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Exercise 5 – Import and export tables and create new shape files from text files and coordinates

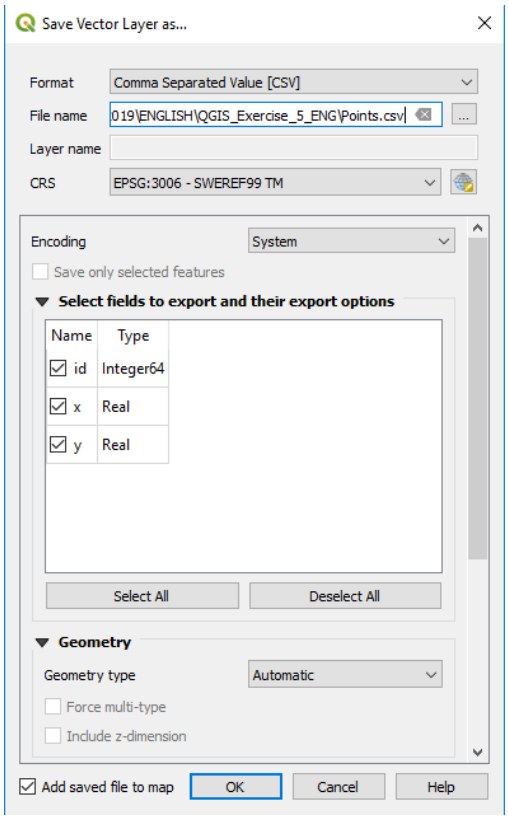
Now you will import, export and create! To be able to import a text file with coordinates is very useful for example when working with a GPS in field measurements. Knowing how to export data is always practical, for example when comparing statistics and making tables outside of GIS.

For this exercise you need a shape file with a point layer containing 5-10 points. The points shall have X- and Y-coordinates in their attribute table. If you do not have such a file from the previous exercise start by creating one, if you do have such a file just start the exercise.

Assignment: You shall send in a print screen showing your imported points in the map window, with an attribute table shown. Paste your picture in a word document and upload a PDF-copy on Canvas.

1. Export a table

Right click the point layer and choose **Save as**. The window **Save vector layer as** opens and here you can choose in which format the point layer will be saved. There are several formats supported by other GIS and text editing softwares. Choose **CSV** (comma separated value) as format and create a folder for Exercise 5 to save your files in. You will later open the file in OpenOffice Calc, Microsoft Excel or any other spreadsheet software or text editor. If the csv file is added to your map project as a layer, remove it so that you can edit it in e.g. Excel.



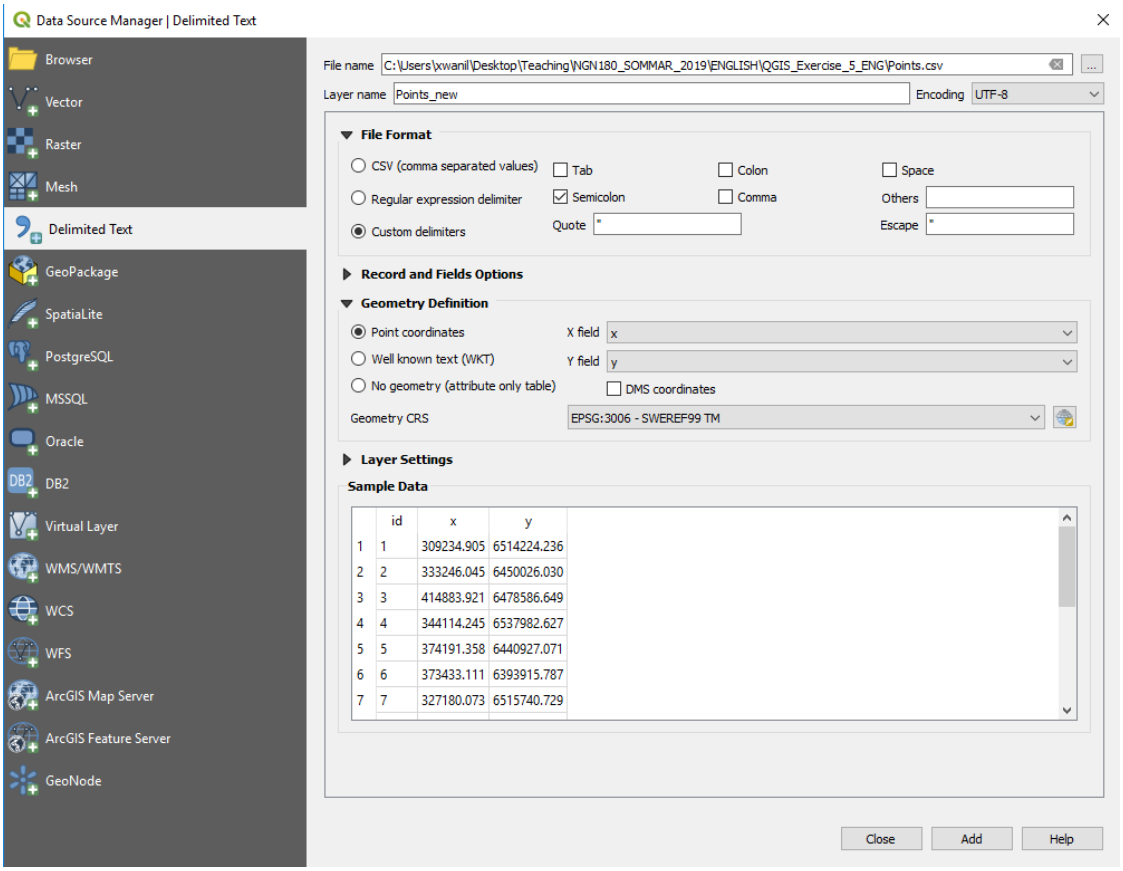
2. Notes – Excel

Start Excel or a similar program and open the .csv file you just created (if the file is not visible in Excel you have probably forgotten to change so that **All files** can be open in the drop down 'Open menu at the bottom of the **Open** window). The values (ID and coordinates) are separated with commas and need to be divided into separate columns. To do this, select all your rows in column A (or click on cell A1 and click CTRL+A to select all), go to Data tab, choose Text to columns and tell the program that the values are delimited with a comma. This way each value should end up in its own column.
Also try to **add a few more points** by adding new rows with ID, X and Y coordinates (e.g. you can copy X coordinate from one point and Y coordinate from another, or choose similar values). Then **save the file** as a new file (Text, **comma delimited**) making it a .txt file. If you have used OpenOffice Calc save as a CSV-file instead.
TIP: You cannot save an entire Excel workbook with several tabs; instead you have to create different tables for every tab. An important detail is that the first column does not contain any strange signs (such as å, ä or ö) or blank spaces. You learn by doing. When you want to export from QGIS to Excel you do it in the opposite way, by exporting the attribute table as a text file.

3. Import more!

If spatial information is present (i.e. coordinates as the ones we have in the x and y columns) you can create a new shape file from a text file in QGIS.

Click the **Add Delimited Text Layer** icon  found in the layer menu on the left. Browse to the file exported from Excel. Since the text file we created is Tab Delimited choose **Custom delimiters** and check the box **Semicolon** as delimiter. Always reflect on how you save data, all formats are not as easy to import. Choose Point coordinates as Geometry definition and x- and y-columns as x- and y fields. You should now be able to see how the attribute table is imported in to QGIS. Press OK and choose the right coordinate system (SWEREF99) to conclude the import. You should now see your original points, as well as your newly created points.



4. Transform text to GIS-data

You should now be able to see the points in the map window.

But we are not done yet; you do not have a new shape file. To create one you simply right click on the new layer and choose **Save as** and do like in point 1 with the exception that the file is exported as a ESRI shape file instead of a csv file. Check the box **Add saved file to map** and click OK. The shape file is now added to the project.

End of exercise 5!

Do not forget to send in your print screen showing your imported points in the map window, with an attribute table shown, saved as a **PDF** on Canvas.