Oracle Spatial: Advanced

Duration: 2 Days

What you will learn

In this course, students learn to use Oracle Spatial GeoRaster, Oracle Spatial’s open solution for storing digital imagery and grid data in the database. Students use an open source GeoRaster loader, GDAL, and Oracle’s Java GeoRaster loader to load raster images and learn about the Map Builder and MapViewer support for GeoRaster. Also, students learn how Oracle Spatial topology data model stores topology information in the database and how the Oracle Spatial network data model stores network information in the database for graph analysis. Students also learn about Spatial Analysis and Mining and the Oracle Workspace Manager.

Learn To:

- Understand the Oracle Spatial GeoRaster storage model
- Use GDAL, an open source GeoRaster loader and Oracle’s Java GeoRaster Loader to load GeoRaster images
- Describe the Oracle Spatial topology data model
- Understand the Oracle Spatial network data model and network concepts
- Understand Oracle Spatial analysis and mining features
- Describe and use the Oracle Workspace Manager

Audience

Application Developers
Developer
Functional Implementer
Technical Consultant

Related Training

Required Prerequisites

Basic experience with the Oracle Spatial fundamentals

Oracle Spatial: Essentials

Course Objectives

Describe Oracle Spatial GeoRaster Concepts

Understand the Oracle Spatial GeoRaster storage model

Use GDAL, an Open source GeoRaster loader and Oracle’s Java GeoRaster Loader to load GeoRaster images

Use Map Builder and MapViewer to process and view the GeoRaster images

Describe the Oracle Spatial Topology Data Model
Understand how to create and load a Topology

Understand editing a topology and topology caches

Know how to use SDO_TOPO_MAP.CREATE_FEATURE

Understand the Oracle Spatial Network Data Model and Network Concepts

Describe the Node, Link, and Path Tables used with the Network Data Model

Use the Network Data Model to perform graph analysis

Describe and use the Oracle Workspace Manager

Understand Oracle Spatial Analysis and Mining features

Course Topics

**Understanding Oracle Spatial GeoRaster**
What Is Raster Data?
What Is Oracle Spatial GeoRaster?
Explaining Grid Raster Data
Understanding the Raster Data Concepts: Digital Imagery
Explaining the Cell Data and Bands Concepts
Explaining the Pyramids, Blocking and Interleaving Concepts
Describing the SDO_GEORASTER Object Type
Creating Triggers for GeoRaster Data

**Using Oracle Spatial GeoRaster**
Loading GeoRaster data using Oracle’s Java GeoRaster loader
Loading GeoRaster data using an Open Source GeoRaster Loader, GDAL
Explaining the Georeferencing Concepts and the GeoRaster Features and Functionality
Defining GeoRaster Themes using Map Builder
Viewing GeoRaster Data using MapViewer demonstrations

**Oracle Spatial Topology Data Model**
Explaining Topology and its Advantages
Explaining Topology Concepts: Nodes, Edges, and Faces
Creating a Topology Using SDO_TOPO.CREATE_TOPOLOGY
Loading Topology Primitives
Adding Topology Primitives to NODE$, EDGE$, and FACE$ Tables
Using SDO_TOPO.INITIALIZE_METADATA

**Using the Oracle Spatial Topology Data Model**
Defining Spatial Features
Creating a Feature Layer
Registering a Feature Layer with a Topology
Mapping Between Features and Topology
Describing Topology Editing
Creating Features, Performing Spatial Queries, and Cross Schema Topology Access
Using SDO_TOPO_MAP.CREATE_FEATURE
Understanding Hierarchical Feature Model Concepts
Registering a Hierarchical Feature Layer with a Topology
Using SDO_TOPO_MAP.CREATE_FEATURE Signature to Build Hierarchical Features
Explaining Topology Data Model Spatial Queries
Sharing a Topology Between Oracle Users
Sharing Feature Layers Between Oracle Users

Oracle Spatial Network Data Model
What Is the Oracle Spatial Network Data Model
Explaining the Oracle Spatial Network Data Model Load on Demand (LOD): Oracle 11g and Later
Two-Tier and Three-Tier Architecture for Oracle Spatial Network Data Model
Explaining Network Node Table, Link Table, Path Tables, and Subpath Tables with Examples
Explaining Network Partition Table for Load on Demand
Explaining Network Partitioning Best Practices and the Network BLOB Table
Identifying Different Types of Analyses Performed in the Oracle Spatial Network Data Model
Computing Multiple Costs During Network Analysis

Spatial Analysis and Mining
Explaining Spatial Analysis and Mining
Using SDO_SAM.AGGREGATES_FOR_GEOMETRY
Using SDO_SAM.AGGREGATES_FOR_LAYER
Using SDO_SAM.TILED_AGGREGATES
Explaining Spatial Binning
Explaining Clustering Analysis
Using SDO_SAM.SPATIAL_CLUSTERS

Overview of Oracle Workspace Manager
Explaining Workspace Manager and its benefits
Understanding Workspace Manager Architecture
Performing Workspace Manager Operations
Using the Workspace Manager API
Resolving Workspace Conflicts
Listing the Release 11.1 Enhancements