



มหาวิทยาลัยราชภัฏนครปฐม



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Fundamentals of Geographic Information System



Chapter 2: GIS Components & QGIS Introduction

The screenshot shows the QGIS website homepage. At the top is a dark navigation bar with links: "FOR QGIS", "FOR USERS", "GET INVOLVED", and "DOCUMENTATION", followed by a search bar. Below the navigation bar, the word "QGIS" is prominently displayed in a large, bold, black font. Underneath it, the tagline "A Free and Open Source Geographic Information System" is written in a smaller, black font. The main visual element is a large banner image featuring a diverse group of people, the QGIS community, posing outdoors in front of green trees. Overlaid on this image is the text "QGIS is a team effort" in a large, white, sans-serif font, with "Support our community events!" in a smaller, white font below it. At the bottom of the banner, there is a section titled "QGIS Community meetings" with a link to "Find out more about our tradition of user and contributor meetings!". At the very bottom of the page, a footer line reads: "Create, edit, visualise, analyse and publish geospatial information on Windows, macOS, Linux, BSD and mobile devices".

FOR QGIS FOR USERS GET INVOLVED DOCUMENTATION Search

QGIS

A Free and Open Source Geographic Information System

QGIS is a team effort
Support our community events!

QGIS Community meetings
Find out more about our tradition of user and contributor [meetings!](#)

Create, edit, visualise, analyse and publish geospatial information on Windows, macOS, Linux, BSD and mobile devices



Learning Objectives

After completing this lesson, students will be able to:

- Explain GIS components
- Understand QGIS interface
- Open and manage GIS projects



2.1 GIS Components Overview



- Hardware
- Software
- Data
- People
- Methods



Introduction to QGIS

QGIS is a free and open-source GIS software

Used for spatial data analysis and visualization

Used worldwide



Key Features of QGIS

- Vector & Raster support
- Attribute Table
- Spatial Analysis Tools
- Plugins

Project ▾

Overview ▾

Maps

Screenshots

Case studies

Plugins

All News

Visual Changelogs

QGIS Metrics

Community ▾

Resources ▾

Funding ▾

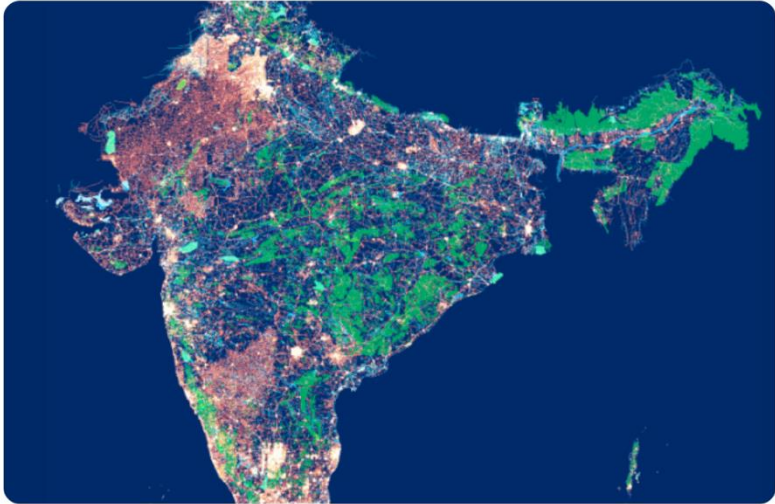
Goodies

Download

Archive

Key features

[Create maps](#) [Edit layers](#) [Process and analyze](#) [Share maps](#)



Class-leading cartography

Experience QGIS' extensive set of design options to bring your cartographic ideas to life.

Professional map production

Use the intuitive layout design tool to produce high-quality, large-format print maps.

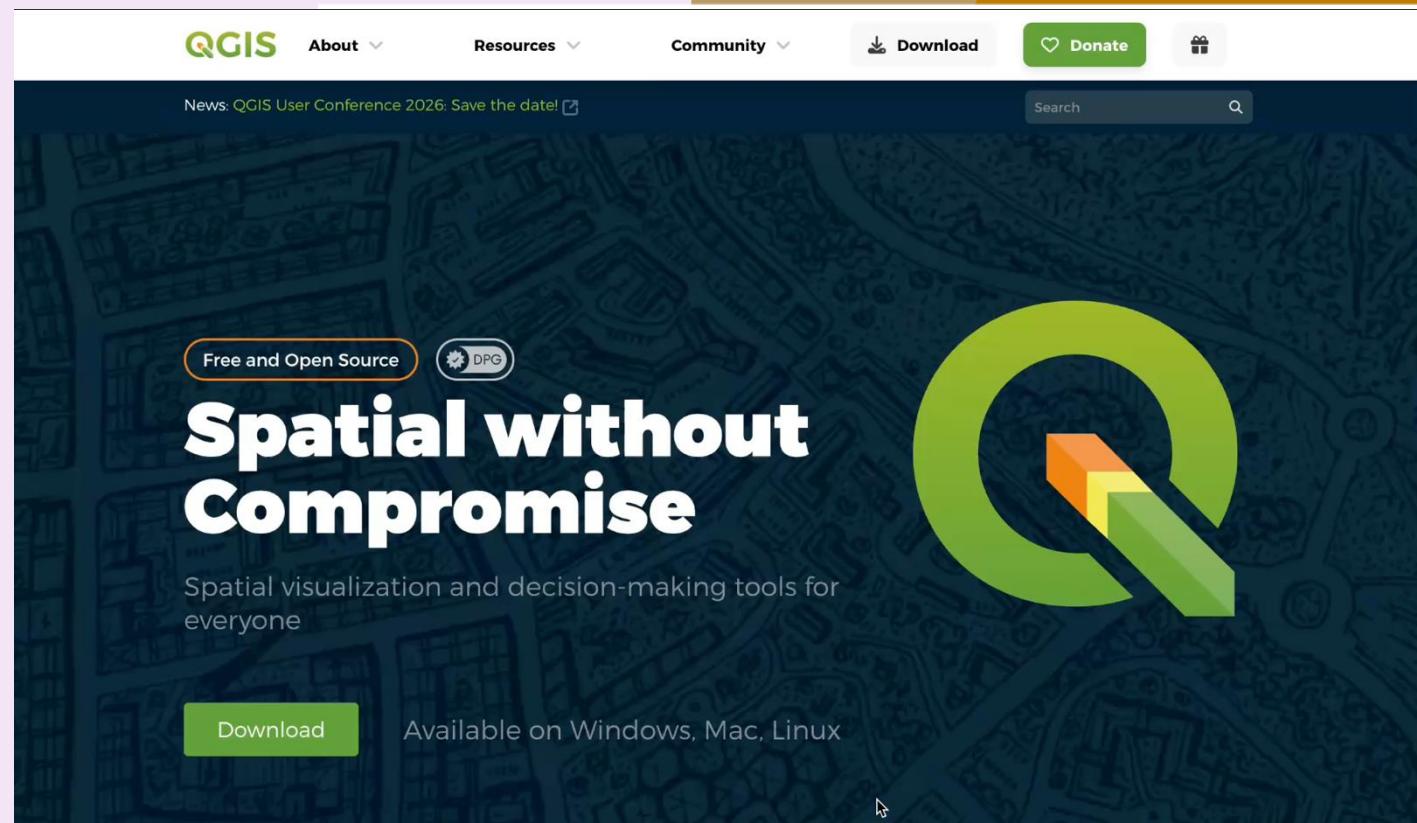
Powerful reporting tools

Create atlases and reports with maps, media and tabular content.



Installing QGIS

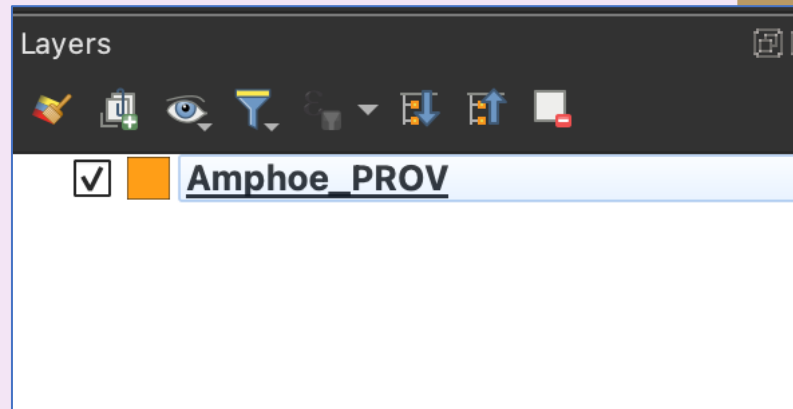
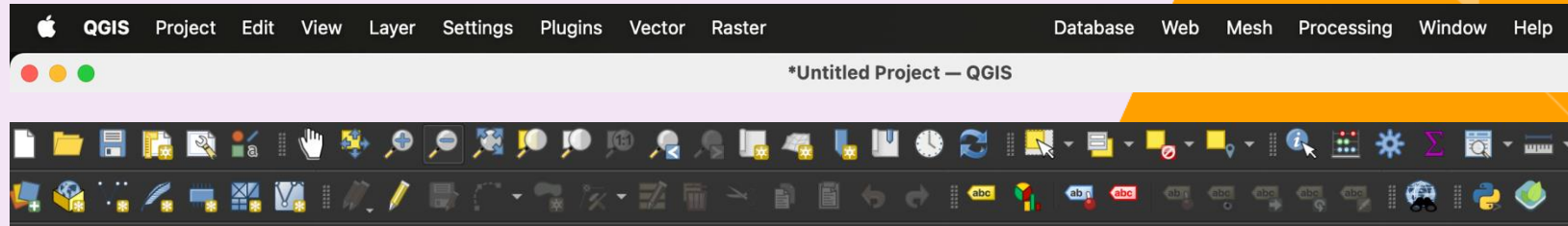
1. Visit <https://qgis.org>
2. Download Long Term Release (LTR)
3. Install on Windows / macOS



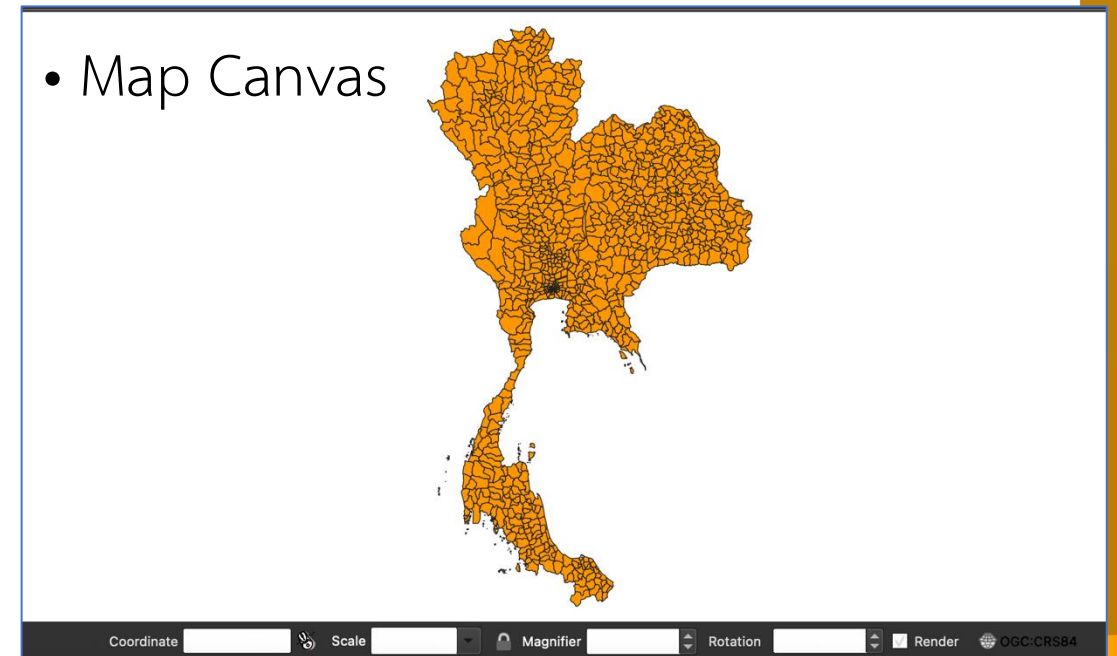


QGIS Interface Overview

- Menu Bar
- Toolbar
- Layers Panel
- Status Bar



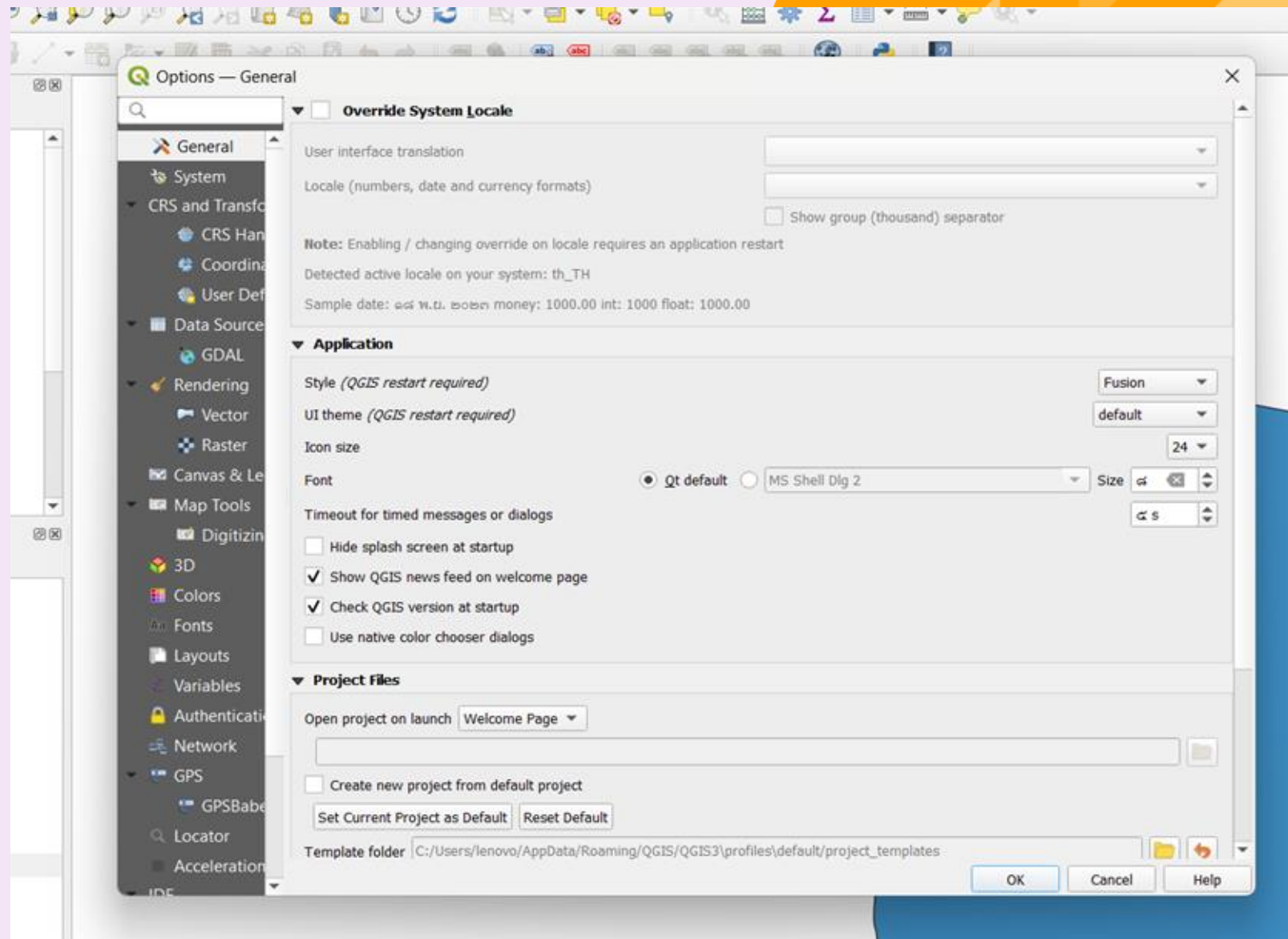
- Map Canvas





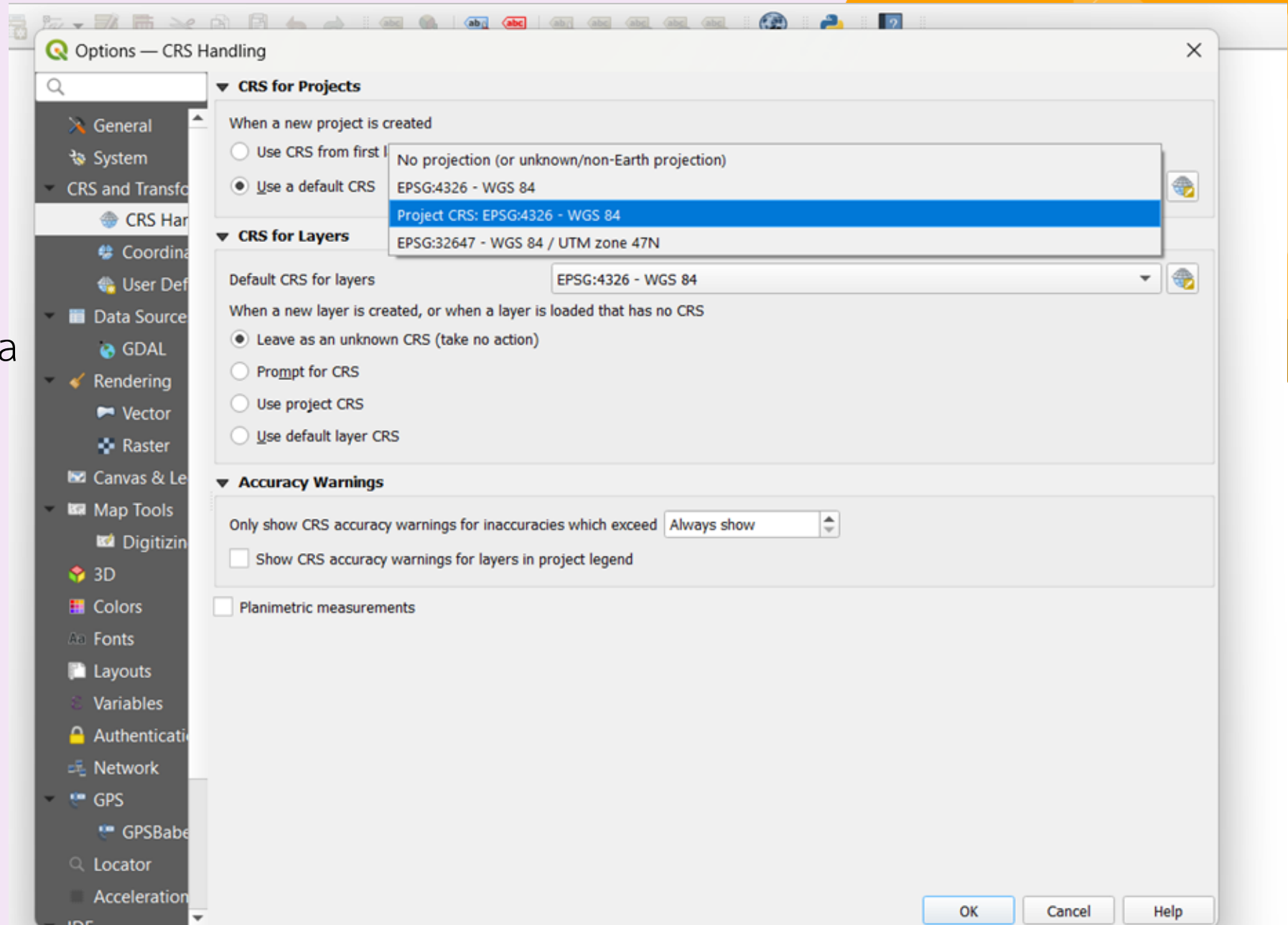
Basic Workflow in QGIS

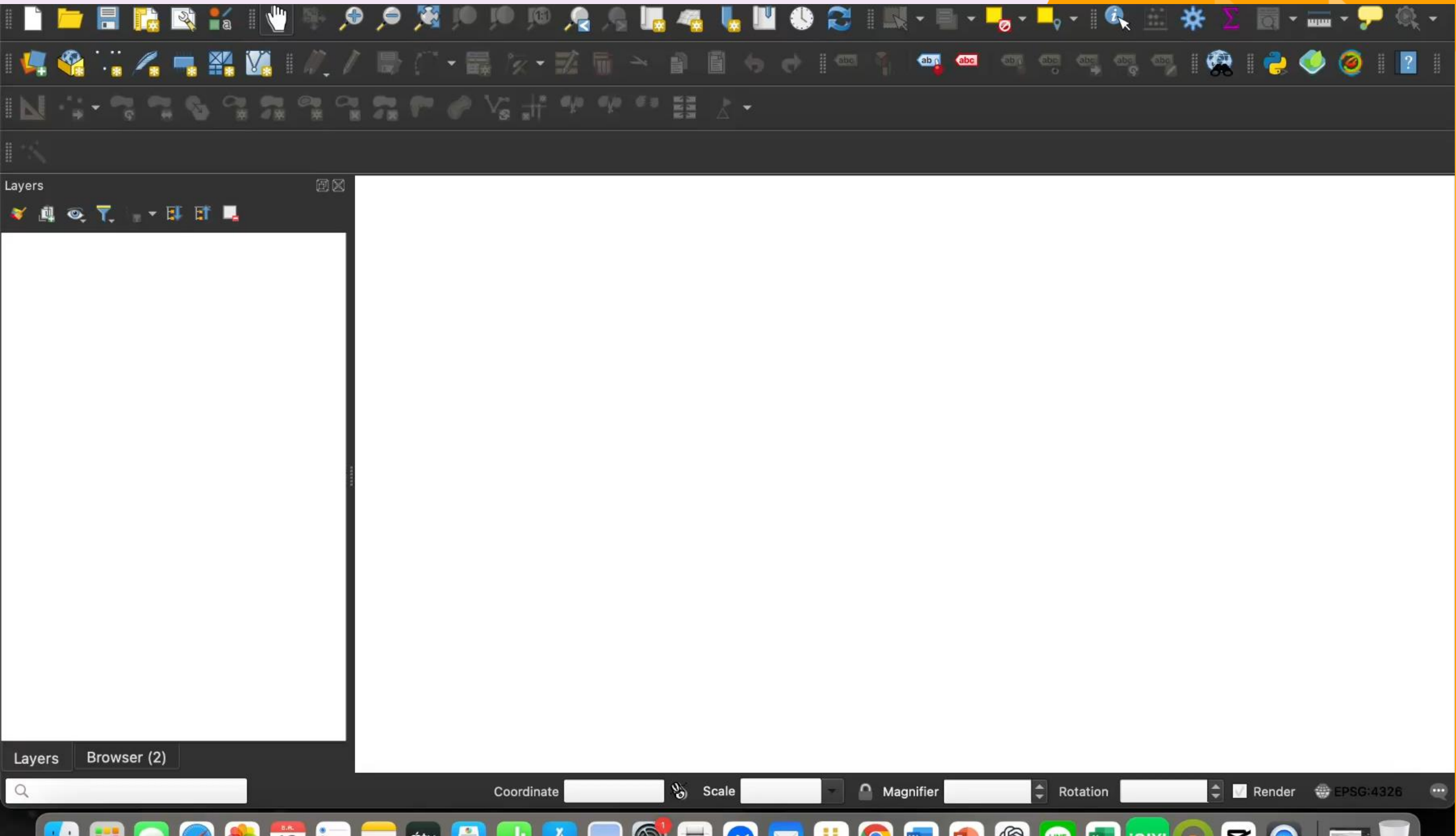
1. Create Project
2. Add Layers
3. Edit / Analyze Data
4. Map Layout





1. Create Project
2. Add Layers
3. Edit / Analyze Data
4. Map Layout







Hands-on Activity

- Open QGIS
- Add Vector Layer
- Explore Attribute Table



Summary

- GIS Components
- Role of QGIS
- Ready for Data Types (Week 3)



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