http://www.egovframe.go.kr/wiki/doku.php?id=egovframework:hyb3.5:guide:add:gps

GPS Device API Guide Program

Outline

Mobile GPS Device API Guide Program is a guide application for GPS Device API, using the mobile device API framework to be used as a tool and a reference for finding location information and diplay the location on a map using GPS API when developing hybrid applications.

Feature

This Guide Program provides **call GPS API information** and **GPS API information DB list** features.

Preconditions

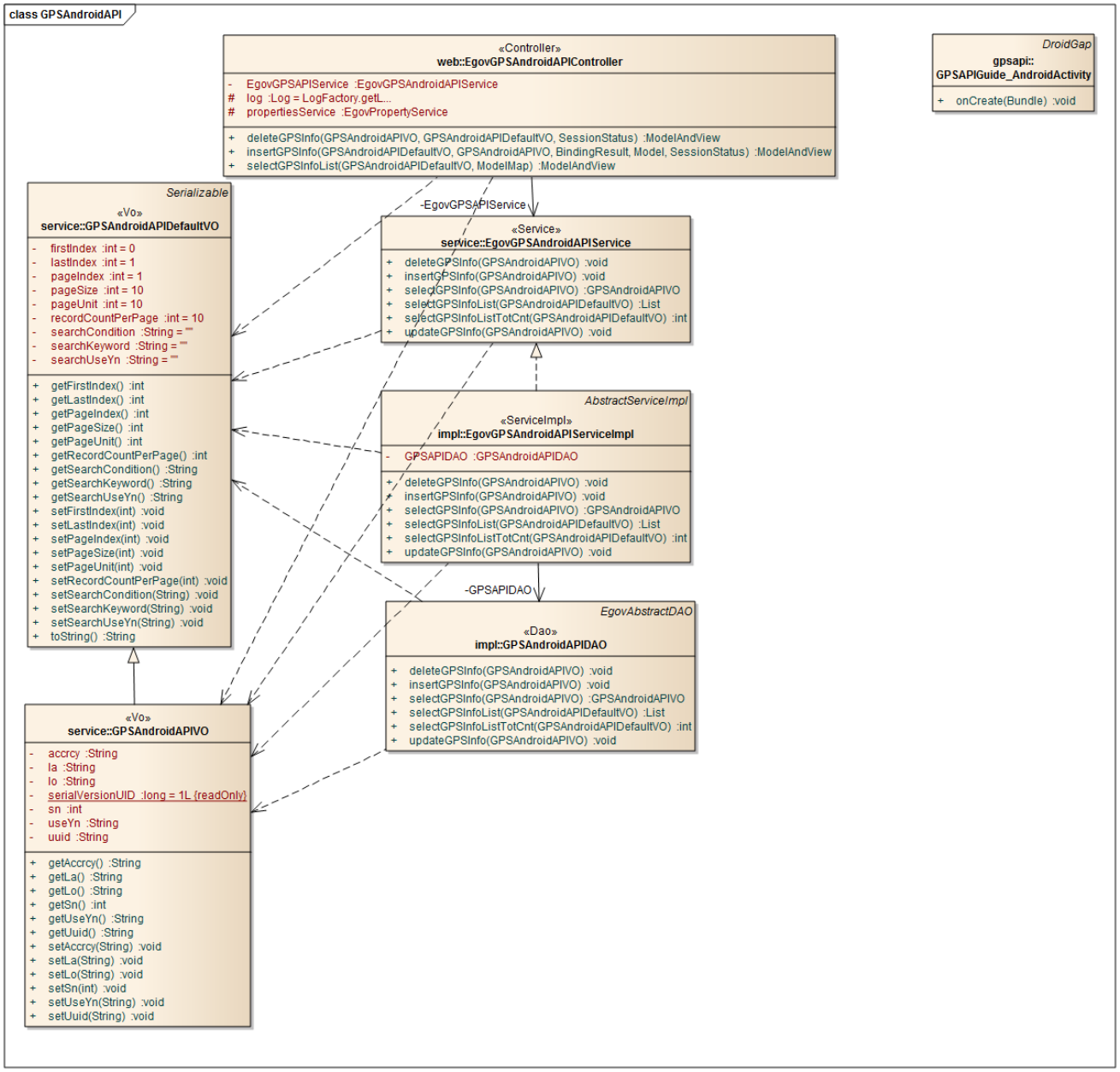
Category	Description
Local Device Environments	eGovFramework Runtime Environment 3.5, Android SDKAPI 22(version 5.0 Lollipop)
Server-side Developmental Environment	Runtime Environment for eGov Standard Framework 3.5
Works in sync with Mash up Open API	To use 2 maps provided as an example for GPS API Guide Program, one must apply for the maps' API license key. \\- Daum map: https://apis.daum.net/register/myapi.daum) All rights to National Spatial Data Infrastructure map and Daum map usage are reserved to respective institutions. When using Daum map, check **'Daum map Open API service terms of use'** first. (Daum map Open API service terms of use: http://dna.daum.net/apis/mapagreement) Aside from maps used in the example, other map APIs can be connected based on their respective terms of use and standards.
Test Device	Galaxy S2
Test Platform	Android 2.3
Libraries Added	N/A

Restrictions

Category	Description
Using cross domain	When using certain outside domains or its subdomains on PhoneGap, add such domains on <access origin="" /> at Res/xml/config.xml.

Description

Related Class Diagram



Device Application

Source

Type	Target Source	Remark
Activity	kr.go.egovframework.hyb.gpsapi.GPSAPIGuide_AndroidActivity	GPSAPI Guide Program Activity Class
CSS	assets/www/css/egovframwork/mbl/hyb/GPSAPI.css	GPSAPI Guide Program Core Cascading Style Sheets
IMAGE	assets/www/images/egovframwork/mbl/hyb/	GPSAPI Guide Program Core Image Folder

JS	assets/www/js/egovframwork/mbl/hyb/GPSAPI.js	GPSAPI Guide Program Core JavaScript
RES	assets/www/res/	GPSAPI Guide Program Core Resource Folder
XML	AndroidManiFest.xml	Configuration XML for Android
HTML	assets/www/GPSAPI.html	GPSAPI Main Page
HTML	assets/www/Intro.html	GPSAPI Intro Page
HTML	assets/www/license.html	GPSAPI License Page
HTML	assets/www/overview.html	GPSAPI Function Desciption Page

APIs Used

navigator.geolocation.getCurrentPosition

- PhoneGap API for geolocation information

navigator.geolocation.getCurrentPosition
navigator.geolocation.getCurrentPosition(successCallback, failCallback);

Option	Description	Remark
successCallback	Function returned upon success	
failCallback	Returned upon failure	

Server Application

Source

Type	Target Source	Remark
Controller	egovframework.hyb.add.gps.web.EgovGPSAndroidAPIController.java	Classes for GPS information administration.
Service	egovframework.hyb.add.gps.service.EgovGPSAndroidAPIService.java	Service interface for GPS information administration.
VO	egovframework.hyb.add.gps.service.GPSAndroidAPIDefaultVO.java	VO Class for GPS administration.
VO	egovframework.hyb.add.gps.service.GPSAndroidAPIVO.java	VO Class for GPS administration.
DAO	egovframework.hyb.add.gps.service.impl.GPSAndroidAPIDAO.java	Data processing class for GPS administartion.
DAO	egovframework.hyb.add.gps.service.impl.EgovGPSAndroidAPIServiceImpl.java	Class for processing services requested.
Query XML	resources/egovframework/sqlmap/hyb/add/gps/EgovGPSAndroidAPI Guide_SQL_xxx.xml	Query File for GPS information management

Related Tables

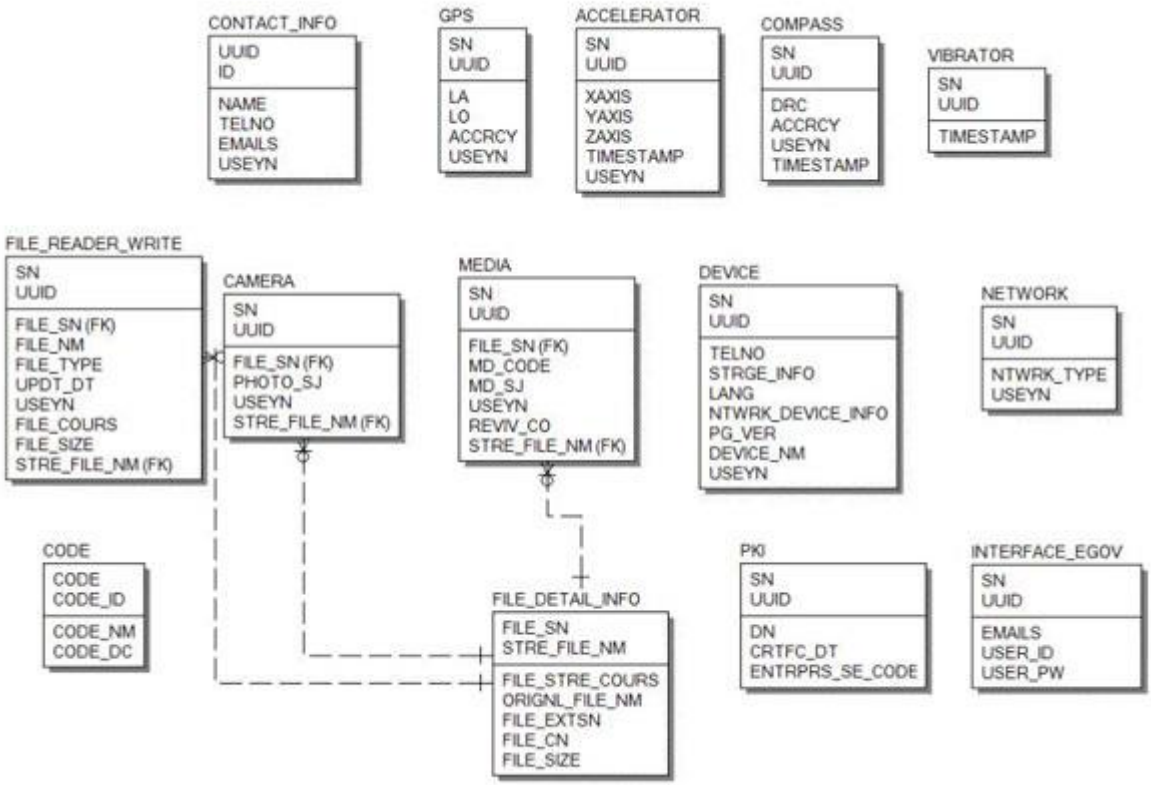
Title	Table	Remark
GPS	GPS	GPS Information Management

Tables Breakdown

- GPS

No.	Column	Title of Column	Type	Length	Null	KEY
1	SN	Serial No.	NUMERIC	6	NotNull	pk
2	UUID	UUID	VARCHAR	50	NotNull	pk
3	LA	Latitude	VARCHAR	48	Null	
4	LO	Longitude	VARCHAR	48	Null	
5	ACCRCY	Accuracy	VARCHAR	10	Null	
6	USEYN	Activation	CHAR	1	Null	

ERD



Configuration Settings

GPS Device properties required for use of GPS-related functions of GPS Device API Guidance Program are as follows:

Device Application

res/xml/plugins.xml

```
<plugins>
<pluginname="Geolocation"value="org.apache.cordova.GeoBroker"/>
<!-- PhoneGap Plugin for eGov Interface Device API Class -->
<pluginname="EgovInterfacePlugin"value="kr.go.egovframework.hyb.plugin.EgovInterfacePlugin"/
>
</plugins>
```

res/values/serverinfo.xml

```
<!-- Server Directory for eGov Interface Device API Class -->
<?xmlversion="1.0"encoding="utf-8"?>
<resources>
        <stringname="SERVER_URL">http://192.168.100.222:8080/DeviceAPIGuideTotal_Web
_V1.7.1</string>
</resources>
```

Server Aplication

resource/egovframework/sqlmap/sql-map-config_[DB NAME].xml

```
<sqlMapresource="egovframework/sqlmap/hyb/add/dvc/EgovGPSAndroidAPIGuide_SQL_[DB
NAME].xml"/>
```

Related Features

GPS Device API Guide Program is comprised of **call GPS API information**, **GPS API information DB list** features.

Call GPS API information

Business Logic

- Check the network. If the network is not Wi-Fi, function based on user approval.
- Call GPS API to display currnet location on the map. Send and save current location to server.

Code

```
// Call GPS API Information
navigator.geolocation.getCurrentPosition(onSuccess, onError);

// Show GPS Information on Map
function onSuccess(position) {
    console.log('DeviceAPIGuide onSuccess Success');
    lat = position.coords.latitude;
    lon = position.coords.longitude;
    var html = "";
    html = 'latitude : ' + position.coords.latitude + '<br/>';
```

```
	html += 'longitude : ' + position.coords.longitude + '';

	$('#latlngInfo').html(html);

	// Coordinates of Current Location*
	var latlng =    new daum.maps.LatLng(position.coords.latitude, position.coords.longitude);

	// Map Settings*
	var myOptions = {
		level: 4,
		center: latlng,
		mapTypeId: daum.maps.MapTypeId.ROADMAP
	};

	// Create Map*
	var map = new daum.maps.Map(document.getElementById("map"), myOptions);
	map.addControl(new daum.maps.ZoomControl());

	// Display marker on Current Position*
	var curMarker = new daum.maps.Marker({
                                                position: latlng
                                                });
	curMarker.setMap(map);

	var infowindow = new daum.maps.InfoWindow({
                                                        content: '<font size=2>
latitude:'+position.coords.latitude + '<br/>' + ' longitude:'+position.coords.longitude+'</font>'
                                                        });
	infowindow.open(map, curMarker);

	$.mobile.hidePageLoadingMsg('a');
}

// Send Current Location Information to Server
function fn_egov_go_addGpsInfo()
{
	// displays the warning message that data charges will be incurred when using 3G.
	if(!fn_egov_network_check(false)) {
		return;
	}

	var url = "/gps/xml/addGPSInfo.do";
	var acceptType = "xml";
	var params = {uuid : device.uuid,
			lat: lat,
			lon: lon,
			useYn: 'Y'};

	$.mobile.showPageLoadingMsg('a');

	window.plugins.EgovInterface.post(url, acceptType, params, function(xmldata) {
			console.log('DeviceAPIGuide fn_egov_go_addGpsInfo request Complete');

			alert($(xmldata).find("resultMessage").text());
```

```
                    $.mobile.hidePageLoadingMsg('a');
                    location.href = "GPSAPI.html";
    });
}
```

Related Screen and Implementation Manual

Function	URL	Controller	method	Display (HTML)
Send GPS Data to Server	/gps/xml/addGPSInfo.do	EgovGPSAndroidAPIController	insertGPSInfo	GPSAPI.html#myLocation

GPS API information is used for input data.

Click on "Save to DB" button to send GPS data to server.

Save to DB: sends GPS data to server.
Back: moves to **GPS Device API Guide Program menu** screen.

GPS API information DB list

Business Logic

- Check the network. If the network is not Wi-Fi, function based on user approval.
- Receives location information list saved in server, performs check, and deletes.

Related Code

```
// reads list
function fn_egov_go_gpsInfoList()
{
	// displays the warning message that data charges will be incurred when using 3G.
	if(!fn_egov_network_check(false)) {
		return;
	}

	$.mobile.changePage("#gpsInfoList", "slide", false, false);
	$.mobile.showPageLoadingMsg('a');

	var url = "/gps/xml/gpsInfoList.do";
	var acceptType = "xml";
	var params = {uuid : device.uuid};
	// get the data from server
	window.plugins.EgovInterface.post(url, acceptType, params, function(xmldata) {
			console.log('DeviceAPIGuide fn_egov_go_gpsInfoList request Complete');
			$.mobile.hidePageLoadingMsg('a');

			var list_html = "";
			if($(xmldata).find("gpsInfoList").length == 0) {
				alert('No Data Found');
			} else {
				$(xmldata).find("gpsInfoList").each(function(){
					var uuid = $(this).find("uuid").text();
					var lat = $(this).find("lat").text();
					var lon = $(this).find("lon").text();

					list_html += "<li><h3>UUID : " + uuid + "</h3>";
					list_html += "<p>latitude : " + lat + "</p>";
					list_html += "<p>longitude : " + lon + "</p></li>";
				});
			}

			var theList = $('#theLogList');
			theList.html(list_html);
			theList.listview("refresh");
			setTimeout(loadiScrollList, 1000);
		});

}
```

```
// deletes location information list.
function fn_egov_go_deleteGpsInfo()
{
	// displays the warning message that data charges will be incurred when using 3G.
	if(!fn_egov_network_check(false)) {
		return;
	}

	var url = "/gps/xml/deleteGPSInfo.do";
	var acceptType = "xml";
	var params = {uuid : device.uuid};
	// get the data from server
	jConfirm(‘Delete GPS information saved on Server?', 'Alert', 'c', function(r){
			if(r == true){
				$.mobile.showPageLoadingMsg('a');
				window.plugins.EgovInterface.post(url, acceptType, params, function(result)
{
					console.log('DeviceAPIGuide
fn_egov_go_deleteGpsInfo request Complete');

					alert($(result).find("resultMessage").text());

					$.mobile.hidePageLoadingMsg('a');
					location.href = "GPSAPI.html";
				});
			}else{
				return;
			}
		});
}
```

Related Screen and Implementation Manual

Function	URL	Controller	method	Display (HTML)
GPS information list inquiry	/gps/xml/gpsInfoList.do	EgovGPSAndroidAPIController	selectGPSInfoListXml	GPSAPI.html#gpsInfoList
Delete GPS information list	/gps/xml/deleteGPSInfo.do	EgovGPSAndroidAPIController	deleteGPSInfo	GPSAPI.html#gpsInfoList

Click on "Delete from DB" button to delete location information list.

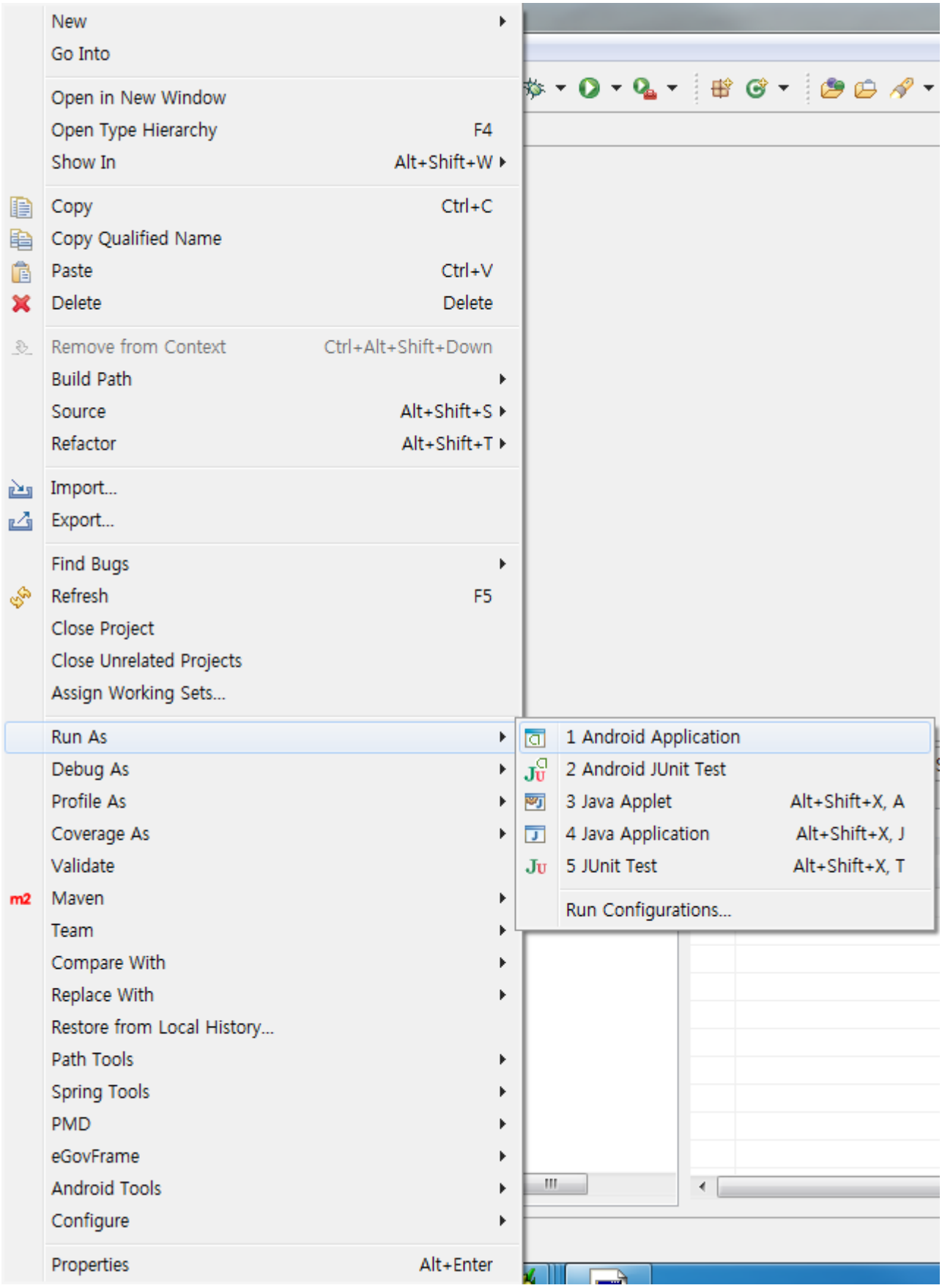
Delete from DB: deletes GPS information list.
Back: moves to **GPS Device API Guide Program menu** screen.

Compiling, debugging, distributing

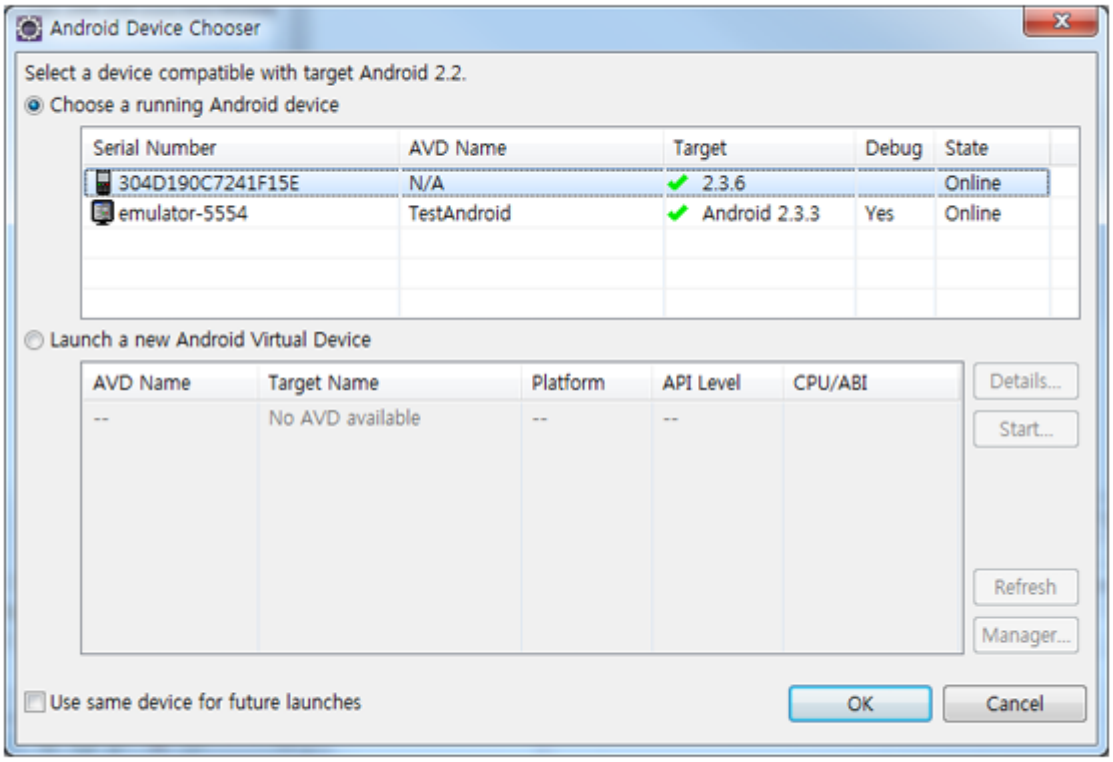
Compiling

How to compile GPSAPI Device Applicaton

- Right-click on the Device API Guide (Android) project, then click oon the “Run As” tab and select “Android Application”to build Guide Program and install on the Android Device.



- When “Android Device Chooser” window appears, select appropriate device and click on the "OK" button.



- Program display on the emulator

- Program display on the device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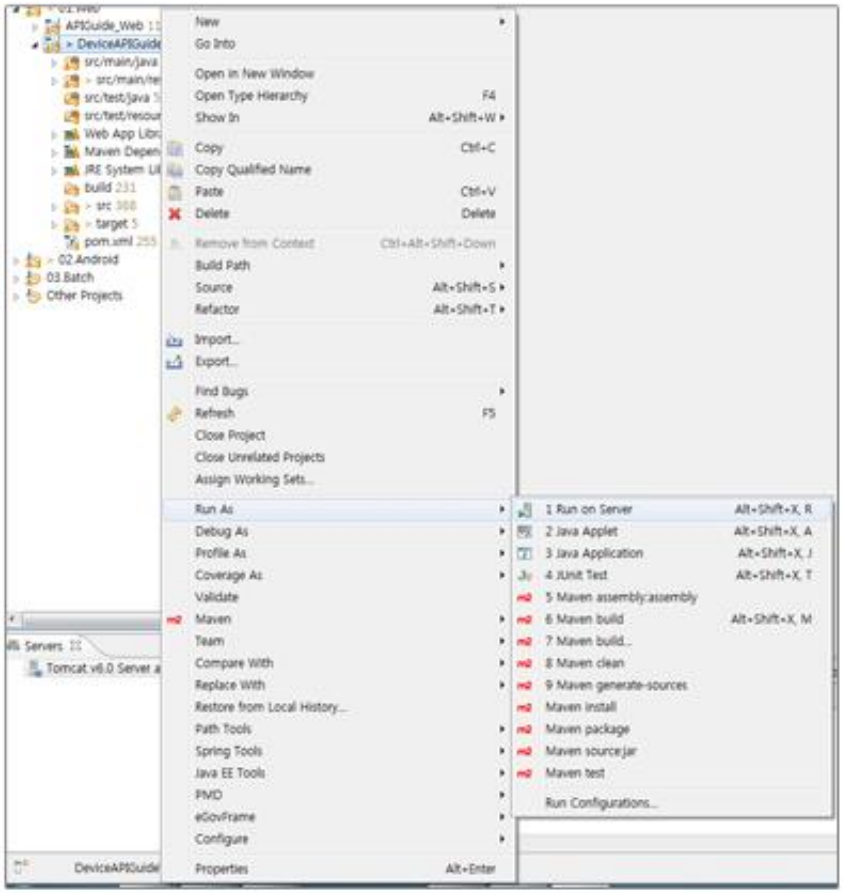
GPS API 디바이스
가이드 프로그램
행정안전부

How to compile DeviceInfoAPI Server Applicaton

- Right-click on the project and click on Run As>Run On Server in order to run the DeviceInfoAPI server-side Guide Program.



- When the build is successfully completed, a message reading 'Server Startup in xxx ms' will display on the console window on the Eclipse.

```
2012-09-14 09:15:49,759 DEBUG [org.springframework.beans.factory.support.DefaultListableBeanFactory] Returning cached instance of singleton bean 'org.springframework.web.serv
2012-09-14 09:15:49,767 DEBUG [org.springframework.beans.factory.support.DefaultListableBeanFactory] Returning cached instance of singleton bean 'org.springframework.web.serv
2012-09-14 09:15:49,768 DEBUG [org.springframework.beans.factory.support.DefaultListableBeanFactory] Creating instance of bean 'org.springframework.web.servlet.view.DefaultRe
2012-09-14 09:15:49,771 DEBUG [org.springframework.beans.factory.support.DefaultListableBeanFactory] Finished creating instance of bean 'org.springframework.web.servlet.view.
2012-09-14 09:15:49,771 DEBUG [org.springframework.web.servlet.DispatcherServlet] Unable to locate RequestToViewNameTranslator with name 'viewNameTranslator': using default
2012-09-14 09:15:49,771 DEBUG [org.springframework.beans.factory.support.DefaultListableBeanFactory] Returning cached instance of singleton bean 'org.springframework.web.serv
2012-09-14 09:15:49,771 DEBUG [org.springframework.beans.factory.support.DefaultListableBeanFactory] Returning cached instance of singleton bean 'viewResolver'
2012-09-14 09:15:49,772 DEBUG [org.springframework.web.servlet.DispatcherServlet] Published WebApplicationContext of servlet 'action' as ServletContext attribute with name [
2012-09-14 09:15:49,772  INFO [org.springframework.web.servlet.DispatcherServlet] FrameworkServlet 'action': initialization completed in 1373 ms
2012-09-14 09:15:49,772 DEBUG [org.springframework.web.servlet.DispatcherServlet] Servlet 'action' configured successfully
2012. 9. 14 오전 9:15:49 org.apache.coyote.http11.Http11Protocol start
정보: Starting Coyote HTTP/1.1 on http-80
2012. 9. 14 오전 9:15:49 org.apache.jk.common.ChannelSocket init
정보: JK: ajp13 listening on /0.0.0.0:8009
2012. 9. 14 오전 9:15:49 org.apache.jk.server.JkMain start
정보: Jk running ID=0 time=0/30  config=null
2012. 9. 14 오전 9:15:49 org.apache.catalina.startup.Catalina start
정보: Server startup in 7209 ms
```

Debugging

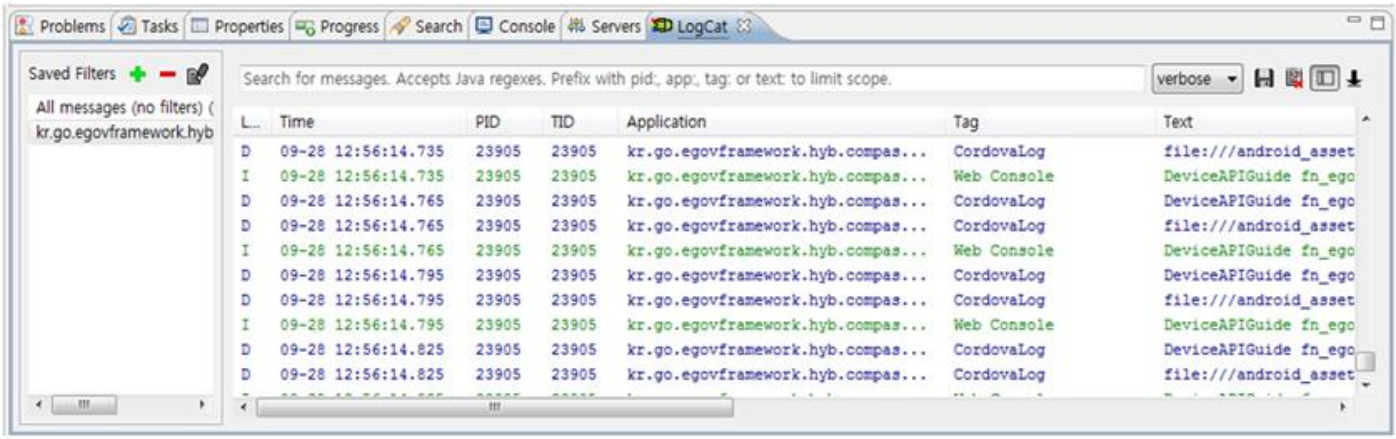
Use console.log in order to check the details on any errors on the device application, and to conduct debugging. Debug codes in console.log are available in JavaScript syntaxes that you can use in Eclipse.

See the following for how to code console.log:

```
function onSuccess(position) {
    console.log('DeviceAPIGuide onSuccess Success');
    lat = position.coords.latitude;
```

```
        lon = position.coords.longitude;
        ...
}
```

When the debugging code is executed, check out the following console message appears:



GPS device API Guide Program will output the following console information for debugging.

Debug code	Debug information
DeviceAPIGuide onSuccess Success	Successfully read GPS information
DeviceAPIGuide onError Fail	GPS information reading failed
DeviceAPIGuide fn_egov_go_gpsInfoList request Complete	Successfully read GPS information list from server
DeviceAPIGuide fn_egov_go_addGpsInfo request Complete	Successfully saved GPS information to server
DeviceAPIGuide fn_egov_go_deleteGpsInfo request Complete	Successfully deleted GPS list from server
DeviceAPIGuide EgovInterface.get request Fail	HTTP GET Method request filed
DeviceAPIGuide EgovInterface.post request Fail	HTTP POST Method request failed
DeviceAPIGuide EgovInterface.geturl Fail	geturl function request failed

Distribution

Download GPS Device API Guide: Click

References

- UX/UI library : jQuery MobileClick
- Phonegap 4.3.0 : Click
- Daum Map : http://dna.daum.net/apis/maps