

PostgreSql-PostGIS Certificate Course

Course Overview

PostgreSQL with PostGIS is a powerful combination of open-source technologies used for managing spatial and geographic data within a relational database system. PostgreSQL is a highly extensible and feature-rich open-source relational database management system (RDBMS), while PostGIS is an extension that adds support for spatial objects and geographic queries to PostgreSQL.

Here's an overview of PostgreSQL with PostGIS:

- **PostgreSQL:** PostgreSQL is an advanced, enterprise-class open-source RDBMS known for its stability, scalability, and extensibility. It provides robust transaction support, data integrity, and a wide range of features that make it suitable for handling complex data management tasks.
- **PostGIS:** PostGIS is a spatial database extension for PostgreSQL that enables the storage, manipulation, and analysis of geographic data. It adds support for spatial data types, spatial indexes, and spatial functions, allowing you to store and query spatial information like points, lines, polygons, and more..
- **Spatial Data Types:** With PostGIS, you can define spatial columns in your PostgreSQL tables to store various types of spatial data. These include Point, LineString, Polygon, MultiPoint, MultiLineString, MultiPolygon, GeometryCollection, and more. These data types allow you to represent and store real-world geographic objects.
- **Spatial Indexes:** PostGIS provides spatial indexing capabilities that enhance the performance of spatial queries. It uses R-Tree and GiST (Generalized Search Tree) indexing methods to speed up spatial searches and enable efficient spatial operations like nearest neighbor searches, spatial joins, and bounding box queries.
- **Spatial Functions and Operators:** PostGIS extends PostgreSQL with a rich set of spatial functions and operators. These functions enable you to perform various spatial operations, such as calculating distances between geometries, finding intersections, performing buffer operations, transforming spatial data between coordinate systems, and much more
- **Spatial Querying:** With PostGIS, you can perform powerful spatial queries using standard SQL syntax. You can search for objects within a specified radius, find all objects intersecting a given area, compute the length or area of geometries, aggregate spatial data, and execute complex spatial analysis tasks.
- **Integration with GIS Software:** PostGIS seamlessly integrates with Geographic Information System (GIS) software, allowing you to leverage its spatial capabilities from within GIS tools. Popular GIS software like QGIS, ArcGIS, and GeoServer can connect to PostGIS databases and work with spatial data stored in PostgreSQL.

Pre-Requisites

- Operating System
- PostgreSQL Installation
- Database Management
- PostGIS Extension
- System Requirements
- Spatial Data

well these prerequisites are beneficial, they are not mandatory. you'll be well-prepared to start working with PostgreSQL and PostGIS for spatial data management and analysis.

Benefits of Learning Web GIS

Learning PostgreSQL with PostGIS offers several benefits that can greatly enhance your capabilities in spatial data management and analysis:

- **Spatial Data Management:** PostgreSQL with PostGIS equips you with the skills to effectively manage spatial data within a robust relational database management system. You'll learn how to store, query, and update spatial data, enabling you to organize and maintain geospatial information efficiently.
- **Geographic Analysis:** PostgreSQL with PostGIS enables you to perform advanced geographic analysis by leveraging its spatial functions and operators.
- **Integration with GIS Software:** PostGIS integrates seamlessly with Geographic Information System (GIS) software, allowing you to leverage its spatial capabilities from within your preferred GIS tools.
- **Career Opportunities:** Proficiency in PostgreSQL with PostGIS opens up career opportunities in fields such as geospatial analysis, urban planning, environmental sciences, transportation, and location-based services.
- **Data Integration:** PostgreSQL with PostGIS allows you to integrate spatial data with other non-spatial data stored in your database. This capability enables you to enrich your analysis by combining spatial information with attributes from other tables, providing a more comprehensive view of your data.
- **Scalability and Performance:** PostgreSQL is known for its scalability and performance, making it suitable for handling large volumes of spatial data.
- **Standard Compliance:** PostgreSQL with PostGIS adheres to international standards for spatial databases, such as the Simple Features for SQL specification. This ensures interoperability with other spatial databases and tools that support the same standards, allowing you to exchange and work with spatial data across different platforms.

By learning PostgreSQL with PostGIS, you'll acquire a powerful set of skills for spatial data management, analysis, and integration. These skills can enhance your professional profile, open up career opportunities, and enable you to work with spatial data effectively in various domains.

Related Job Roles

- Database Administrator (DBA)
- Geospatial Data Analyst
- Spatial Data Engineer
- Spatial Data Scientist
- Geospatial Consultant

These job roles represent a range of opportunities where proficiency in PostgreSQL with PostGIS can be highly valuable. Depending on the organization and specific industry

Available Training Options

- Online/Offline
- Weekdays Batches
- Weekend Batches
- Course - Duration: 45 Days
- Mode of Training - Online - Live Online Classes
- Daily 1Hr (Need to have a laptop or Computer with Good Internet)

Dedicated Trainer, Practical sessions. One-on-One Live Training Session with Hands-on Practical Training. For fees details and discounts whatsapp on Phno: +91 8050123030

PostgreSql-PostGIS Training Syllabus

Introduction to PostgreSQL

- PostgreSQL - Environment Setup
- PostgreSQL - Syntax
- PostgreSQL - Data Types
- PostgreSQL - Create Database
- PostgreSQL - Select Database
- PostgreSQL - Drop Database
- PostgreSQL - Create Table
- PostgreSQL - Drop Table
- PostgreSQL - Schema
- PostgreSQL - Insert Query
- PostgreSQL - Select Query
- PostgreSQL - Operators
- PostgreSQL - Expressions
- PostgreSQL - Where Clause
- PostgreSQL - AND & OR Clauses
- PostgreSQL - Update Query
- PostgreSQL - Delete Query
- PostgreSQL - Like Clause
- PostgreSQL - Limit Clause
- PostgreSQL - Order By Clause
- PostgreSQL - Group By
- PostgreSQL - With Clause
- PostgreSQL - Having Clause
- PostgreSQL - Distinct Keyword

Advanced PostgreSQL

- PostgreSQL - Constraints
- PostgreSQL - Joins
- PostgreSQL - Unions Clause
- PostgreSQL - NULL Values
- PostgreSQL - Alias Syntax
- PostgreSQL - Triggers
- PostgreSQL - Indexes
- PostgreSQL - Alter Table Command
- Truncate Table Command
- PostgreSQL - Views
- PostgreSQL - Sub Queries
- Date/Time Functions & Operators
- PostgreSQL - Aggregate functions
- PostgreSQL - Functions

PostGIS Introduction

- Installing postgresQL and postGIS
- Import & export shapefiles into postgresQL database using postGIS bundle
- import database to QGIS
- backup and restoring spatial database
- working with special reference id and the geometry field
- spatial queries-working with geometries
- geometry creation and manipulation
- spatial relationship using postGIS
- spatial indexing
- geography vs geometry
- spatial joins
- adding geometry to feature with insert

Introduction to GeoServer

- Setting up GeoServer on Windows Environment
- Geoserver Architecture & Protocols
- Overview of GeoServer User Interface
- Working with Vector Spatial Data
- About Workspaces
- Create Workspace
- About Stores
- Import Vector Data to Store
- Publish Vector Data to Geoserver
- Web Map Service (WMS)
- Serving Cascading WMS
- Web Feature Service (WFS)
- Differences WMS and WFS
- Layer Preview in GeoServer
- Connect and Work with QGIS

Layer Styling

- Styling Point Features
- Styling Line Features
- Styling Polygon Features
- GeoServer Basic Vector Styling
- Exporting SLD from QGIS
- Styling Raster Data
- GeoServer Basic Raster Styling

Introduction to security in Geoserver

- Data security
- Creating Group and Rules

For Registration/ Customization of Course / Course Fees

Call / What's app on:	+91 8050123030
Duration:	45 Days
Mode of Training:	Online
Weekdays:	Monday-Friday
Weekends:	Saturday and Sunday

Student Review

Arvind Raju

From : Oman

I've taken up the Advance Python & Arcpy classes from this institute with trainer Mrs. Roselynn is very knowledgeable and teaches the course topics with great detail. Everything was easy to understand and I was always helped with doubts until it was completely rectified. I would definitely recommend this Institute to anyone wanting to learn Python or any of the other courses they offer.

Ullash Ghosh

From : Kolkatta

Excellent teaching of Advance Python programming by experienced trainer. Flexible timings. It was an awesome experience.

Jahir Hussain

From : Qatar

Its Helped me to identify clear, be able next steps towards resolving my own workplace conflict and issues.

Ayeesha H

From : Bangalore

Great knowledge given by the mentor, Best training institution. Mam has explained all the topics very clearly.

Student Review

Vishnu vg From Kerala

My trainer, has a very good command over all the topics. She has explained each topic very clearly. We got a good understanding of all the concepts as she used to write programs daily for the real time scenarios. She make us practice during the classes. Overall I could say, you will be gaining good hands-on and understanding by end of the course

Eshawar Rao From Hubli Dharwad

Excellent Faculty, Excellent Knowledge about subject, madam gives Attention towards every individual student, Madam is having enough Patience in clearing all individual doubts, Overall Excellent training centre to learn and to grow.

Siddhi Kanekar From Pune

Best training institution. Mam has explained all the topics very clearly.
Thank you so much mam for being part of your institution.

Aghil Dev From Orisa

I happy to be a student of rose mam, as she was always present to help. My classes were good and helped me in understanding the concept. Thanks rose mam

Gaurav Chauhan

Position: GIS Analyst

Company:

Carifer Technologies Private Limited
Chennai

Salary: 13 LPA

Harisha

Position: GIS Analyst

Company:

GVS Technosoft Pvt. Ltd
Salary: 10 LPA

Ankit Hemnani

Position: Software Engineer .Net

Company:

Celtic System Pvt.Ltd
Salary: 7.5 LPA

Harish Vijayakumar

Position: Project-Assosiate

Company:

Cognizant Technology Solutions India
Private Limited
Salary: 12 LPA

KIRAN B

Qualification: MBA

Position: Business Head

Experience: 18 Years

His extensive experience in Operations Management, Client Acquisition, HR & Recruitment, and working with startups, he has demonstrated a track record of success across multiple industries and geographies. Starting from an executive level, he progressed to management positions, where he implemented process improvements to enhance efficiency, increase revenue, and drive growth. His vast network of colleges and training centers has significantly contributed to the development of robust recruitment and training pipelines. Moreover, he has successfully engaged with diverse clients.

NIKHIL S D

Qualification: BE Civil

Position: CAD Trainer (Civil)

Experience: 10 Years

Programing Skills: C,C++

2D And 3D Skills: AutoCad, 3D Max, Staad pro, Solid Works, Revit, Google Sketchup and ArcGIS CityEngine

Highly experienced CAD Civil Trainer with a demonstrated track record of success in delivering comprehensive training and instruction, specifically tailored for civil engineering applications. Committed to empowering learners with the necessary skills and knowledge to excel in their civil design and drafting projects.

RAMESH J

Qualification: BE Mech

Position: CAD CAM Trainer (Mech)

Experience: 6 Years

Programing Skills: C,C++,Python

2D And 3D Skills: AutoCad, Catia, Pro-e, Solid Edge, MatLab, Ansys, Solid Works,

Results-oriented CAD Mech Trainer with a decade of experience delivering exceptional training and instruction in 2D and 3D modeling software for mechanical engineering applications. Committed to equipping learners with the skills and knowledge needed to excel in mechanical design, simulation, and manufacturing.

ROSELEN S B

Qualification: MCA

Position: Programmer And Corporate Trainer

Experience: 12 Years

Programing Skills: Java, Python, AI, Machine Learning, Php, SQL, Full Stack

GIS Skill: Arcpy, ArcGIS JS API, ArcGIS Python API, PostGIS, Web AppBuilder, WebGIS

Highly experienced programming mentor with strong background in various programming languages. With over 12 years of training experience, has successfully mentored more than 3000 students, dedicated to helping aspiring programmers and professionals acquire the necessary skills and knowledge to excel in their programming careers.

KAVITA H

Qualification: MSc.IT

Position: Programing Trainer

Experience: 10 Years

Programing Skills: C, C++, Java, MSSQL, MYSQL Server, C# and good knowledge in Servlets, JSP, EJB Worked on J2EE 1.4 Application Server

Kavita is a seasoned programming mentor and trainer with a decade of experience specializing in Java Servlets and MySQL. She has a strong passion for teaching and guiding individuals in mastering these technologies. kavita's in-depth knowledge and practical experience in Java Servlets and MySQL make her an ideal mentor for aspiring programmers looking to excel in web development

ANKIT H

Qualification: MSc.Geoinformatics

Position: GIS Trainer

Experience: 6 Years

GIS Skills: Arc GIS, Arc GIS Pro, QGIS, IGIS, Fusion X, Auto CAD, MS Office, Google Earth, Bhuvan Portal, Geo-Server, Arcgis online, Microstation

Programing Skills: HTML, CSS, Java script, ArcGIS API for Java script, .Net, Python
Ankit is a highly skilled GIS trainer. Has experience in ArcGIS, QGIS, PostGIS, remote sensing, and network analysis. His expertise lies in the field of spatial data analysis and geospatial technologies. He is passionate about sharing his knowledge and helping individuals develop proficiency in GIS applications for various industries.

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