



# ADVANCED GIS USING QGIS



## Course Outline

### Day1

#### 9– 10.30 am **Module: Database concepts with PostgreSQL**

- Lesson : Introduction to Databases
- Lesson : Implementing the Data Model
- Lesson : Adding data to the model

#### 11– 12.30 pm Lesson : Queries

- Lesson : Views
- Lesson : Rules

#### 2– 4.30 pm **Module: Spatial Database concepts with PostGIS**

- Lesson :PostGIS Setup
- Lesson :Simple Feature Model
- Lesson :Import and Export
- Lesson :Spatial Queries
- Lesson :Geometry Construction

### Day 2

#### 9– 10.30 am **Module: QGIS Processing Guide**

- Lesson : Introduction
- Lesson : Setting up the processing framework
- Lesson : Running our first algorithm. The toolbox
- Lesson : More algorithm and data types

#### 2– 4.30 pm Lesson : CRS's, reprojecting

- Lesson : Selection

Lesson : Running an external algorithm

Lesson : The processing log

2– 4.30 pm

Lesson : The raster calculator. No data values

Lesson : Vector Calculator

Lesson : Defining extents

Lesson : HTML Outputs

## Day 3

9– 10.30 am

### **Module: QGIS Processing Guide...**

Lesson : First analysis example

Lesson : clipping and merging raster layers

Lesson : Hydrological analysis

Lesson : Starting with the graphic modeler

Lesson : More complex models

11– 12.30 pm

Lesson : Numerical calculations in the modeler

Lesson : A model within a model

Lesson : Using modeler-only tools for creating a model

Lesson : Interpolation

2– 4.30 pm

Lesson : Interactive execution of algorithms

Lesson : The batch processing interface

Lesson : Models in the batch processing interface

## Day 4

9– 10.30 am

### **Module: QGIS Processing Guide...**

Lesson : Pre-and post-execution script hooks

Lesson : Interpolation and contouring

Lesson : Vector simplification and smoothing

Lesson : Planning a solar farm

11– 1 pm

Lesson : Use R scripts in processing

Lesson : R syntax in processing scripts

Lesson : R syntax summary table for processing

Lesson : Predicting landslides

2– 4.30 pm

**Module: Using Spatial databases in QGIS**

Lesson : Working with databases in the QGIS browser

Lesson : Using DB Manager to work with Spatial Databases in QGIS

Lesson : Working with spatialite databases in QGIS



## Day 5

9– 10.30 am

### **Module: Tomcat 8**

Lesson : Java Set-up

Lesson : Environment variables

Lesson : Tomcat 8 Prerequisites and set-up

### **Module: Configure Tomcat**

Lesson : Create tomcat user

Lesson : Update permissions

Lesson : Create a systemd service file

Lesson : Firewall settings

Lesson : Configure Tomcat webmanagement service

Lesson : Additional tomcat options

11– 12.30 pm

### **Module: BoundlessGeo Configuration**

Lesson : Marlin Renderer

Lesson : Application Schema Extension

### **Module: Deploy Boundless suite web-apps**

Lesson : Geowebcache

Lesson : Composer

Lesson : Geoserver

Lesson : Dashboard

Lesson : Enable JSONP

Lesson : Enable CORS

2– 4.30 pm

### **Module: Web services**

Lesson : Publish web services (WMS)

Lesson : Publish WFS

Lesson : Styling

Lesson : Server hardening