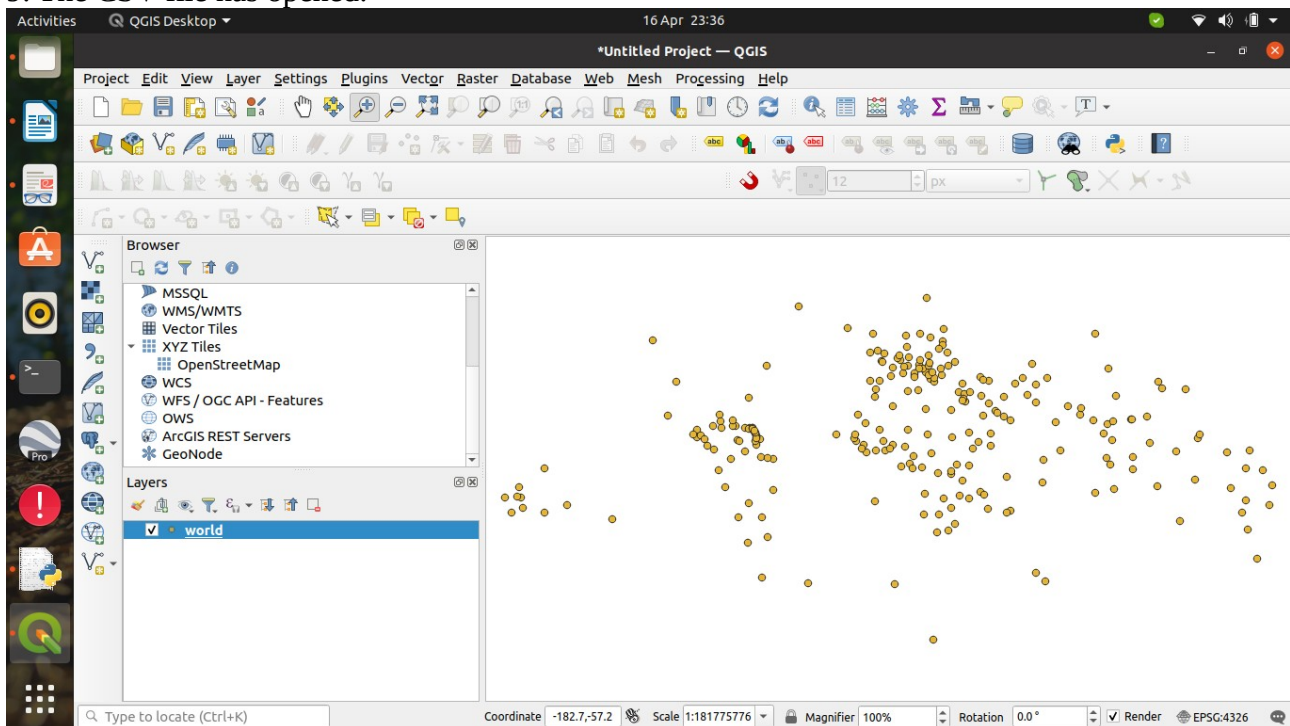
Set Geometry CRS (for example, EPSG:4326-WGS84).



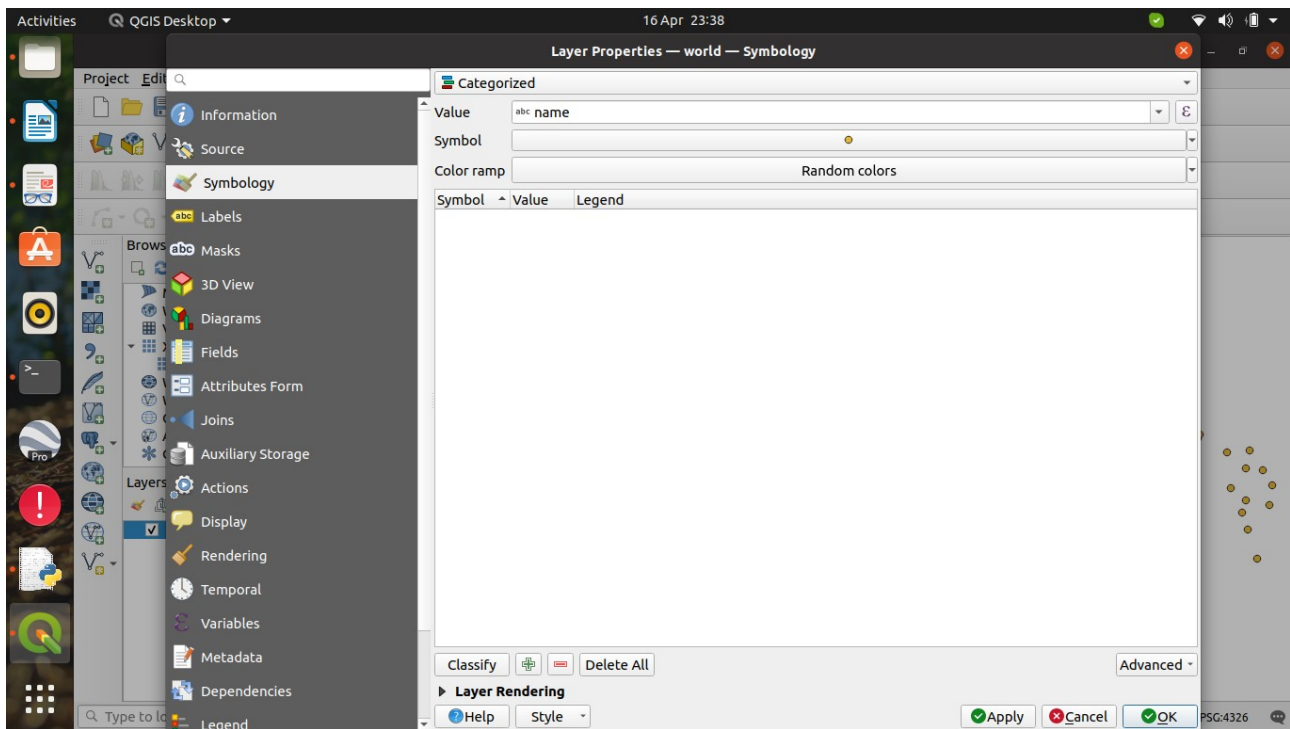
8. Click “Add” from the bottom right corner of the “Data Source Manager”:



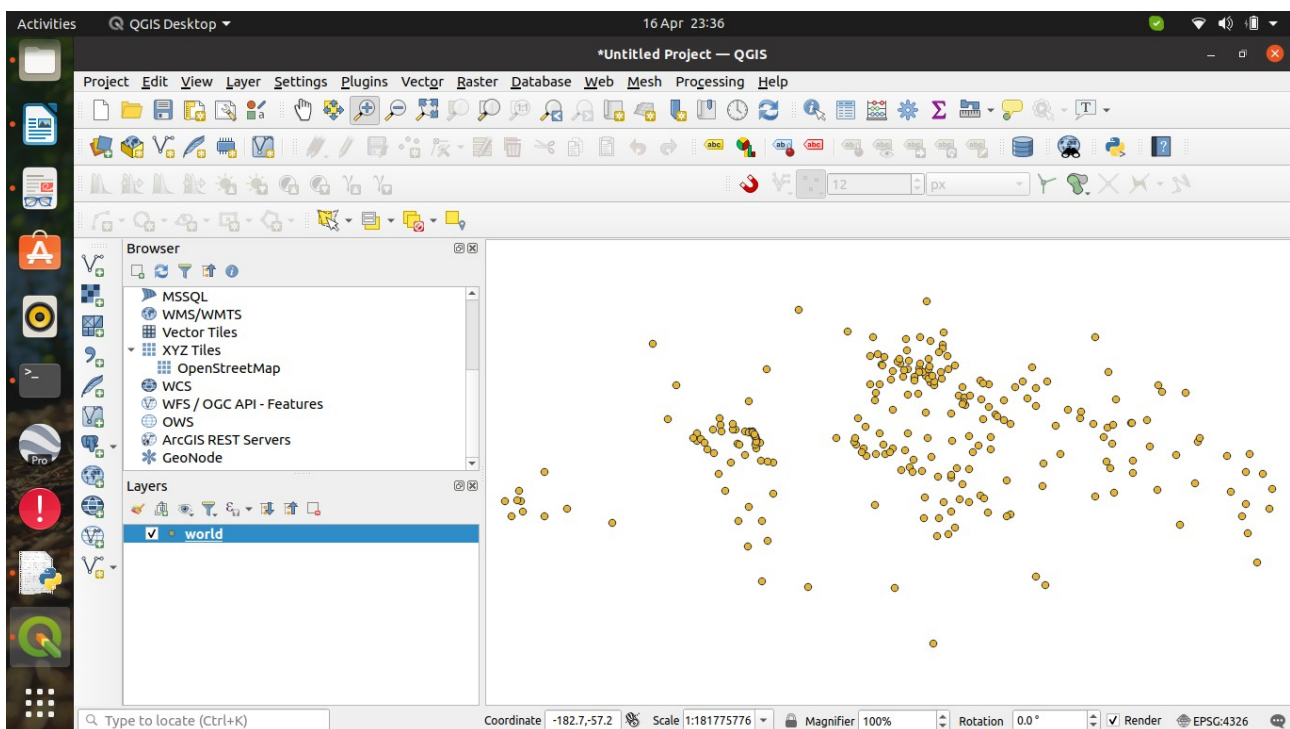
9. The CSV file has opened:



if you have more than one column other than ‘lon’, ‘lat’ column, than you can perform grouping/classification of the data by navigating from the imported layer (right click on the name of the layer) to the Properties>Symbolology of “Layer Properties” dialog-box> Select “Categorized” from the top of drop-down box of the “Layer Properties” > Select “Value” form the drop-down box/list of the tab “Value” > Click “Classify” from the left bottom part of the “Layer Properties”> Click “Apply” or ”OK” from the right bottom part of the “Layer Properties”.

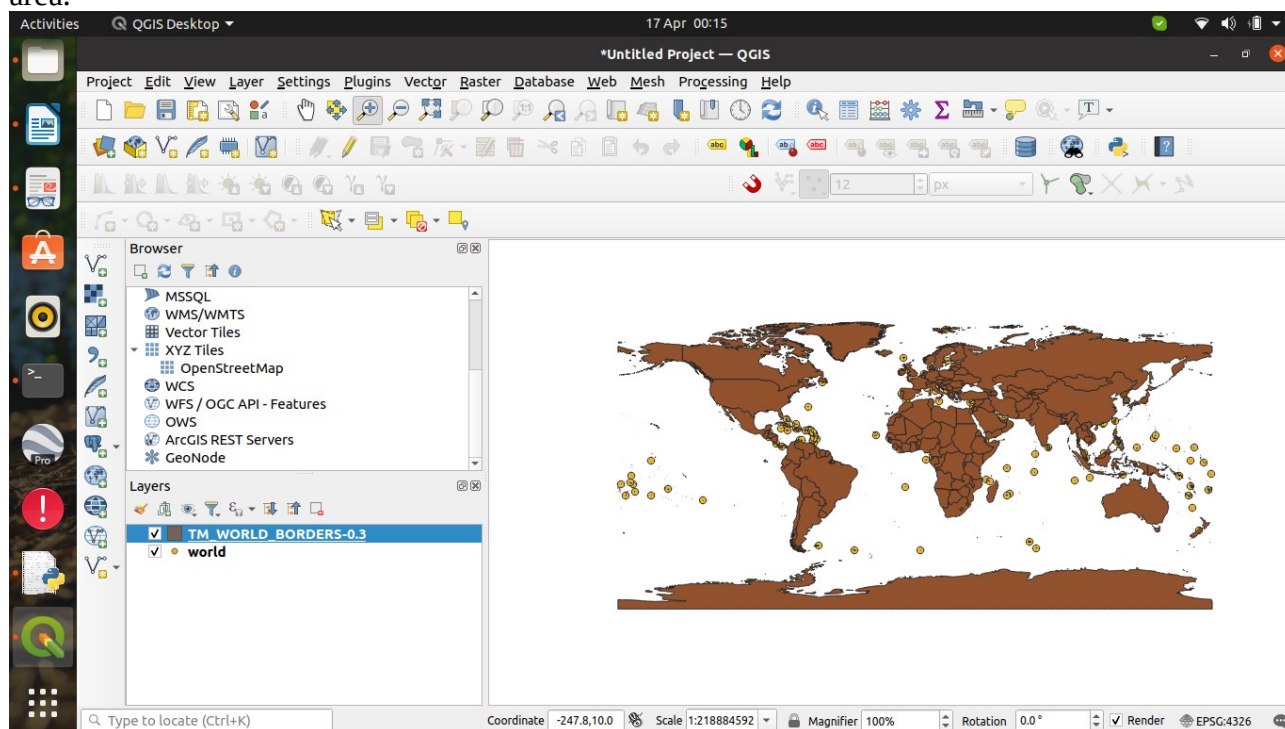


10. Now we have encountered a problem, that we are not seeing any boundary of our imported data

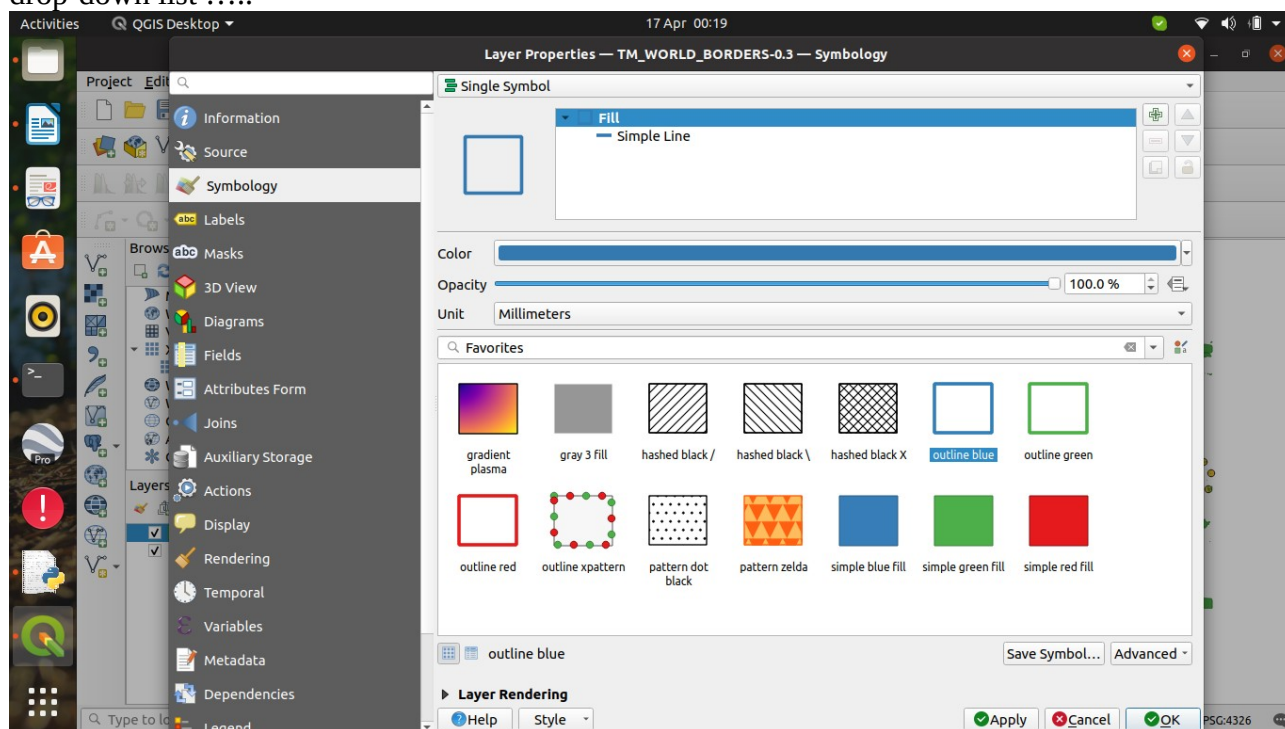


so, we need to import a vector layer that overlap our example CSV data (I mean, you need to have a shapefile of your survey area). To do this (import the vector layer of your survey area (I assume that you have a shapefile of your survey area. If your survey area is a district of Bangladesh, you can use the shapefile of that district found in the internet)), we will import a shapefile of our survey area (in this case, the whole world is the survey area) of the example CSV file.

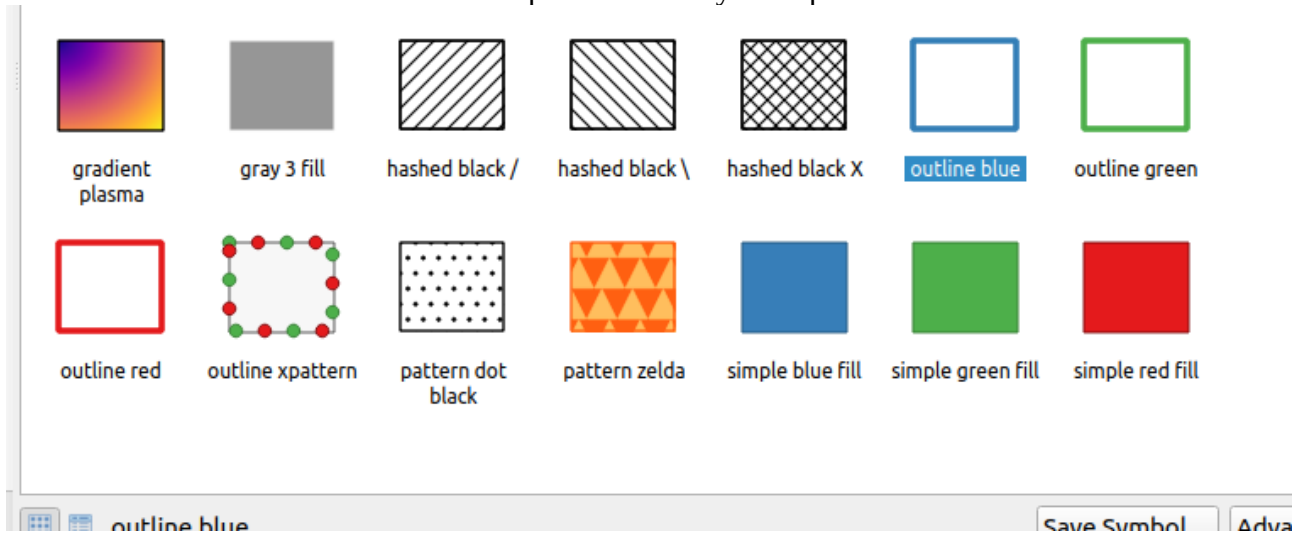
Repeat the procedure of step-3 and then select “Vector Layer” from the left part of the “Data Source Manager” dialog box, then follow the procedure of the step-4 to open the shapefile of the survey area.



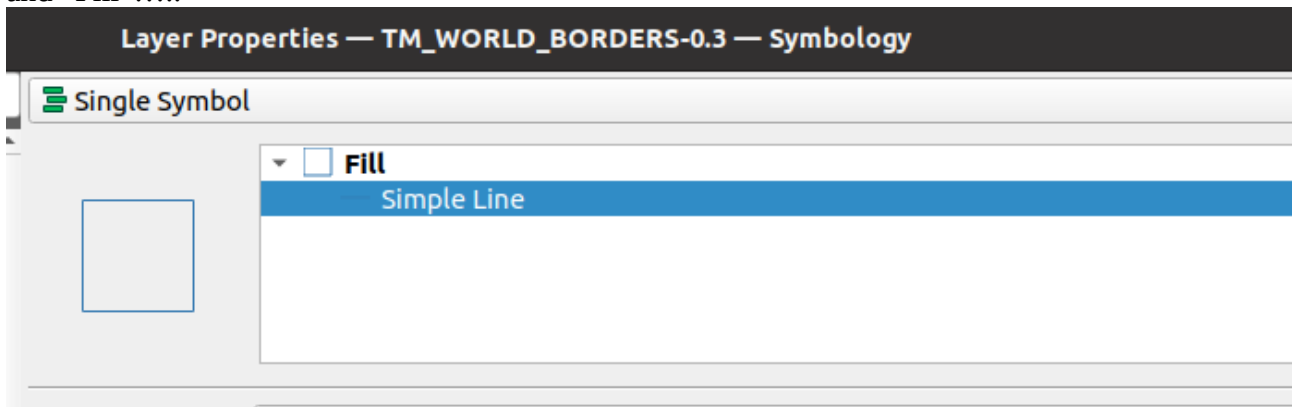
Navigate to the imported survey layer (right click on the name of the survey layer) to the Properties>Symbology of “Layer Properties” dialog-box> Select “Single Symbol” from the top drop-down list



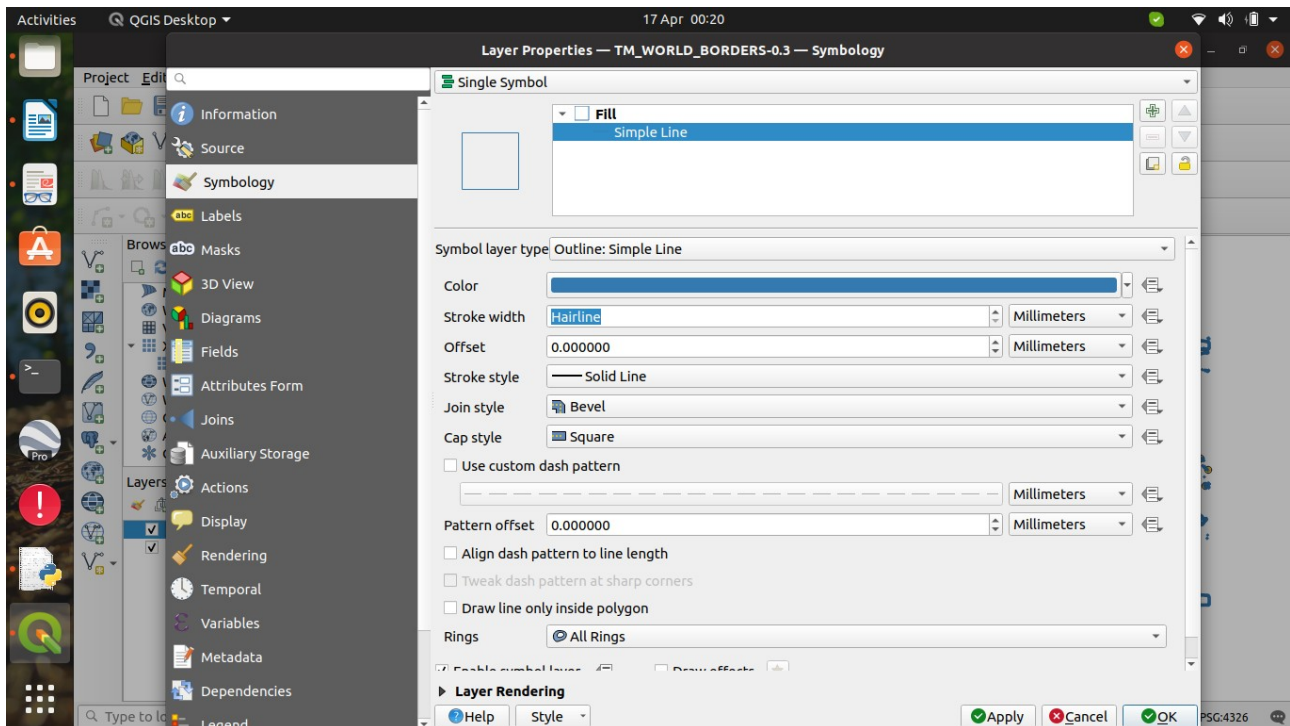
> Select “Outline blue” form the middle part of the “Layer Properties”



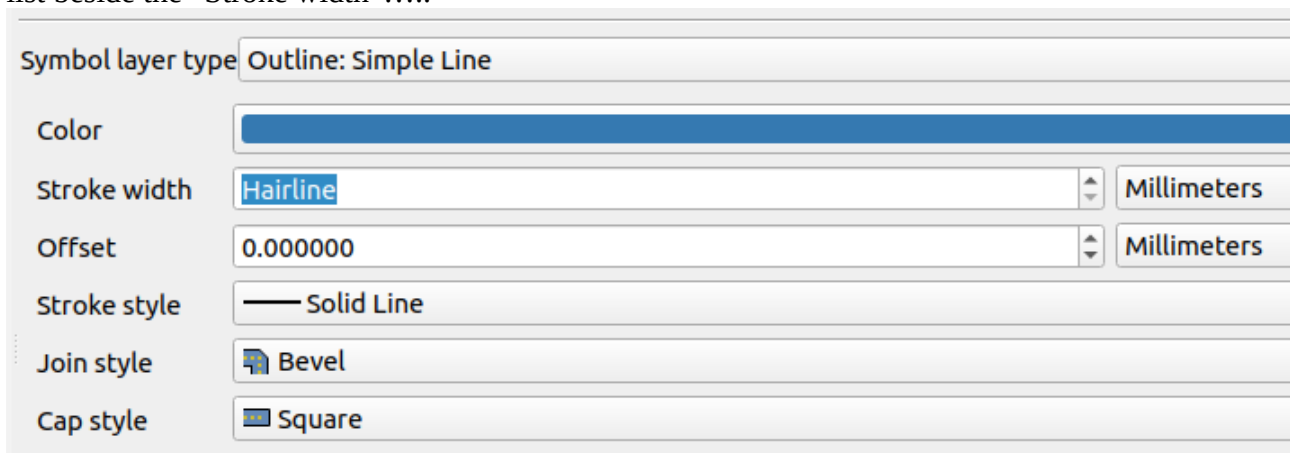
> Right click “Simple Line” from the top part of the “Layer Properties” under the “Single Symbol” and “Fill”



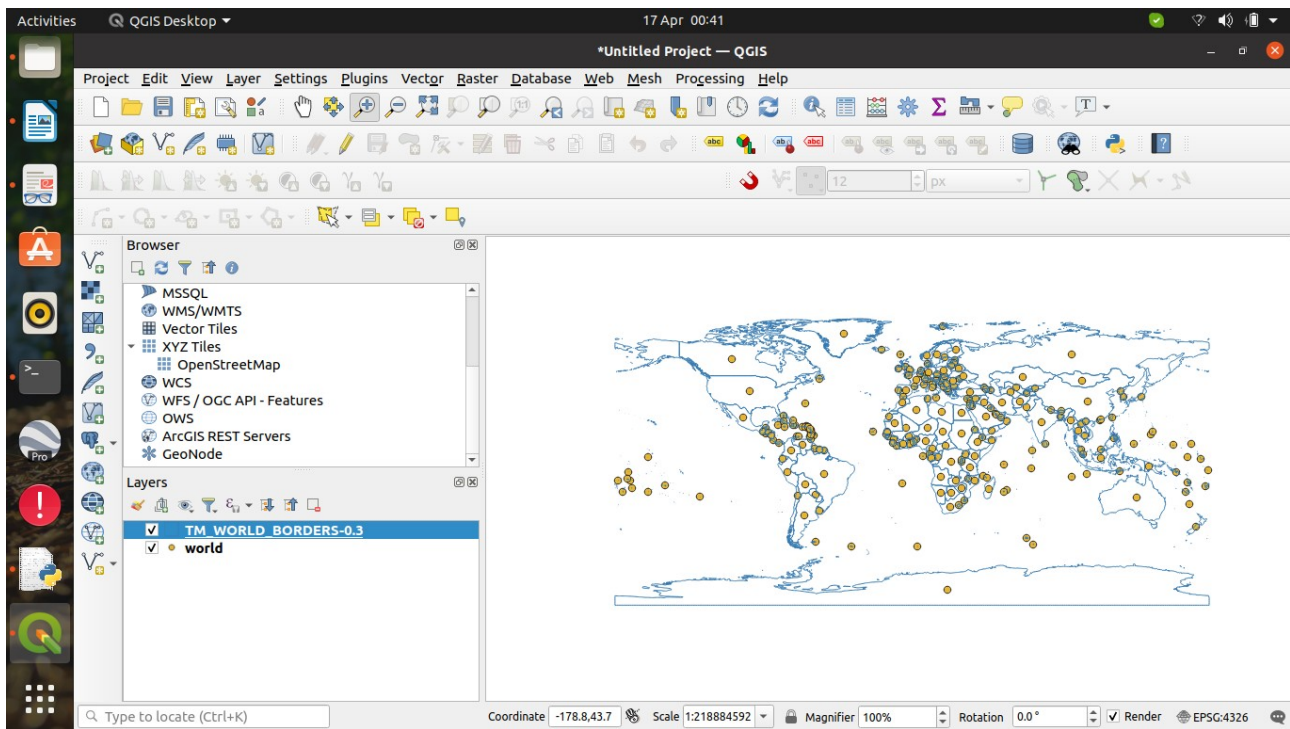
> The following change will be happened into the “Layer Properties”:.....



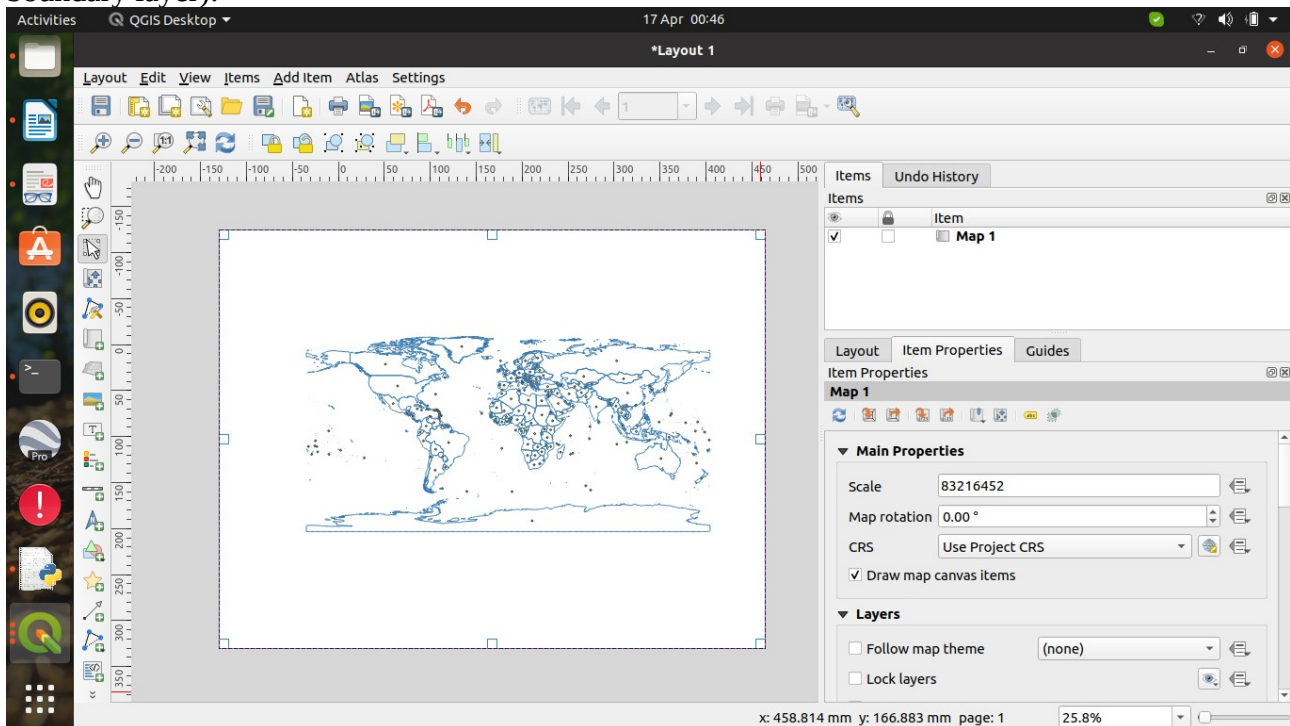
> From the middle of the “Layer Properties” set “Hairline” as the “Stroke width” from drop down list beside the “Stroke width”.....



> Click “Apply” or ”OK” from the right bottom part of the “Layer Properties”.



Now, you can make a map using that 2 layers (example CSV layer and shapefile of the survey boundary layer):



If you want to know, how to make a map in QGIS, that it will be showed in another tutorial.

END