Training courses

(Last update: December 2017)

Remarks:

- As part of a course a certificate is issued for each attendee.
- All software used during the courses is Open Source Software.

Contact:

allspatial – Geospatial Software and Services

Email: info@allspatial.info

Phone: +248-2601455

Course	Overview	Details	Audience	Duration
Applying GIS				

Introduction to GIS	This two-day, hands-on training course is introducing GIS to newbies and will get them started swiftly. It covers loading datasets from different sources, styling layers, adding map decorations, performing queries, creating different types of maps and a map layout for printing. The course also covers how to capture and update (spatial) data. Although the software used during the course is QGIS the principles taught can be applied to any other GIS software. The course is prepared and delivered by Michael Wagner who is a geospatial developer and consultant and has provided numerous training courses on geospatial technology in countries and	• Loading vector and raster data
		  ○ File datasets
		  ○ From web services
		• Map navigation
		• Changing a layer's layout
		• Adding map decorations
		• Attribute- and spatial queries
		• Joining layers with spreadsheet data
		• Creating thematic maps
		• Adding diagrams
		• Capturing data
		• Modifying/updating data
		• Preparing a map for printing
			• GIS newbies	2 days

Course	Overview	Details	Audience	Duration
	projects all over the globe.			
GIS for disaster/emergency management	In this two-day, hands-on training course the attendees will learn how to use GIS at different stages of disaster/emergency management (in particular mitigation, preparedness and response). The software used during the course is QGIS. The course is prepared and delivered by Michael Wagner who is a geospatial developer and consultant and has provided numerous training courses on geospatial technology in countries and projects all over the globe.	• Mapping disease outbreaks • Creating heat maps (density maps) • Visualising change throughout time • Creating quarantine zones • Calculating the position of road check points • Impact and damage assessment • Improving mitigation measures • Improving preparedness and response (planning for evacuation, medical aid, temporary shelter, etc.)	• Government organisations involved in disaster/emergency management • First responders	2 days
Software development / customisation				
Developing Python plug-ins for QGIS	QGIS can be extended and customised by plug-ins written in Python and C++. This two-day, hands-on training course covers customisation through Python plug-ins. Attendees will first practice how to control QGIS from the built-in Python console. They will then step-by-step develop a Python plug-in that allows for creating multiple-ring buffers (which is a feature not available within the QGIS core version). The course is prepared and delivered by Michael Wagner who is a geospatial developer and consultant and has implemented QGIS plug-ins in numerous projects all over the globe.	• Controlling QGIS from the built-in Python console • Introduction to the core APIs required to customise QGIS • Structure of QGIS Python plug-ins • Development of a Python plug-in to create multiple-ring buffers • Sharing plug-ins through a repository (official QGIS repository and custom repositories)	• (Geospatial) Software developers • GIS and IT students	2 days

Course	Overview	Details	Audience	Duration
(Spatial) Databases				

Installation, configuration and administration of the Open Source database management system PostgreSQL	This two-day, hands-on training course covers the installation, configuration and administration of PostgreSQL, the most advanced Open Source Database Management System to date. PostgreSQL has a strong reputation for its reliability and stability and an increasing number of organisations and companies are switching from proprietary systems to PostgreSQL. The course is prepared and delivered by Michael Wagner who is a certified PostgreSQL Professional and has supported numerous projects in designing and implementing PostgreSQL databases, often in combination with its spatial extension PostGIS.	• Introduction and overview
		• Installation and basic configuration
		• Creating databases
		• Creating schemas
		• Creating user and group roles
		• Creating tables and views
		• Granting permissions
		• Loading extensions
		• Populating the database
		  ○ SQL
		  ○ Bulk loading
		• Creating and restoring backups
		• Basic maintenance tasks
		• Creating trigger procedures
		• Administration tools: psql (and pgAdmin)
			• Database administrators
			• Software developers
			• IT students
				2 days

Tuning of the Open Source database management system PostgreSQL for high performance scenarios	This two-day, hands-on training course covers how to tune PostgreSQL for high performance. The course will look at the most crucial configuration aspects that affect database performance. The course also takes into account some of the performance relating features introduced with recent PostgreSQL versions only such as parallel queries (since 9.6) and native partitioning (since 10). The course is prepared and delivered by Michael Wagner who is a certified PostgreSQL Professional and has supported numerous projects in designing and implementing	• Hardware considerations • File system tuning • Memory parameter settings • Query parameter settings • Query analysis and tuning • Parallel queries • Partitioning tables	• Database administrators • Software developers • IT students	2 days

Course	Overview	Details	Audience	Duration
	PostgreSQL databases.			
PostGIS in practice	This two-day, hands-on training course covers how to use PostGIS to perform basic and advanced spatial analysis. PostGIS is the spatial extension to the Open Source Database Management System PostgreSQL. As PostgreSQL PostGIS is Open Source Software. PostGIS allows for powerful server-side spatial analysis making GIS Desktop software obsolete in many scenarios. The course is prepared and delivered by Michael Wagner who is a certified PostgreSQL Professional and geospatial developer and consultant. Michael has supported numerous projects in designing and implementing spatial databases (geodatabases) using PostgreSQL and PostGIS.	• Introduction and overview • Importing spatial data (vector data) • Spatial analysis on database level • Visualizing query results • Spatial views • Dimensionally Extended Nine-Intersection Model (DE-9IM) • Creating spatial data • Exporting spatial data • Geometry processing (buffers, intersections, clipping, etc.) • Importing spatial data (raster data) • Advanced spatial analysis	• GIS analysts, technicians, administrators, fans, etc. who want to retire from using ESRI Shapefiles • Software developers implementing location based services • GIS and IT students	2 days
Network analysis with PostgreSQL, PostGIS and pgRouting	This two-day, hands-on training course covers network analysis with pgRouting. pgRouting is an extension to PostgreSQL and PostGIS and allows for powerful routing and network analysis on database level. Attendees will learn how to import OpenStreetMap road data into PostgreSQL and build the topology that is required to perform network analysis. They will use pgRouting to identify the cheapest path between two locations. They will then learn how to identify the cheapest way to travel from A to B while	• Importing OpenStreetMap data into PostGIS • Building topology • Verifying topology and fixing errors • Shortest path analysis • Travelling Sales Person (TSP) • Driving distance calculation • Creating service areas	• GIS analysts, technicians, administrators, fans, etc. • Software developers implementing location based services • GIS and IT students	2 days

Course	Overview	Details	Audience	Duration
	visiting a number of given locations in between (“Travelling Sales Person” problem). Finally, they will use driving distance calculation to create service areas, i.e. areas that can be reached within the same time. QGIS will be used to visualise all analysis results. The course is prepared and delivered by Michael Wagner who is a certified PostgreSQL Professional and geospatial developer and consultant. Michael has supported numerous projects in designing and implementing spatial databases (geodatabases) using PostgreSQL, PostGIS and pgRouting.			