Hands-on Lab: Interactive map visualization of large datasets in analytic applications

LJ Qian, Director of Software Development
David Lapp, Product Manager
Oracle
Safe Harbor Statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle’s products remains at the sole discretion of Oracle.
Agenda

• Lab objective
• Environment setup
• Demonstration
• Technical Overview
• MVDEMO overview
• Hands-on exercises
Lab Objective

- Understand the capability and benefits of important new Oracle MapViewer features that deliver dense geographic features and their attributes to mapping applications on browsers and mobile devices.
- Gain experience in manipulating the code to configure and leverage these features.
- Familiarity with the broader Oracle Maps HTML5 API (aka Oracle Maps V2 API) using the MVDEMO sample application.
Environment setup

• Instructions in HoL doc
• Connect to clear-guest using password provided
• Connect to Array SSL-VPN site at https://adc-ssl-cnc-vsite.oracle.com
• Install Array Networks control
• When the web page shows an IP address you are on the workshop network
• Connect to hosted client with Remote Desktop using IP address provided
• In hosted client, open Firefox and connect to HoL launchpad at [IP address]:7777 (using IP address provided)
Demonstration

• Storm demo, part of MVDEMO sample application

• Enhanced with key new MapViewer features:
  - Dynamic Tile Layer (DTL)
  - UTF Grid
Technical Overview

Oracle MapViewer

• Toolkit consisting of server and client JEE and Javascript components for incorporating interactive maps and spatial analysis in browser-based applications

• Included in various Oracle products and apps

• Javascript APIs (AJAX, HTML5) aka “Oracle Maps”

• HTML5 API aka “Oracle Maps V2 API”

• Oracle Maps V2 API provides
  • Rich map visualization and spatial analytics in business apps
  • Highly interactive user experience
  • Mobile support
Technical Overview

Dynamic Tile Layer (DTL)

- Programmatically defined Tile layer
- New `OM.layer.DynamicTileLayer` object in Oracle Maps V2 API
- Not stored in metadata
- Requires tile config definition
- Provides advantages associated with tile cache with flexibility to dynamically control content
Technical Overview

UTF Grid

- Open source specification authored by Mapbox©
- Supplements online maps with a rasterized layer of attributes
- Enables static background tile layers (predefined or dynamic) to become interactive with info windows
- JSON containing character map and character-to-attribute associations
MVDEMO overview

• Functional demos covering Oracle Maps APIs
• We will use Oracle Maps V2 API (HTML5) for this workshop
• Clicking on demo title on left displays map result over an editable text box on the right
• Click Run button above map to view results of code edits
Hands-on exercises

• From HoL launchpad click link to download lab pdf document
• Open pdf document and review introductory sections
• Follow along instructor’s guided tour of MapViewer Console
• Begin exercises in section titled Lab
The Spatial and Graph SIG

- The SIG promotes interaction and communication that can drive the market for spatial technology and data

- Members connect and exchange knowledge via online communities and at annual conferences and events

- Meet us at the Summit
  - Morning Receptions
    - Tuesday and Wednesday / 7:45 to 8:30 a.m. / Registration Area
  - Birds of a Feather Session
    - Wednesday / 12 to 1 p.m. / Auditorium - Look for “Spatial and Graph SIG” table

- Join us online
  - LinkedIn (search for “LinkedIn Oracle Spatial”)
  - Google+ (search for “Google+ Oracle Spatial”)
  - IOUG SIG (sign up for free membership through www.ioug.org)
  - OTN Spatial - Communities (search for “Oracle Spatial and Graph Community”)
  - Contact the Board at oraclespatialsig@gmail.com
Resources


- blogs.oracle.com ➔ oraclespatial ➔ oracle_maps_blog ➔ bigdataspatialgraph
Resources on Big Data Spatial and Graph

• Oracle Big Data Spatial and Graph on Oracle.com: https://www.oracle.com/database/big-data-spatial-and-graph


• Blog (technical examples and tips): https://blogs.oracle.com/bigdataspatialgraph/

• Big Data Lite Virtual Machine (a free sandbox environment to get started): http://www.oracle.com/technetwork/database/bigdata-appliance/oracle-bigdatalite-2104726.html