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Sign up

MapInfo-Pentaho Spatial BI Training

3 days (21 hours)

Presentation

Master spatial BI with this comprehensive training course dedicated to the integration of MapInfo, Spectrum Spatial and Pentaho.

The course begins with an introduction to geospatial BI and Pentaho architecture, exploring ETL modeling in Spoon and the use of GeoKettle to manipulate spatial data. You'll build complex workflows integrating GIS formats, GDAL/OGR processing, geocoding and isochrone calculations.

You'll then discover how to integrate MapInfo and Spectrum Spatial into your workflows to enrich your Pentaho dashboards with dynamic maps, geographic dimensions and advanced analyses.

Finally, you'll learn how to model a spatial SOLAP cube, automate your deployments and secure your geographic sources in an industrialized professional environment.

As with all our training courses, this one will be presented with the latest Pentaho updates.

Objectives

- Understand the MapInfo + Spectrum Spatial + Pentaho ecosystem
- Master spatial data flows (GeoKettle)
- Create reports and dashboards integrating interactive maps
- Apply spatial analyses (geocoding, isochrones, geographic filtering)
- Design an operational SOLAP project

Target audience

- Intermediate data engineers / data analysts
- Pentaho users familiar with ETL and BI concepts, but new to MapInfo/Spectrum Spatial.

Prerequisites

- Intermediate knowledge of data manipulation
- Mastery of SQL
- Comfort with Pentaho Data Integration or similar

MapInfo?Pentaho Spatial BI training program

Introduction to geospatial BI

- Global architecture: BI Server, PDI, BA Server
- PDI's place in the BI chain
- Navigation in Spoon
- Creating and opening projects
- ETL project structure in Pentaho
- Transformations vs. Jobs
- Steps and hops
- Variables and parameters

GeoKettle Geospatial ETL with Pentaho

- Introducing GeoKettle (PDI's spatial extension)
- Enhanced Spoon interface: navigation, spatial props
- Supported formats: Shapefile, GeoJSON, PostGIS...
- Simple stream construction: extraction ? cleaning ? insertion
- Ingestion of a local shapefile in PostGIS

Advanced geospatial flows

- Spatial operations: buffer, intersection, reprojection via GDAL/OGR
- Geocoding and isochrone calculation
- Error handling and performance optimization
- Export to tabular and spatial formats
- Complete workflow - buffer + spatial join + export

MapInfo/Spectrum Spatial + Pentaho architecture

- Spectrum Spatial for BI's role as a map server
- Flow: MapUploader ? Spectrum ? Pentaho
- MapInfo Pro configuration and Spectrum connection
- Pentaho integration: connection to the map server

Creation of interactive geo-reports in Pentaho

- Add dynamic maps in Pentaho Report Designer and BA
- Model geographic dimensions and fact tables
- Interactive spatial drill-down and map filtering
- Dashboard with choropleth map, geocoded points and spatial filters

Advanced spatial dashboard analysis

- On-the-fly geocoding in reports
- Isochrones to study accessibility
- Enrichment with demographic data and segmentation via Spectrum
- Construction of business-specific spatial indicators (catchment area, network coverage, etc.)
- Case study: analyze point-of-sale performance by zone

SOLAP spatial cube with Pentaho

- OLAP concepts enriched with the spatial dimension
- Star schema including geodimensions
- PDI orchestration for GSTL cube loading
- Use of GeoMondrian / Mondrian BI spatial
- Spatial drilldown via map in OLAP reports

Deployment, automation & best practices

- Publishing on Pentaho Server and access configuration
- Scheduling ETL jobs and reports
- Versioning, documentation, collaborative management
- Securing geographic sources
- Flow logging, monitoring and auditing

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced IT technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is confirmed, the learner receives a self-assessment questionnaire enabling us to

assess their estimated level of proficiency in different types of technology, and their expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) that could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical training: 60% hands-on, 40% theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Certification

A certificate will be awarded to each trainee who has completed the entire course.