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Google Maps with MySQL and PHP

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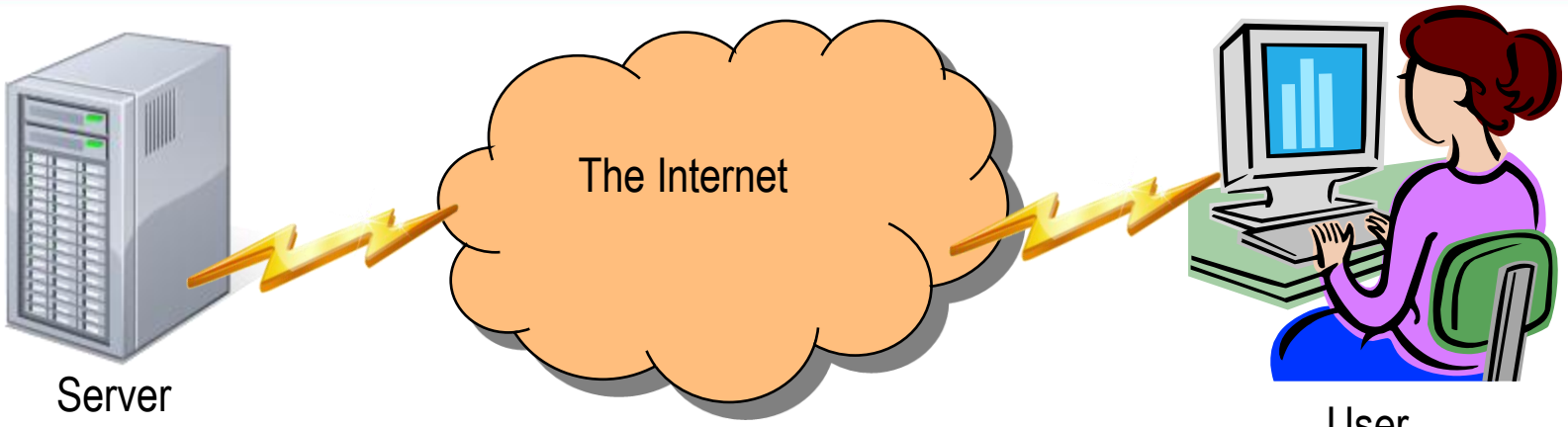
Overview

- Layout of system
- Installation of Software
- Configuration of MySQL
- Our First Map
- A Look Through the Code

Layout of System

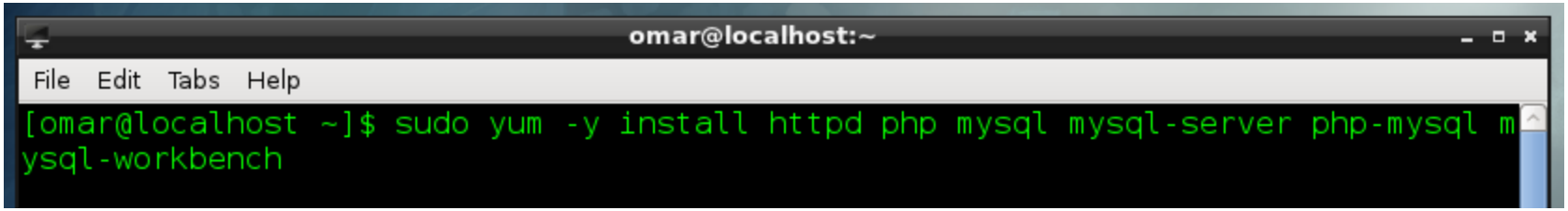


L/WAMP Stack
- Linux/Windows
  - Operating System
- Apache HTTP Server
  - Serves web-pages to the WWW
- MySQL Database
  - Used for storing the AIS data
- PHP Scripting Language
  - Used to query the database given criteria selected by the user

- Internet Browser
  - Used to view our Google Map with AIS data on it

Installation of Software

- Enter the following command in a command shell:
- sudo yum -y install httpd php mysql mysql-server php-mysql mysql-workbench



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Installation of Software

- Download and install WAMP stack (Windows, Apache, MySQL, PHP) wampserver2.2e-php5.3.13-httpd2.2.22-mysql5.5.24-x64
  - http://www.wampserver.com/en/
  - http://www.wampserver.com/es/
- Optionally install MySQL Workbench
  - http://www.mysql.com/downloads/workbench/

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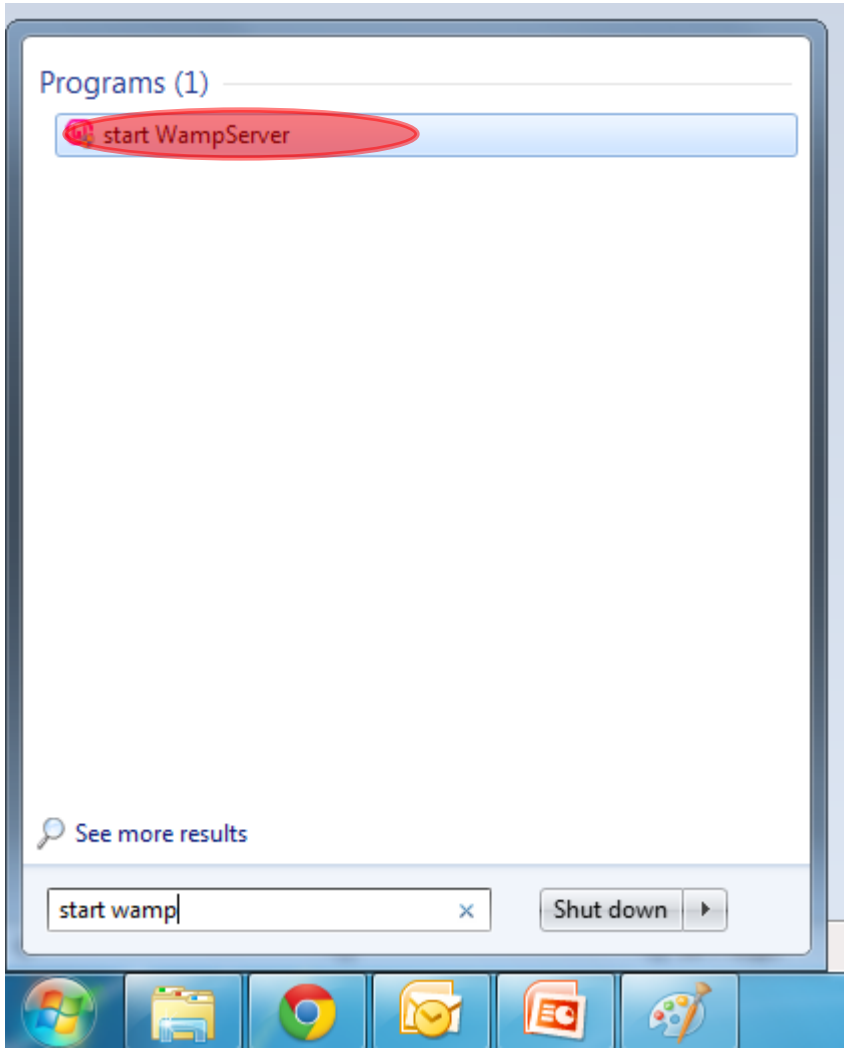
Configuration of MySQL

- Start MySQL service by typing
- sudo service mysqld start
- Run mysql-workbench by entering
- sudo mysql-workbench

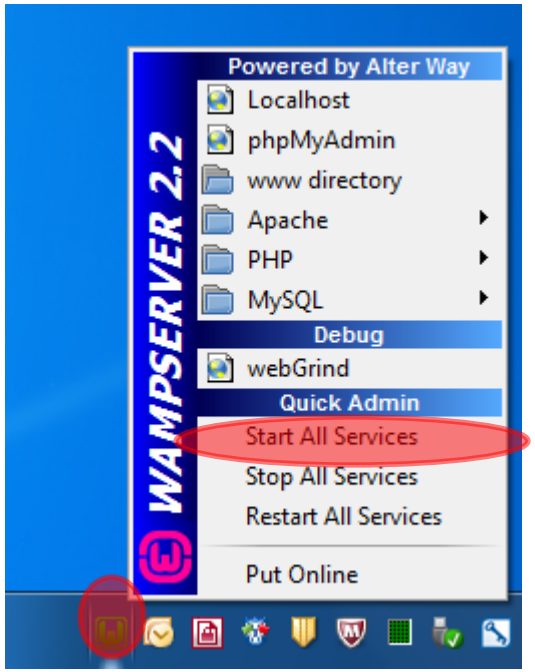
Configuration of MySQL

- Start Wamp Server



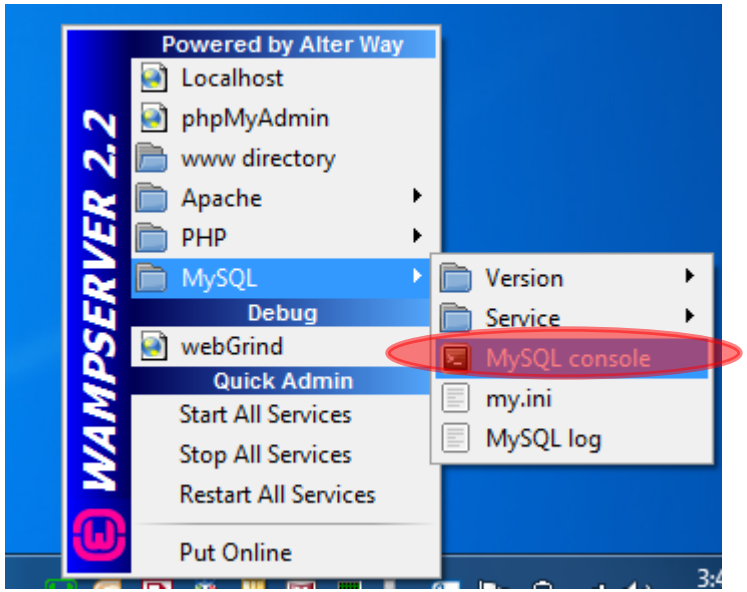
Configuration of MySQL

- Start Apache, and MySQL services



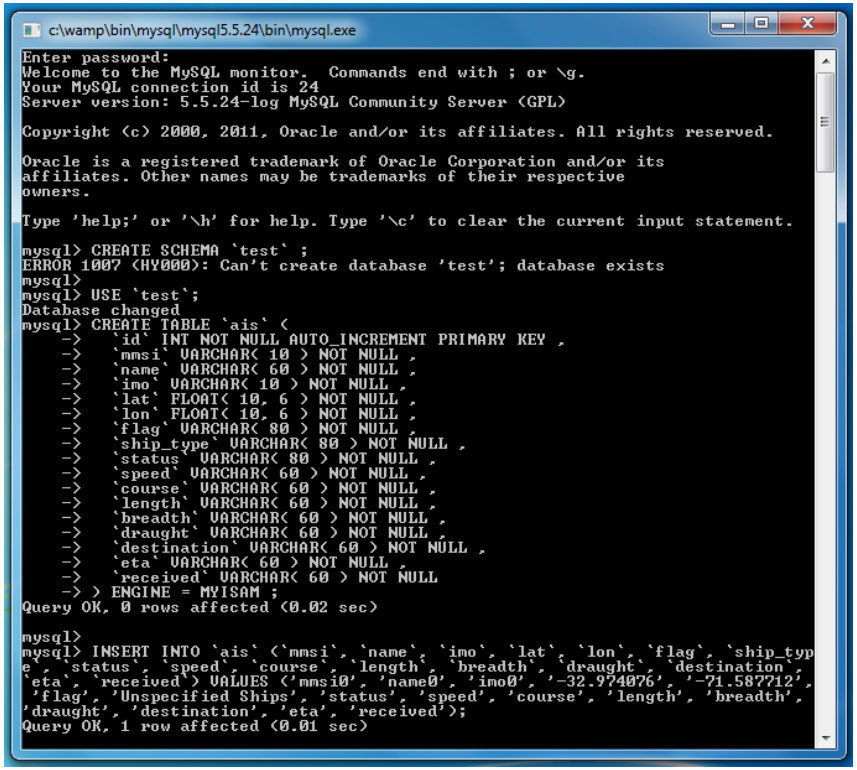
Configuration of MySQL

- Run SQL script to create a database, create a table, and populate the table
- To do this we need to open the MySQL console.



Configuration of MySQL

- When prompted for the password, press Enter
  - There is no password by default
- Copy and paste content of SetupDBForICODE.sql into the MySQL Console



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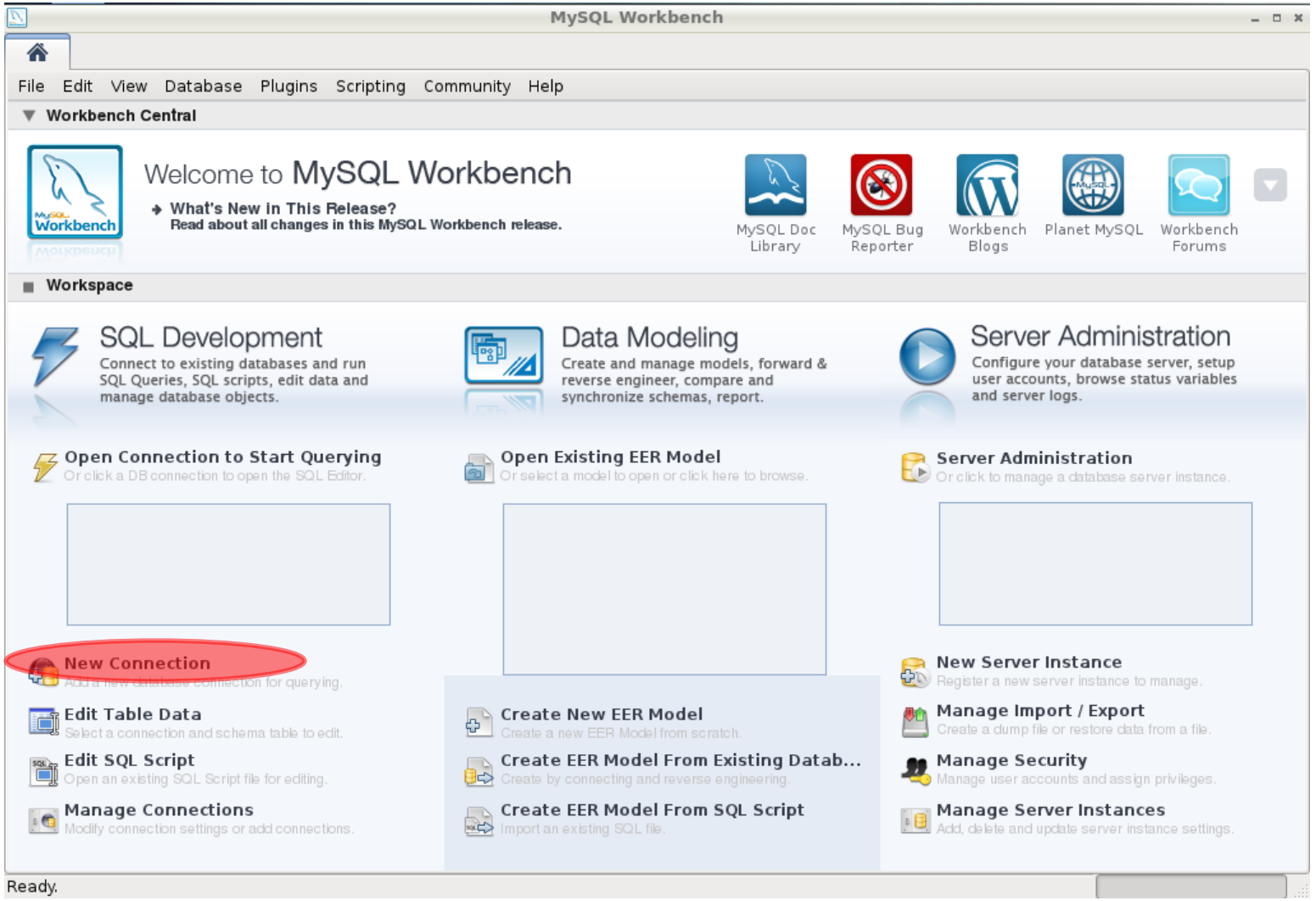
Configuration of MySQL



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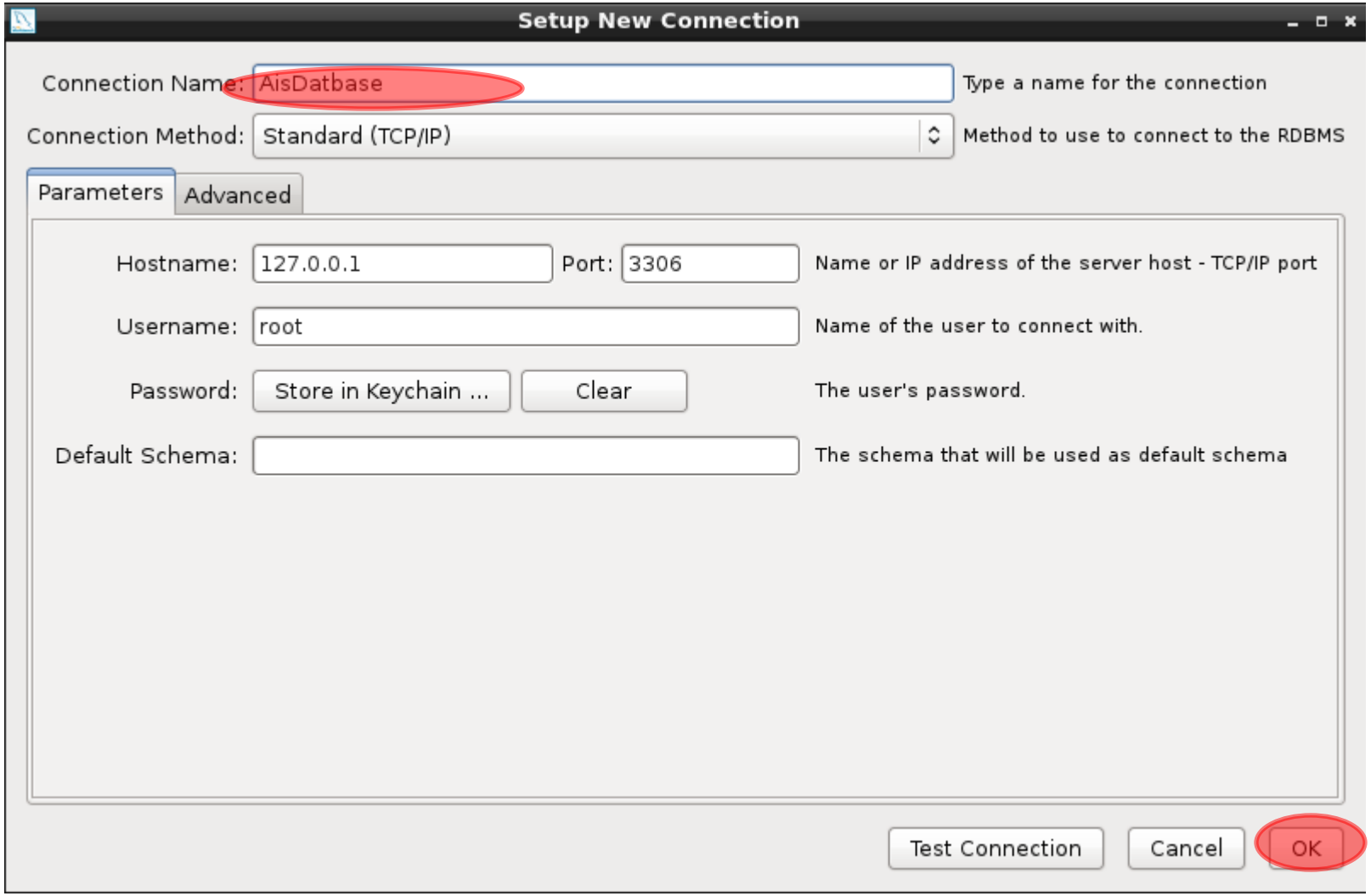
Configuration of MySQL



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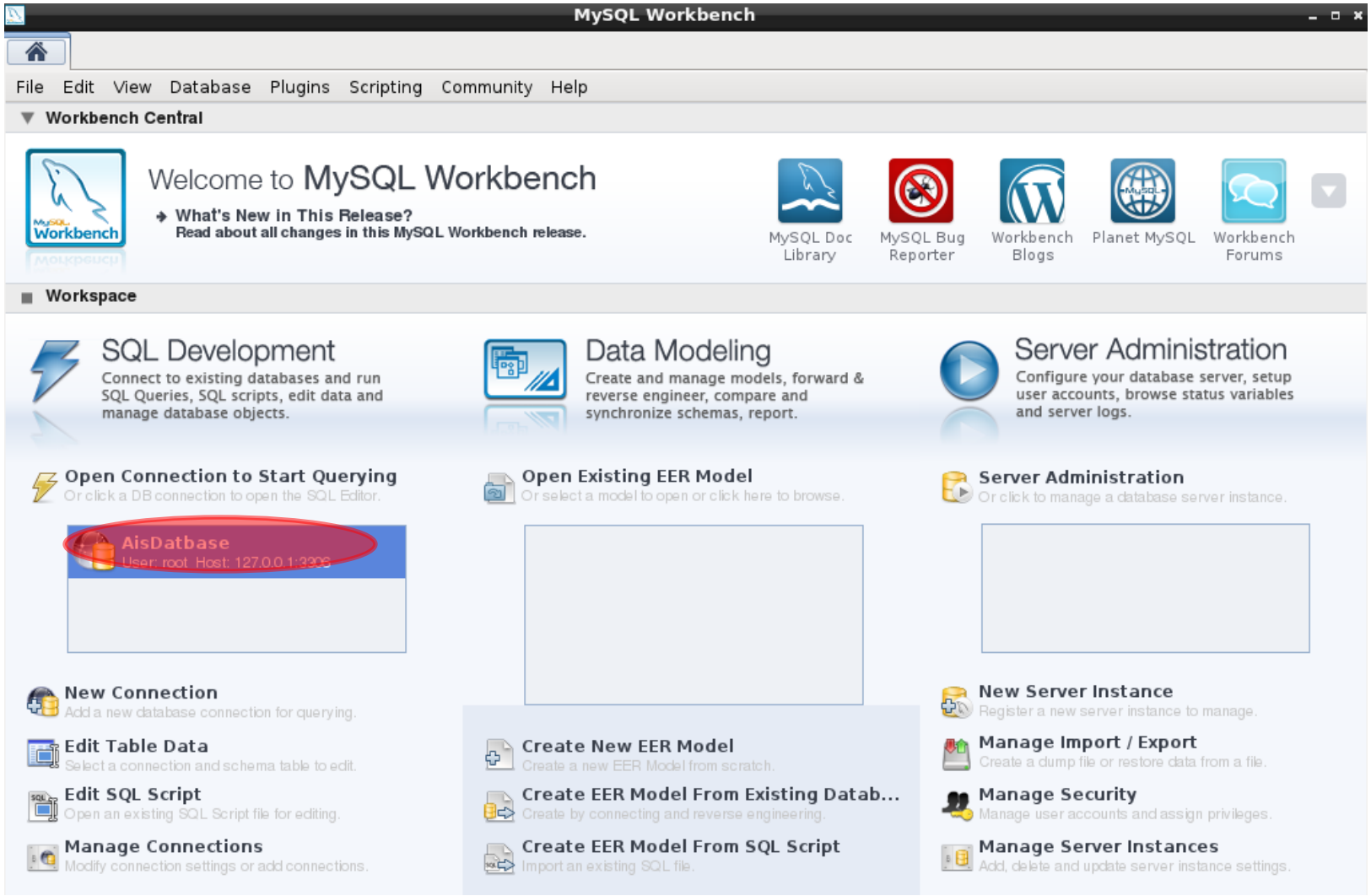
Configuration of MySQL



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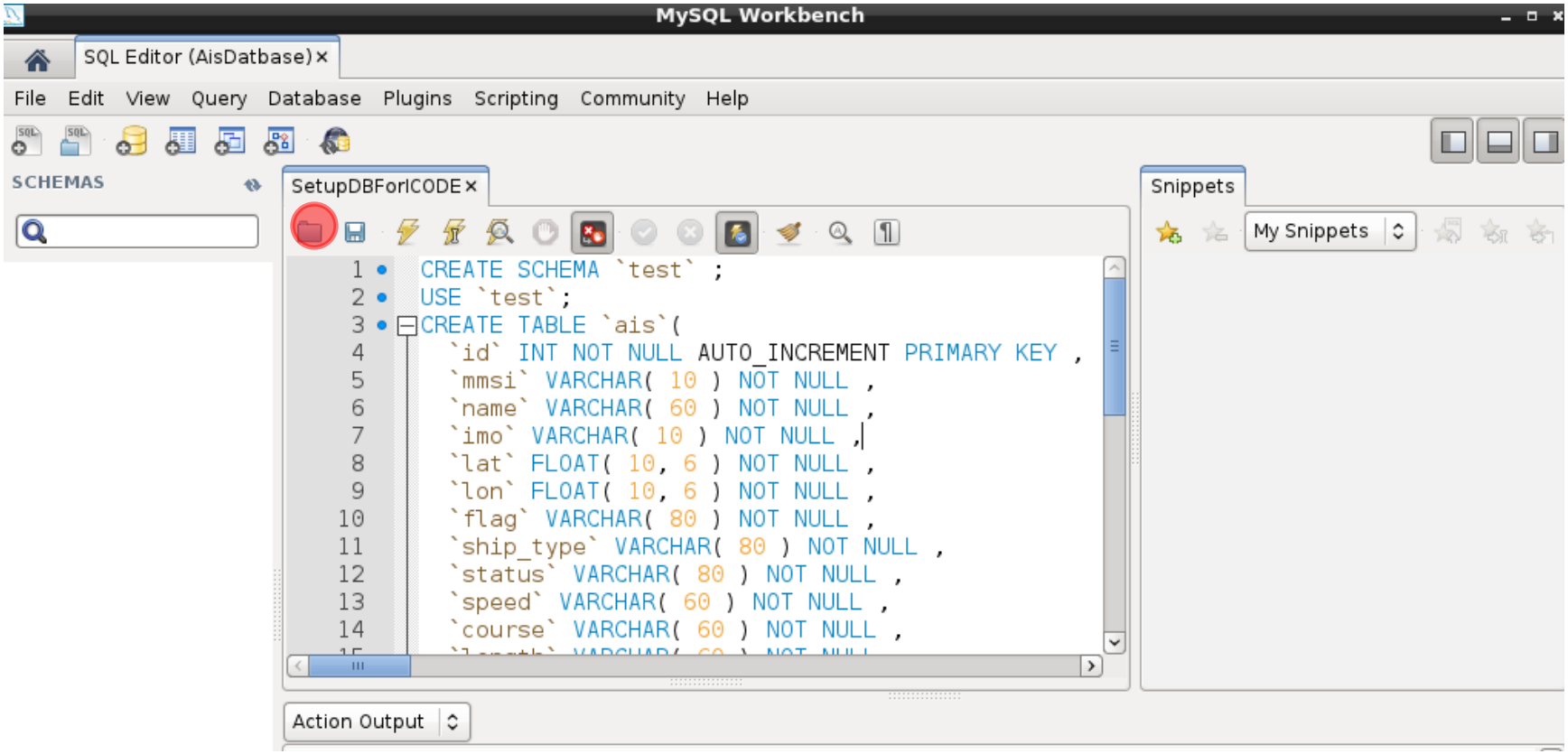
Configuration of MySQL



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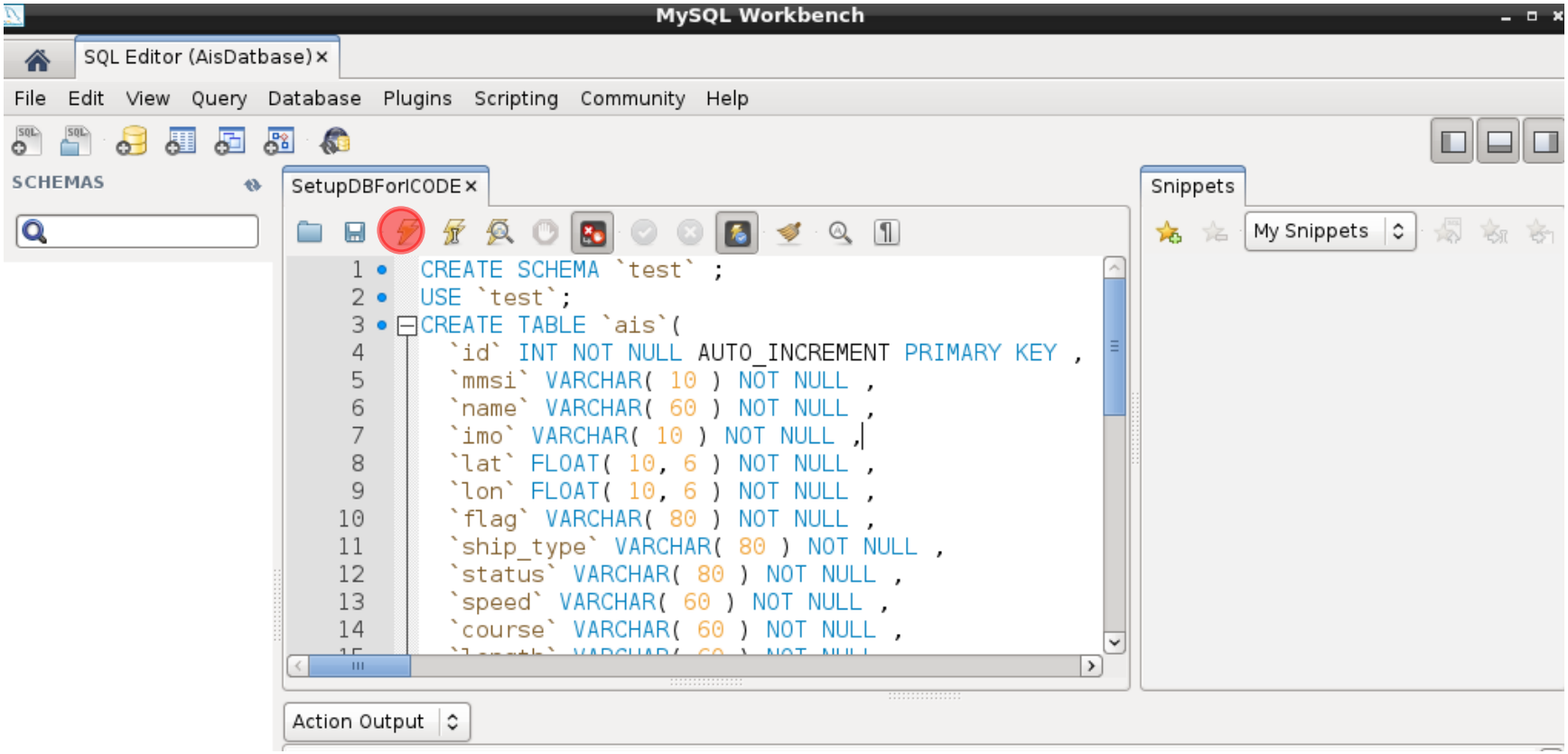
Configuration of MySQL



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Configuration of MySQL

- The MySQL database is now setup and has some sample data in it for us to display on our map

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Our First Map

- Index.html
  - Contains layout of page and tells the browser to use the code found in icode-maps.js, and also the Google Maps javascript
- Icode-maps.js
  - Uses Google Maps API to display the map with AIS data displayed
- Icode_example_db_query.php
  - Contains code to query the MySQL database. This is called from within the icode-maps.js file

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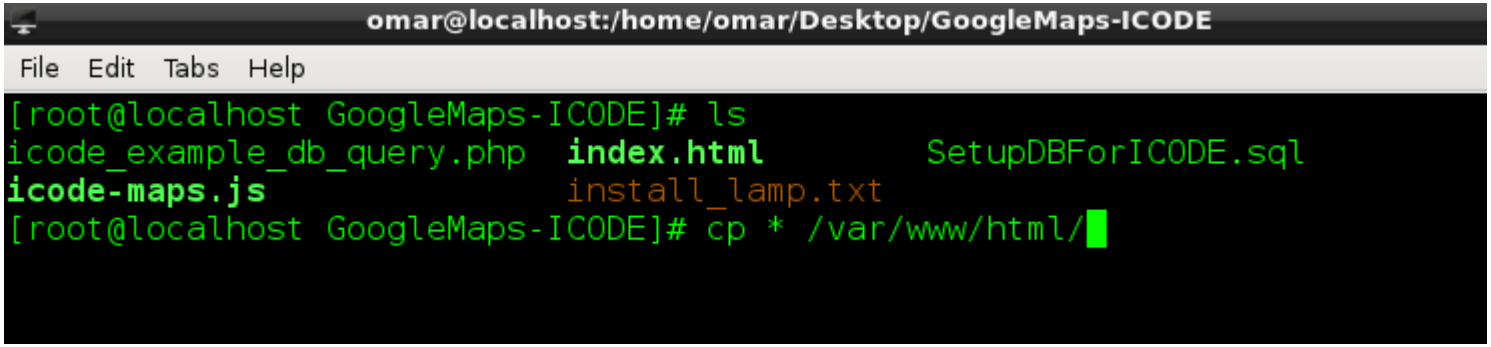
Our First Map



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Our First Map

- Copy the following files to C:\wamp\www
  - shipicons (folder of images)
  - icode_example_db_query.php
  - icode-maps.js
  - index.html
  - markerclusterer.js

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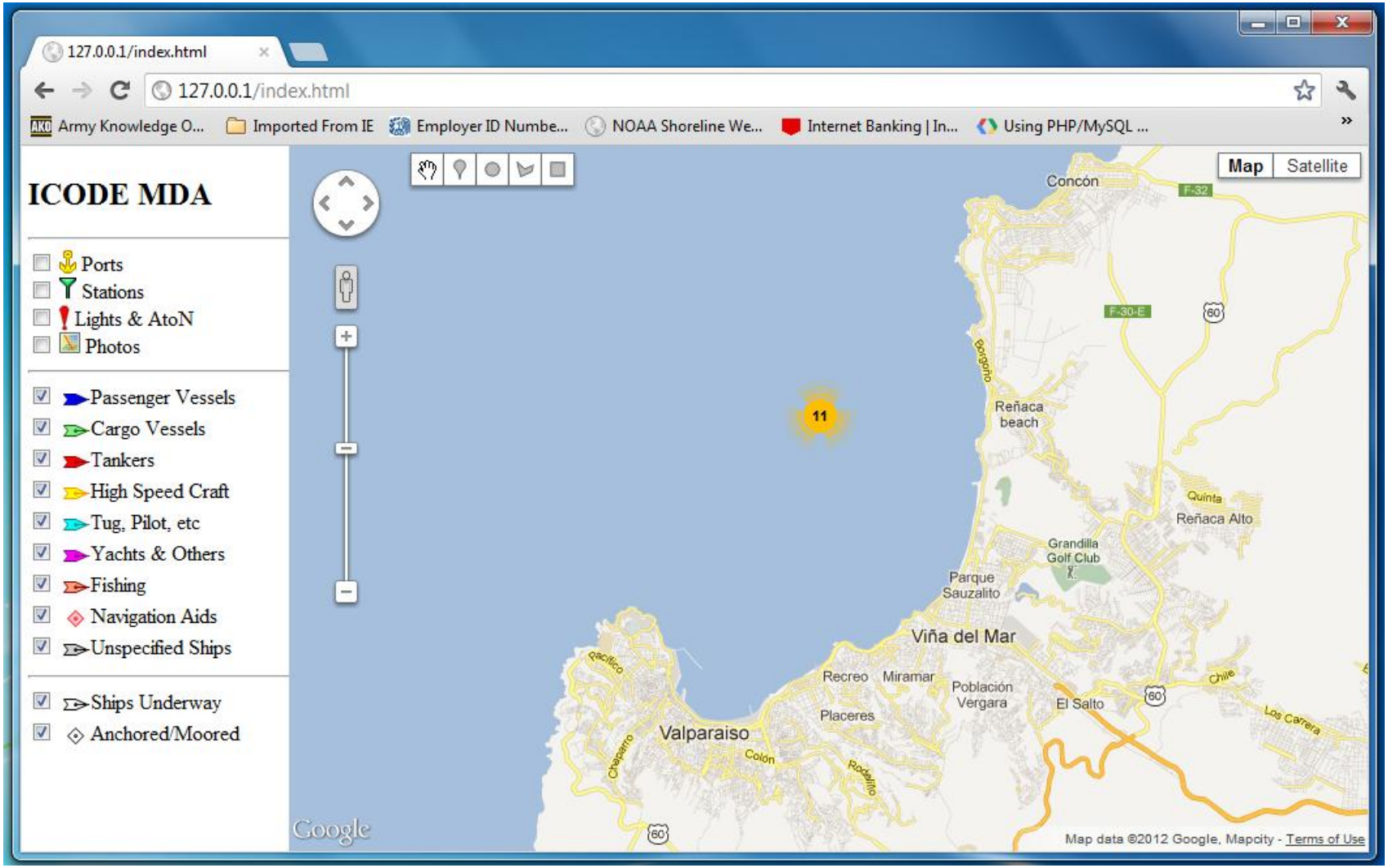
Our First Map



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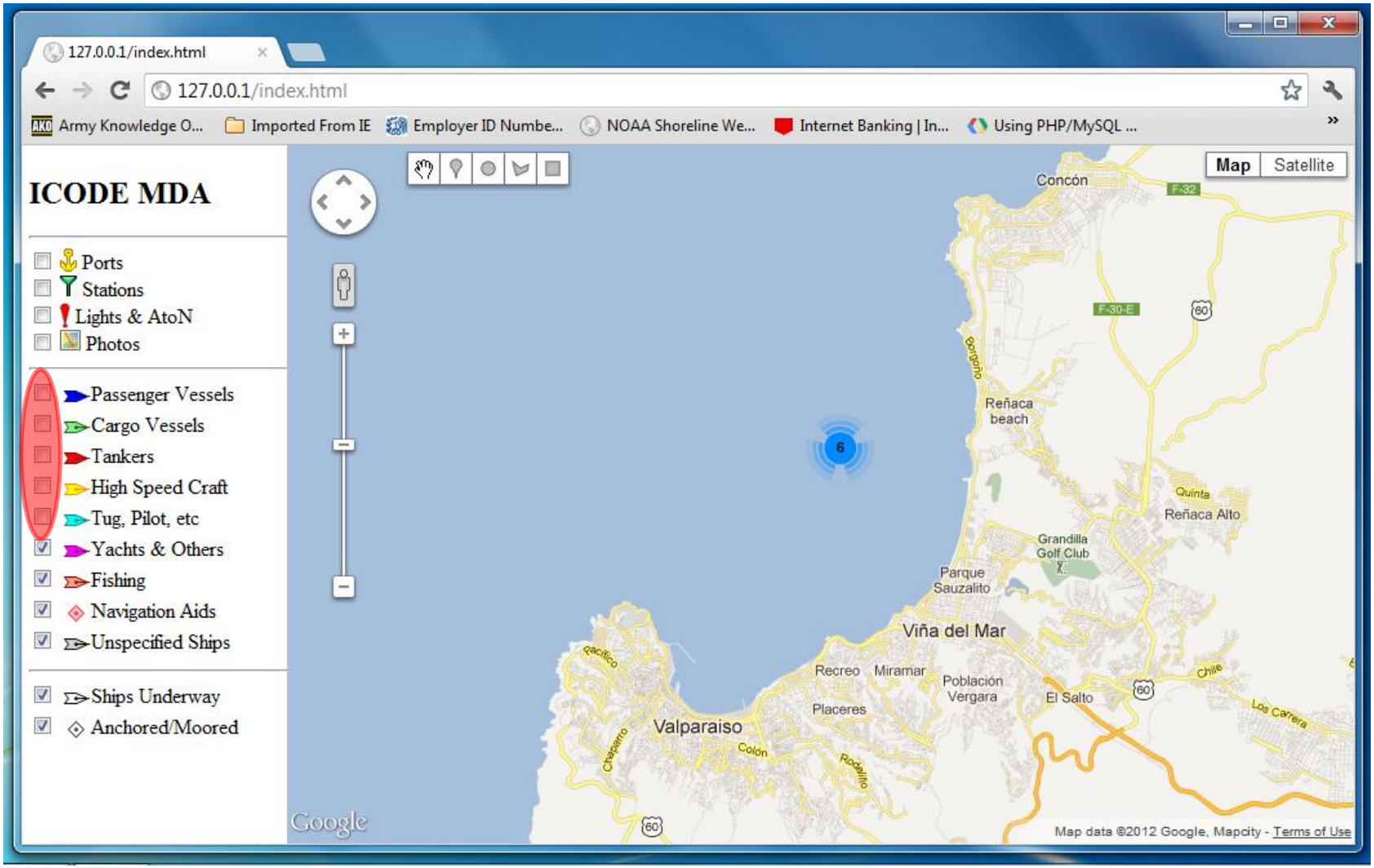

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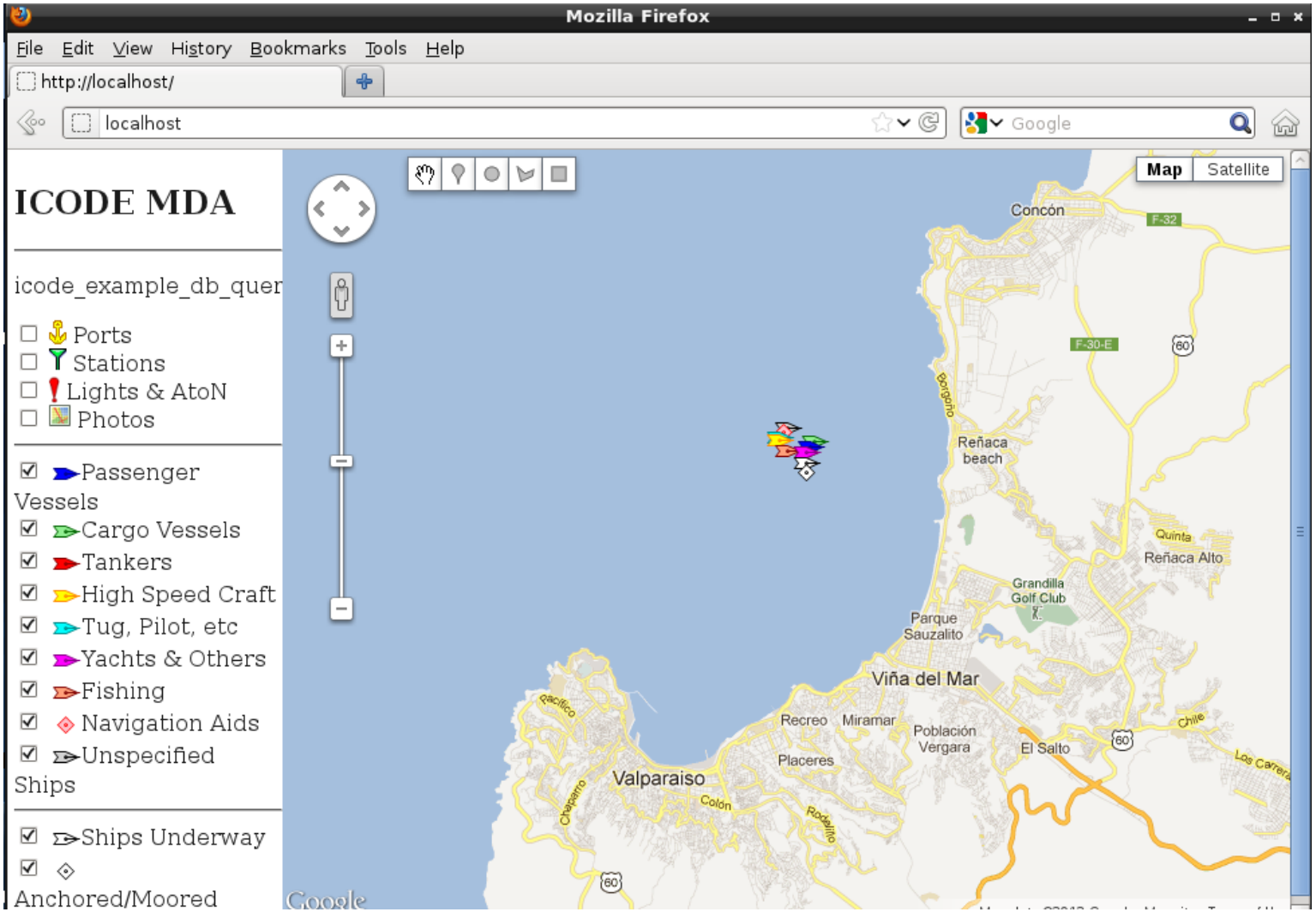

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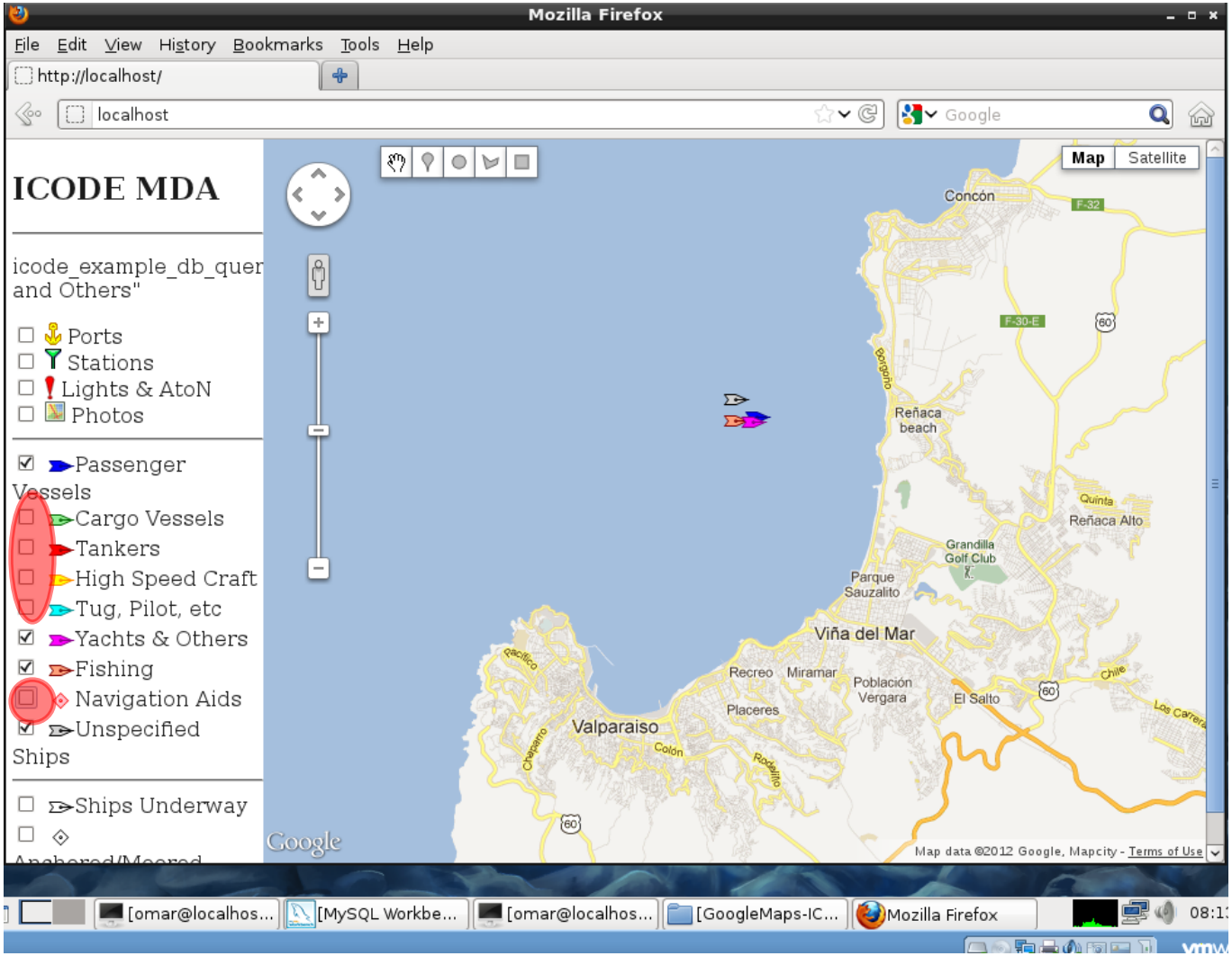

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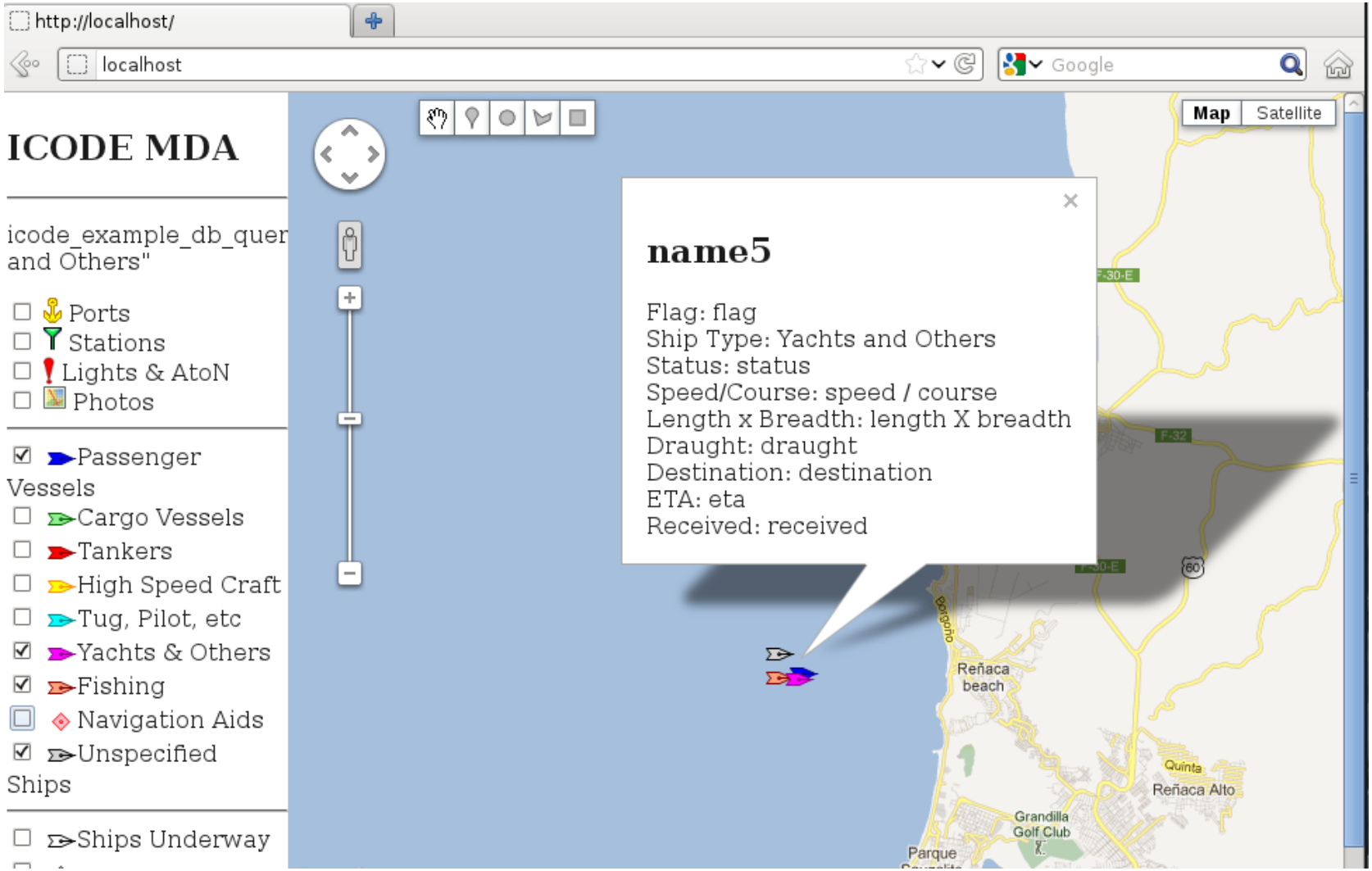

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A Look Through the Code

- The PHP file creates an XML file.
- You can see this by browsing to:
  - http://127.0.0.1/icode_example_db_query.php?type=%22Fishing%22
- The JavaScript calls this file with an argument in the “type” field for each ship type that is checked on the left side of the map
- The XML that is returned of the ships currently in the database is parsed and the points are displayed on the map

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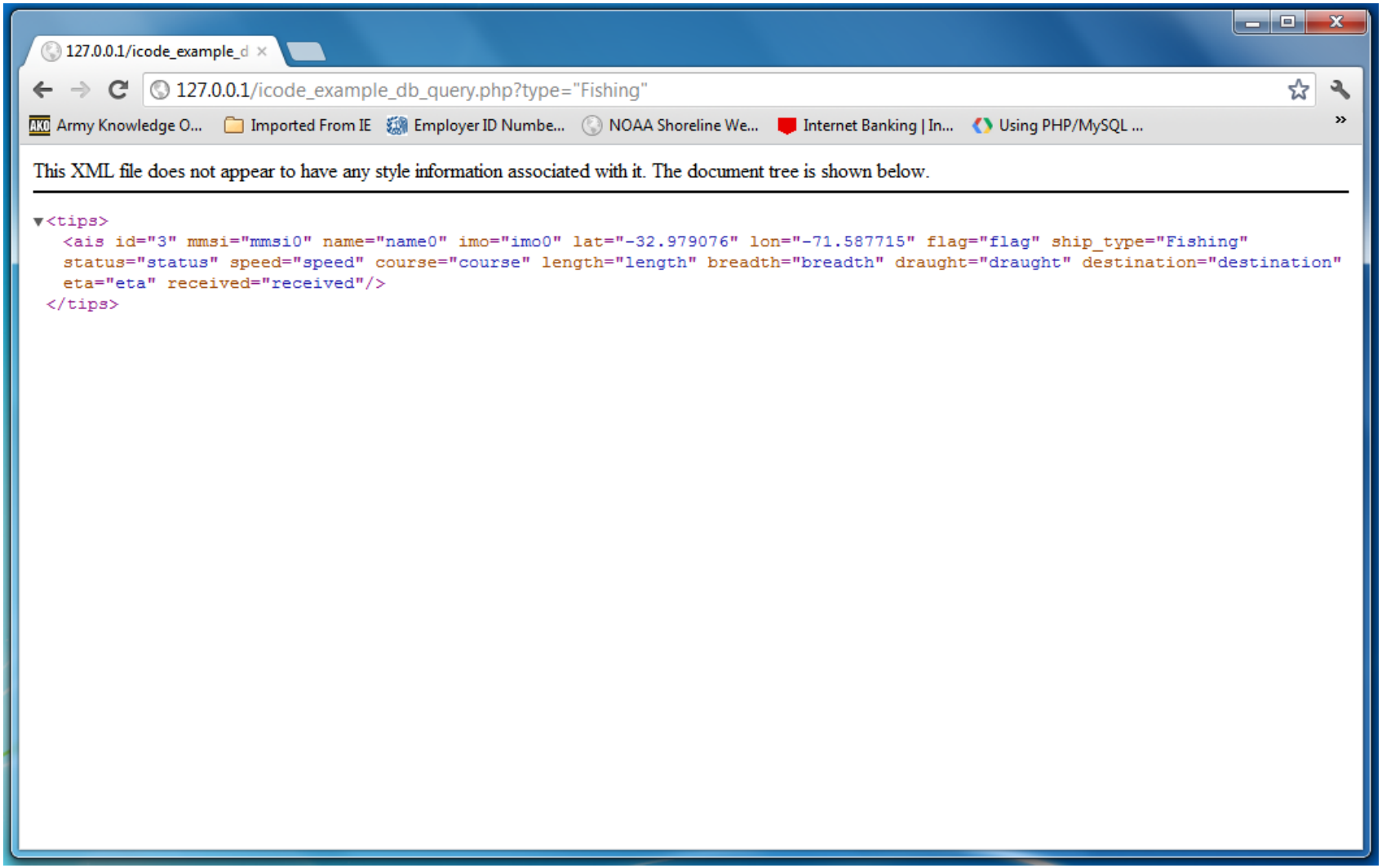
A Look Through the Code



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A Look Through the Code

- The PHP file creates an XML file.
- You can see this by browsing to:
  - http://localhost/icode_example_db_query.php?type=%22Unspecified%20Ships%22
- The JavaScript calls this file with an argument in the “type” field for each ship type that is checked on the left side of the map
- The XML that is returned of the ships currently in the database is parsed and the points are displayed on the map

A Look Through the Code
HTML

- Index.html
  - Contains a header that points to the javascript files
  - Contains a body that defines how the page looks and the JavaScript function to run when it loads
    - There is a map area and an area for the buttons

A Look Through the Code
HTML

- <script type="text/javascript“ src="http://maps.googleapis.com/maps/api/js?libraries=geometry,drawing,weather&sensor=false"></script>
- <script type="text/javascript" src='icode-maps.js' ></script>
- <body onload="initialize()">

A Look Through the Code
HTML

-

A Look Through the Code JavaScript

- Create a Basemap
  - var map = new google.maps.Map(document.getElementById("map_canvas"), myOptions);
- Get the data from the database
  - var phpWithArg = "icode_example_db_query.php?type=\"" + typesSelected[i] + "\"";
  - downloadUrl(phpWithArg, function(data) {

A Look Through the Code
PHP

- Get the ship_types passed from the JavaScript call to this file
  - $type = $_GET["type"];
- Select all the rows with the correct ship_type
  - $query = "SELECT * FROM ais WHERE ship_type = $type";