

Workshop: 1

Description of the workshop

pgRouting extends the postGIS/postgreSQL geospatial database to provide geospatial routing and other network analysis functionality.

Pre-requisite knowledge for the attendees/background of participants

Attendee's previous knowledge: SQL (PostgreSQL, PostGIS)

Pre-requisite for attending workshop

Using OSGeo Live (VM is ok) or
Please have at least the following installed: PostgreSQL, postGIS, pgRouting

Demo/hands-on (if hands-on, inform to bring their own laptops)

Hands-on: please bring your laptop

Any other information/specifications

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Workshop: 2

Description of the workshop

ZOO-Project [1] is open source software that serves open source libraries as a WPS (Web Processing Service) compliant and developer-friendly framework to easily create and connect OGC Web Services in any HTTP Server environment. During the workshop, introduction to ZOO-Project and its function will be presented. Then, how to setup the ZOO-Kernel and to get a WPS server running will be demonstrated with some basic services. Participants will develop a simple WPS service using Python language, through simple programming exercises. OSGeo live suite will be used by the participants for this exercise participant. Finally, interaction between client interface and WPS Services will be discussed with the examples which are available in OSGeo live package.

[1][About ZOO-Project](#)

Pre-requisite knowledge for the attendees/background of participants

Basic knowledge in JavaScript and Python is required to participate.

Pre-requisite for attending workshop

VirtualBox need to be installed in the PCs prior to the workshop.

Demo/hands-on (if hands-on, inform to bring their own laptops)

Participants should bring their own laptops

Any other information/specifications

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Workshop: 3

Description of the workshop

In this workshop, we will cover methods to publish your desktop map on the web using QGIS. qgis2web: Create OpenLayers and Leaflet based interactive maps from vector datasets. QTiles: Generate slippy maps from your QGIS project with raster or vector data. qgis2threejs: Create 3D visualizations for the web from GIS data.

Pre-requisite knowledge for the attendees/background of participants

Basic knowledge of QGIS

Pre-requisite for attending workshop

Laptop with QGIS 2.16 installed

Demo/hands-on (if hands-on, inform to bring their own laptops)

Participants should bring their own laptops

Any other information/specifications

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Workshop: 4

Description of the workshop

This workshop will include the GeoServer user interface, OGC web services, map styling with SLD and Styler, and tile caching with GeoWebCache. This course covers advanced visualization topics. Following topics will get covered in half day workshop

1. Use of SQL view
2. Use of CQL filter
3. Generating custom Gridset
4. Generation of custom tilecaches for desktop/mobiles
5. Publication of huge satellite data
6. Generation Map Vector Tiles (MVT)
7. Styling using YSLD extension

Pre-requisite knowledge for the attendees/background of participants

Attendee's previous knowledge: Basics of GeoServer

Pre-requisite for attending workshop

Using OSGeo Live (VM is ok) or

Please have at least the following installed: GeoServer 2.10 if possible as war deployed in

Apache Tomcat

Demo/hands-on

Participants to bring their own laptops

Any other information/specifications

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Workshop: 5

Description of the workshop

Epicollect Plus and Open Data Kit (ODK)

Pre-requisite knowledge for the attendees/background of participants

Open Source GIS users

Pre-requisite for attending workshop

Some experience with Open Source GIS

Demo/hands-on (if hands-on, inform to bring their own laptops)

Android Mobile and Laptop

Any other information/specifications

Attendees have to:

- (1) Install EpicollectPlus, and ODK on Android mobile from Google PlayStore. Internet data plan on mobile not a prerequisite.
- (2) Having a Google email address will help. (Create one if do not have one).
- (3) Laptop to have QGIS installed. This is a totally hands-on workshop with mock-data collection in IIIT Campus.

Session Goals:

1. Design form and Collect Data (off line) using Smart-phones
2. Up-Load collected data (mock exercise) on website (use Wi-Fi)
3. Improve your own form after field experience
4. Download collected data and Populate on QGIS
5. Upload onto your website

Workshop: 6

Description of the workshop

The focus of workshop will be on setting up and using GeoServer on Windows. GeoServer is an open source server for sharing geospatial data. It utilizes Web Mapping Service (WMS), Web Feature Service (WFS) and many other open protocols for transferring the Geographical information, such as maps, spatial attributes and feature data sets. Designed for interoperability, it publishes data from any major spatial data source, such as shapefiles, PostGIS etc. using open

standards. Besides GeoServer QGIS and PostGIS will also be required and used during hands-on session.

Pre-requisite knowledge for the attendees/background of participants

Anybody, who has a good understanding of GIS and wants to learn the basics of Web-GIS and start working with GeoServer.

Pre-requisite for attending workshop

Participant should have basic computer skills along with experience of GIS data creation and analysis. Knowledge of PostGIS, basics of programming scripts like javaScript/html is desirable.

Demo/hands-on (if hands-on, inform to bring their own laptops)

During hands-on session participants will learn GeoServer GUI and how to create the workspaces, stores, styling and publishing the layers (shapefiles/PostGIS).

Any other information/specifications

Participants are required to bring their own laptops (Windows OS) with QGIS installed.

Workshop: 7

Description of the workshop

This workshop will provide training on analysis of Remote Sensing Open Data (Landsat-8, ASTER etc.) using GRASS GIS. The participants will be familiarized with ways to access free data, import data, perform analysis and export data in commonly used GIS formats. Further, techniques for mapping environmental parameters such as vegetation, land cover etc. will be demonstrated. The participants will be provided with software and test data for self-practice sessions after attending the workshop and can gain knowledge on extracting geospatial information related to their own areas of interest or specialization.

Pre-requisite knowledge for the attendees/background of participants

Basic background of Remote Sensing would be helpful

Pre-requisite for attending workshop

None

Demo/hands-on (if hands-on, inform to bring their own laptops)

The workshop will be conducted in demonstration style and all material will be provided for self-practice after the workshop.

Any other information/specifications

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Workshop: 8

Description of the workshop

QGIS – Process your imagery, and conduct analysis
Mapbox Studio – imagery styling and customization and visual analysis
Mapbox GL JS – develop your own custom interactive web application

Pre-requisite knowledge for the attendees/background of participants

The workshop is designed to cover the basics of remote sensing. Participants may be anyone with a basic knowledge of remote sensing, and/or GIS. Programming knowledge is not necessary to attend this workshop.

Pre-requisite for attending workshop

All the participants are expected to have a laptop with pre-installed QGIS and a registered Mapbox Studio account. The satellite imagery used for this workshop will be provided prior to the workshop date.

Demo/hands-on (if hands-on, inform to bring their own laptops)

This is a hands-on workshop. Anyone planning to attend is expected to bring your own laptop.

Any other information/specifications

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Workshop: 9

Description of the workshop

This workshop will include how to deal with big data (both spatial as well as non spatial data) and its visualization using OpenLayers.

Pre-requisite knowledge for the attendees/background of participants

Attendee's previous knowledge: Basics of GeoServer, OpenLayers Javascript mapping API.

Pre-requisite for attending workshop

Using OSGeo Live (VM is ok) or
Please have at least the following installed: GeoServer if possible as war deployed in Apache Tomcat.

Demo/hands-on

This is a hands-on workshop. Anyone planning to attend is expected to bring your own laptop.

Any other information/specifications

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Workshop: 10

Description of the workshop

This will be a lively and very hands-on workshop covering the entire LiDAR processing pipeline from Quality Checking to LiDAR Preparation and Derivative Production. After some basic quality checks we will turn a few raw LiDAR flightlines into a set of properly classified LiDAR tiles from which we then derive a Digital Terrain Model (DTM) with contour lines as well as building footprints and a vegetation layer that we then compare and cross-process with with Open Street Map data from the same area.

Pre-requisite knowledge for the attendees/background of participants

This is a stand-alone workshop but basic familiarity with QGIS is expected.

Pre-requisite for attending workshop

No prior LiDAR processing knowledge needed but basic familiarity with QGIS is expected.

Demo/hands-on

The workshop is **very** hands-on. You will do the entire LiDAR processing on your laptop. Ideally you bring (any) Windows laptop with pre-installed QGIS (2.14 and up). Non-windows laptops will be a bit more tricky. It should work too but you need to pre-install Wine. NOTE: There is no need to pre-install LAsTools. A special version enhanced with the training data will be provided and the installation will be part of the workshop.

Any other information/specifications

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