

qGIS workshop instructions

This document is compiled by Bhanu, for questions reach out to him at bhanu.kamapantula@gramener.com.

The objective of this workshop is to create division-level maps for all Indian states. Districts in states are logically grouped as divisions for administration purposes. Not all states can have this categorization. Once the exercise is complete, we'll upload the files to [datameet github repository](#), Indian Open data's most popular maps repository.

Logistics

Teams

Steps

[Step 0\) Install qGIS](#)

[Step 1\) Download map files \(*.zip\)](#)

[Step 2\) Edit the map shapefile in qGIS](#)

[Step 2.1\) Open the map file](#)

[Step 2.2\) Edit attribute table](#)

[Step 3 - Join layers using DIVISION property - mapshaper.org](#)

Resources

Logistics

On - 24th October, 2 to 4 pm

Meetup - <https://www.meetup.com/GeoHYD/events/255665421/>

Divisions to districts mapping files - [qGIS-workshop Google Drive](#) (anyone with link can edit)

Teams

Regions: northern, southern, north-eastern, western, central, eastern

Team	Members	Region	States	States w/o divisions
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Team 1	Dipika, Ayushi, Dhiraj, Pragnya, Sowmya	Southern, western		
Team 2	Anand M, Anvesh, Deepu, Naveen, Sindhura, Mounica	Eastern, north-eastern		Sikkim
Team 3	Giri, Bharath, Som, Swathi, Vikas, Vamsi	Northern, central		

Steps

Step 0) Install [qGIS](#)

We will be using qGIS software to edit existing shapefiles. It could take time depending on the Internet connectivity.

Step 1) Download map files (*.zip)

We will be using district shapefiles for this workshop. Download all your states' districts.zip files from https://github.com/HindustanTimesLabs/shapefiles/tree/master/state_ut

*.zip file for a given state contains shapefile and supporting index files.

Example:

https://github.com/HindustanTimesLabs/shapefiles/tree/master/state_ut/assam/district/assam_district.zip (download the zip file)

This is important. We need 3 files, .shp (shape format), .dbf (shape attributes), .shx (shape index format). Read the [Wiki](#) for more information.

Organize the files for each state in separate directories. Each directory should contain .shx, .shp, .dbf files.

Step 2) Edit the map shapefile in qGIS

Step 2.1) Open the map file

Method 1 - Double-click the .shp file. The directory with .shp file should also have .shx and .dbf files.

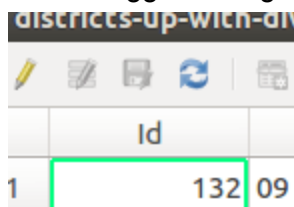
Method 2 - Open qGIS, click Layer in the toolbar (topmost). Select Add Layer and pick Add a Vector Layer Select the zip file of shapefiles.

This will load the map on qGIS central pane.

Step 2.2) Edit attribute table

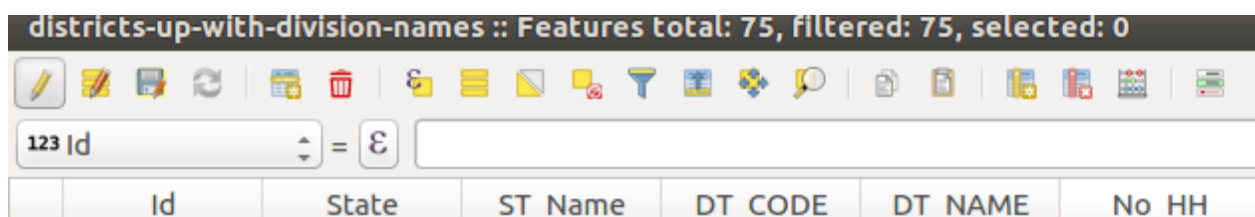
2.2.1 - Click **Layer** on toolbar (topmost) and select **Attribute Table**

2.2.2 - Toggle editing mode (top left-most)



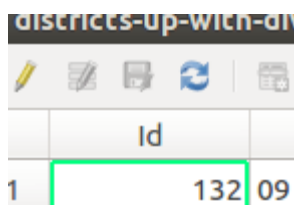
	Id	
1	132	09

2.2.3 - Click New Field option (4th from the right on the toolbar)



districts-up-with-division-names :: Features total: 75, filtered: 75, selected: 0						
	Id	State	ST_Name	DT_CODE	DT_NAME	No_HH
1	132					09

2.2.4 - View and edit the new field by clicking on specific cells



	Id	
1	132	09

2.2.5 - Save and Export. On the bottom left of QGIS, in Layers Panel click Save As, choose a format of your choice.

Step 3 - Join layers using DIVISION property - mapshaper.org

3.1 - Load the GeoJSON file from above in mapshaper.org

3.2 - Enable information view (i icon on the right panel)

3.3 - Enable console mode (click console on top right)

3.4 - (Optional based on the GeoJSON) Filter specific fields - run this in console filter-fields
Id,State,ST_Name,DT_CODE,DT_NAME,DIVISION

3.5 - Merge district regions based on DIVISION name

```
dissolve2 fields=DIVISION copy-fields=Id,State,ST_Name
```

(Notice that your map file might have different fields than Id,State,ST_Name,DIVISION)

3.6 - Export this new file as TopoJSON and use.

Resources

- 1) [qGIS](http://qgis.org)
- 2) [mapshaper](http://mapshaper.org)
- 3) [Gramener tutorials](http://gramener.com/tutorials) on qGIS and mapshaper

Regions

States	Regions	Person
Andaman and Nicobar Islands	Southern	No divisions
Andhra Pradesh	Southern	No mapping file
Arunachal Pradesh	North-eastern	No mapping file
Assam	North-eastern	karmanya
Bihar	Eastern	Naveen
		No divisions
Chandigarh	Northern	
Chhattisgarh	Central	Bhanu
Daman and Diu	Western	No divisions
Dadra and	Western	No divisions

Nagar Haveli		
Delhi	Northern	No divisions
Goa	Western	No divisions
Gujarat	Western	Pragnya
Haryana	Northern	Karmanya
Himachal Pradesh	Northern	Naveen
Jammu and Kashmir	Northern	Som
Jharkhand	Eastern	Naveen
Karnataka	Southern	Pragnya
Kerala	Southern	Sowmya
Lakshadweep	Southern	No divisions
Madhya Pradesh	Central	Vamsi
Maharashtra	Western	Pragnya
Manipur	North-eastern	Vamsi
Meghalaya	North-eastern	sindhu
Mizoram	North-eastern	No divisions
Nagaland	North-eastern	No divisions
Odisha	Eastern	Mounica
Puducherry	Southern	No divisions
Punjab	Northern	Swathi
Rajasthan	Northern	Anvesh
Sikkim	North-eastern	No divisions
Tamil Nadu	Southern	Bhanu
Telangana	Southern	No divisions
Tripura	North-eastern	No divisions
Uttarakhand	Central	No mapping file
Uttar Pradesh	Central	Bhanu
West Bengal	Eastern	No mapping file

Notes

1) A district is spelt Koriya in chhattisgarh.shp from HindustanTimesLabs and is spelt Korea in our mapping file. Retained as Koriya.

2) Assam excel file has more districts than in the shapefile.

3. Punjab

A. District spelled differently

Excel : Ferozepur

Shape file : Firozpur

Excel :Shaheed Bhagat Singh Nagar

Shape File : Shahid Bhagat Singh Nagar

Sahibzada Ajit Singh Nagar has a shape file , but district-division mapping not listed in Excel file

4) Chhattisgarh - Uttar Bastar Kanker district in shapefile and Kanker in our mapping file.

5) Chhattisgarh - Mapping file seems to have more districts than in shapefile.

6) Odisha - Debagarh (Shapefile), No Name in mapping file

7) Odisha - Baleshwar (Shapefile), Balasore(Excel file)

8) Maharashtra

<i>Excel</i>	<i>Shapefile</i>
Raigad	Raigarh
Beed	Bid
Latur/Lattalur	Latur
Gondia	Gondiya
<i>Retained names from Shapefile</i>	

9) Karnataka

<i>Excel</i>	<i>Shapefile</i>
CHIKKAMAGALURU	Chikmagalur
DAKSHIN KANNAD	Dakshina Kannada
DAVANGERE	Davanagere
-	Gulbarga (Gulbarga Division)
SHIVAMOGGA	Shimoga
TUMAKURU	Tumkur
UTTAR KANNAD	Uttara Kannada

-	Bijapur (Belgaum Division)
MYSURU	Mysore
CHAMARAJANAGAR	Chamrajnagar
BENGALURU RURAL	Bangalore Rural
BENGALURU URBAN	Bangalore
BALLARI	Bellary
CHIKBALLAPUR	Chikkaballapura
VIJAYAPURA	-
KALABURAGI	-
<i>Retained names from Shapefile</i>	

10) Gujarat

<i>Excel</i>	<i>Shapefile</i>
DANG	The Dangs
<i>Retained name from Shapefile</i>	