

Compass Device API Guide Program

Outline

Compass guide program is a guide application for eGov Device API, using the mobile device API framework to be used as a tool and a reference when developing hybrid applications. It supports the inquiry of Compass related functions of mobile smart devices through JavaScript-based Compass DeviceAPI.

Also, it is comprised of a feature to send and inquire Compass information within the Device, in conjunction with eGovFramework based web server application.

Feature

In order to guide Compass features, this Guide Program provides **Compass information inquiry, save Compass information, Compass information list, Delete list** features.

For effective inquiry of changes to Compass information, the information will be displayed in the form of changing compass shape in addition to the notification window at the top. The compass shape rotates in a direction that corresponds to the changes to the Device's Compass information.

Preconditions

Category	Description
Local Device Environments	Xcode 6.3.2, PhoneGap 4.3.0
Server-side Developmental Environment	eGov Standard Framework Develeopment Environment 3.5
Works in sync with Mash up Open API	N/A
Test Device	iPhone4, iPhone6
Test Platform	iOS 7.1.2, iOS 8.3
Libraries Added	N/A

Restriction

Category	Description
Supported platforms	A rotating image in shape of a compass for visualization of Compass information is provided. However, screen may appear cropped when viewed horizontally. Therefore, it is advisable to change settings to prevent auto conversion in horizontal view mode when running API Guide Program.

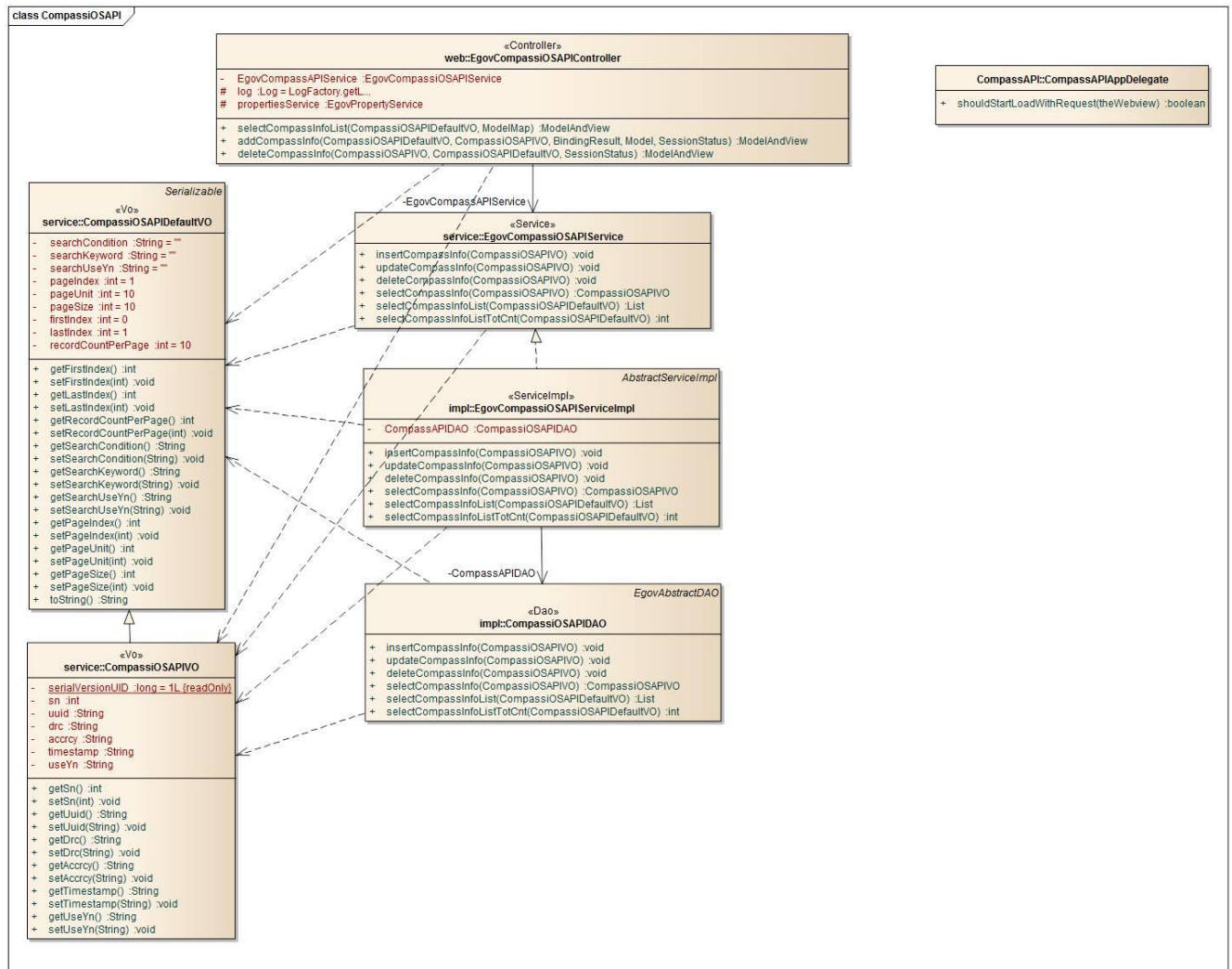
Using cross domain When using certain outside domains or its subdomains on PhoneGap, add such domains on <access origin="ExternalHosts"/> at [Project_Name]/Supproting Files/config.xml

License N/A

Description

Compass Device API Guide Program is comprised of features that inquire the Device's Compass information and sends/inquires the information from the inquiry to the web server application.

Class Diagram



Device Application

Source

Type	Title	Remark
CSS	www/css/egovframework/mb/lyb/CompassAPI.css	CompassAPI Guide Program Core Cascading Style Sheets
IMAGE	www/images/egovframework/mb/lyb/	CompassAPI Guide Program main Image folder

JS	www/js/egovframework/mbl/hyb/CompassAPI.js	CompassAPI Guide Program main JavaScript
RES	[Project_Name]/Resources/	CompassAPI Guide Program main Resource folder
HTML	www/CompassAPI.html	CompassAPI main page
HTML	www/license.html	CompassAPI License page
HTML	www/overview.html	CompassAPI feature description page
PLIST	[Project_Name]/Supporting Files/[Project_Name]-Info.plist	iOS application settings file

APIs Used

compass.watchHeading

- Loads the heading information of the device

```

navigator.compass.getCurrentHeading(compassSuccess, compassError, compassOptions);
function onSuccess(heading) {
    alert('Heading: ' + heading.magneticHeading);
};

function onError(error) {
    alert('CompassError: ' + error.code);
};

navigator.compass.getCurrentHeading(onSuccess, onError);
compassOption

```

Option	Description	Remark
frequency	Frequency of inquiry for compass information	
frequency	Refers to the change required for initialization of the callback function	

Server Application

Source

Type	Title	Remark
Controller	egovframework.hyb.ios.cps.web.EgovCompassAndroidAPIController.java	CompassAPI Guide Program Controller Class
Service	egovframework.hyb.ios.cps.service.EgovCompassAndroidAPIService.java	CompassAPI Guide Program Service Class
ServiceImpl	egovframework.hyb.ios.cps.service.impl.EgovCompassAndroidAPIServiceImpl.java	CompassAPI Guide Program ServiceImpl Class

VO	egovframework.hyb.ios.cps.service.CompassAndroidAPIDefaultVO.java	CompassAPI Guide Program VO Class
VO	egovframework.hyb.ios.cps.service.CompassAndroidAPIFileVO.java	CompassAPI Guide Program VO Class
VO	egovframework.hyb.ios.cps.service.CompassAndroidAPIVO.java	CompassAPI Guide Program VO Class
VO	egovframework.hyb.ios.cps.service.CompassAndroidAPIXmlVO.java	CompassAPI Guide Program XML related VO Class
DAO	egovframework.hyb.ios.cps.service.impl.CompassAndroidAPIDAO.java	CompassAPI Guide Program Dao Class
Util	egovframework.hyb.ios.cps.service.impl.EgovCompassAndroidFileMngUtil.java	CompassAPI Guide Program Util Class
QUERY XML	resources/egovframework/sqlmap/hyb/ios/cps/EgovCompassAndroidAPIGuide_XXX_mysql.xml	CompassAPI Guide Program QUERY XML
Idgen XML	resources/egovframework/spring/com/context-idgen.xml	CompassAPI Guide Program ID generation Idgen XML

Related Tables

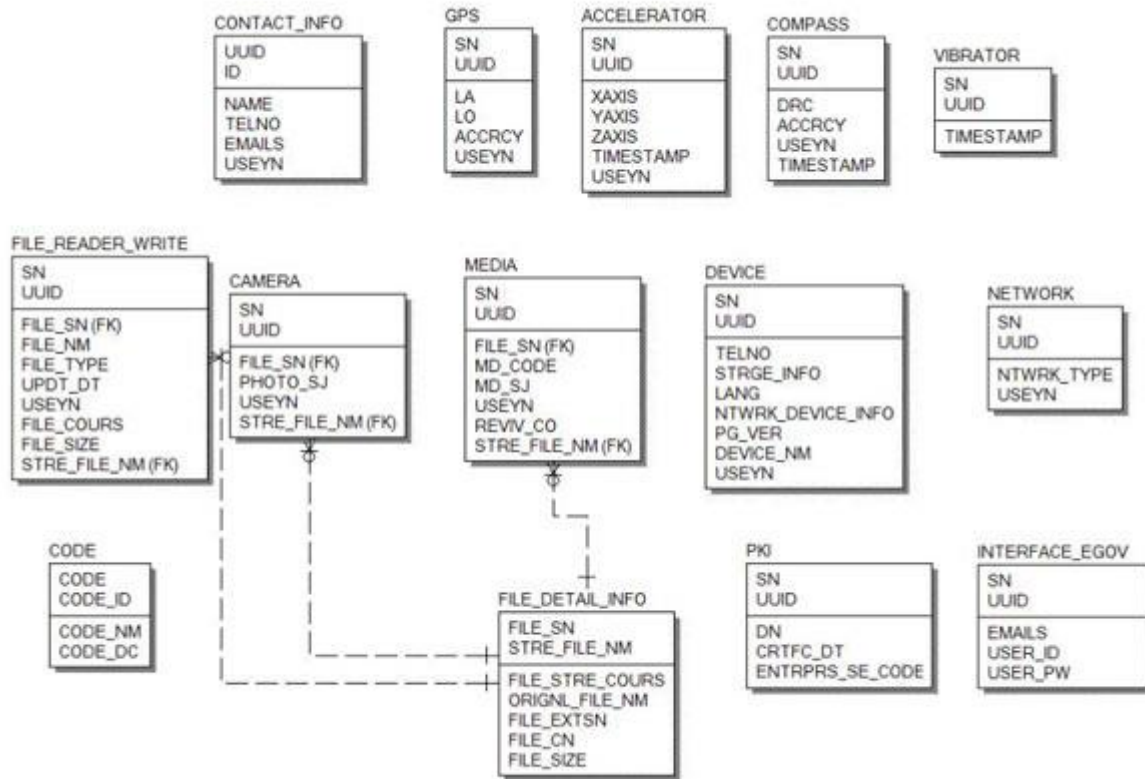
Title	Table	Remark
compass	COMPASS Manage	Compass information

Table Definition

- COMPASS

No	Column ID	Title of Column	Type	Length	Null
1	SN	Serial No.	NUMERIC	6	NotNull
2	UUID	UUID	VARCHAR	50	NotNull
3	DRC	Direction	VARCHAR	40	Null
4	ACCRCY	Accuracy	VARCHAR	10	Null
5	USEYN	Activation	CHAR	1	Null
6	TIMESTAMP	timestamp	VARCHAR	20	Null

ERD



Configuration Settings

Necessary sections and settings for using Compass related features of mobile device, provided by Compass Device API Guide Program, are as follows.

Device Application

config.xml

Plugin

```

<featurename="Geolocation">
<paramname="ios-package" value="CDVLocation"/>
</feature>
<featurename="InterfaceAPI">
<paramname="ios-package" value="EgovInterface"/>
</feature>
  
```

[Project_Name]/eGovModule/EGovComModule.h

```

#define kSERVER_URL      @"Server_URL"
  
```

Server Application

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

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

Related features

Compass Device API Guide Program comprises **Compass Information Update , Storage of Compass Information out of Server, Compass Information List Update and Compass Information Removal.**

Updates compass information

Business Logic

Device API calls the present Compass information on the monitor, causing the figure to rotate, following the Compass direction.

Related Code

Updates real-time accelerator information via JavaScript Code using Device API Compass function.

```
function fn_egov_update_heading(h)
{
    drc = h.magneticHeading;
    accrcy = h.headingAccuracy;
    timestamp= h.timestamp;

    // receives new angle value
    newHeading = Math.round(drc);

    $("#compassMain").trigger("newHeading", newHeading);

    var html = "Azimuth : " + drc + "<BR />";

    $("#infoDetail").html(html);
    if(CompassInsertCheck)
    {
        CompassInsertCheck = false;
    }
    console.log("DeviceAPIGuide fn_egov_update_heading Success");
}

function fn_egov_get_compass()
{
    if (CompasswatchID === null)
    {
        //alert("Compass start");
        //toast("Compass start");
    }
}
```

```

CompassInsertCheck = true;
var options = { frequency: 1 };
CompasswatchID = navigator.compass.watchHeading(fn_egov_update_heading,
function(e)
{
console.log("DeviceAPIGuide
fn_egov_get_compass fail");
},
options);
}
else
{

compassEvent();

navigator.compass.clearWatch(CompasswatchID);
CompasswatchID = null;
fn_egov_update_heading({ drc : "Off" });
//navigator.notification.alert("Compass stop");
//toast("Compass stop");
}
}

```

Related Screen and Implementation Manual

Compass information inquiry window



Start saving directional information: to send the Compass information to server, click on the "Save" button at the bottom.

Directional information list: moves to **Compass information list** window.

Save Compass information

Business Logic

Sends the Compass information from the inquiry to the server and saves it in a list form.

Related Code

```
function fn_registCompassInfo() {  
    useYn = "Y";
```



```

var url = "/cps/xml/addCompassInfo.do";
var accept_type = "json";
var params = {uuid : device.uuid,
              drc: drc + ",
              accrcy: accrcy + ",
              timestamp: timestamp + ",
              useYn: useYn};

// send the data
egovHyb.post(url, accept_type, params, function(jsondata) {
    var data = JSON.parse(jsondata);

    if(data.useYn == "OK"){
        //fn_goCompassInfoListXml();
    }else{
        $("#alert_dialog").click( function() {
            jAlert('Error occured while sending data.', 'Transmission
Error', 'c');
        });
    }

});

console.log("DeviceAPIGuide fn_registCompassInfo request Completed");
}

```

Related Screen and Implementation Manual

Function	URL	Controller	method	Display (HT ML)
Send Compass information to server /cps/add CompassInfo.do	EgovCompassAndroidAPI Controller	addCompassInfo Xml	CompassAPI. html	



Click on "Save" to send the information data to the server.

Start saving directional information: to send the Compass information to server, click on the "Save" button at the bottom.

Directional information list: moves to **Compass information list** window.

Compass information list

Business Logic

Prints the saved Compass information list in a list form.

Related Code

```
function fn_goCompassInfoListXml()
{
```

```

if(!fn_egov_network_check(false)){
    return;
}
var url = "/cps/xml/compassInfoList.do";
var accept_type = "xml";
// get the data from server
window.plugins.EgovInterface.get(url,accept_type, null, function(xmldata) {
    var list_html = "";

    $(xmldata).find("compassInfoList").each(function(){
        var uuid = $(this).find("uuid").text();
        var x = $(this).find("drc").text();
        var y = $(this).find("accrcy").text();
        var t = $(this).find("timestamp").text();

        list_html += "<li><h3>UUID : " + uuid + "</h3>";
        list_html += "<p><strong>drc : " + x + "</strong></p>";
        list_html += "<p><strong>accrcy : " + y + "</strong></p>";
        list_html += "<p>timestamp : " + t + "</p></li>";
    });

    var theList = $('#theList');
    theList.html(list_html);
    $.mobile.changePage($("#compassInfoList"), {reverse: true});
    theList.listview("refresh");

});
}

```

Related Screen and Implementation Manual

Function	URL	Controller	method	Display (HTML)
Compass information list inquiry	/cps/compassInfoList.do	EgovCompassAndroidAPIController	selectCompassInfoXMLList	CompassAPI.html



To inquire the Compass information list saved in server, click on the "Acceleration information list."

Directional information inquiry: moves to **Compass information inquiry** window.

Delete list: to reset the Compass information list, click on the "Delete Compass information inquiry" button.

Delete Compass information

Business Logic

Resets the Compass information list saved on server.

Related Code

```
function fn_deleteCompassInfoList() {
```

```

var url = "/cps/xml/withdrawal.do";
var accept_type = "json";
// send the data
egovHyb.post(url, accept_type, null, function(jsondata) {
    var data = JSON.parse(jsondata);

    if(data.useYn == "OK"){
        $.mobile.changePage($("#compassMain"), {reverse: true});
    }else{
        $("#alert_dialog").click( function() {
            jAlert('Error encountered while deleting data.', 'Deletion
error', 'c');
        });
    }

});

console.log("DeviceAPIGuide fn_deleteCompassInfoList request Completed");
}

```

Related Screen and Implementation Manual

Function	URL	Controller	method	Display (HTML)
Resetting Compass information list	l /cps/withdrawal.do	EgovCompassAndroidAPIController	withdrawalXml	CompassAPI.html



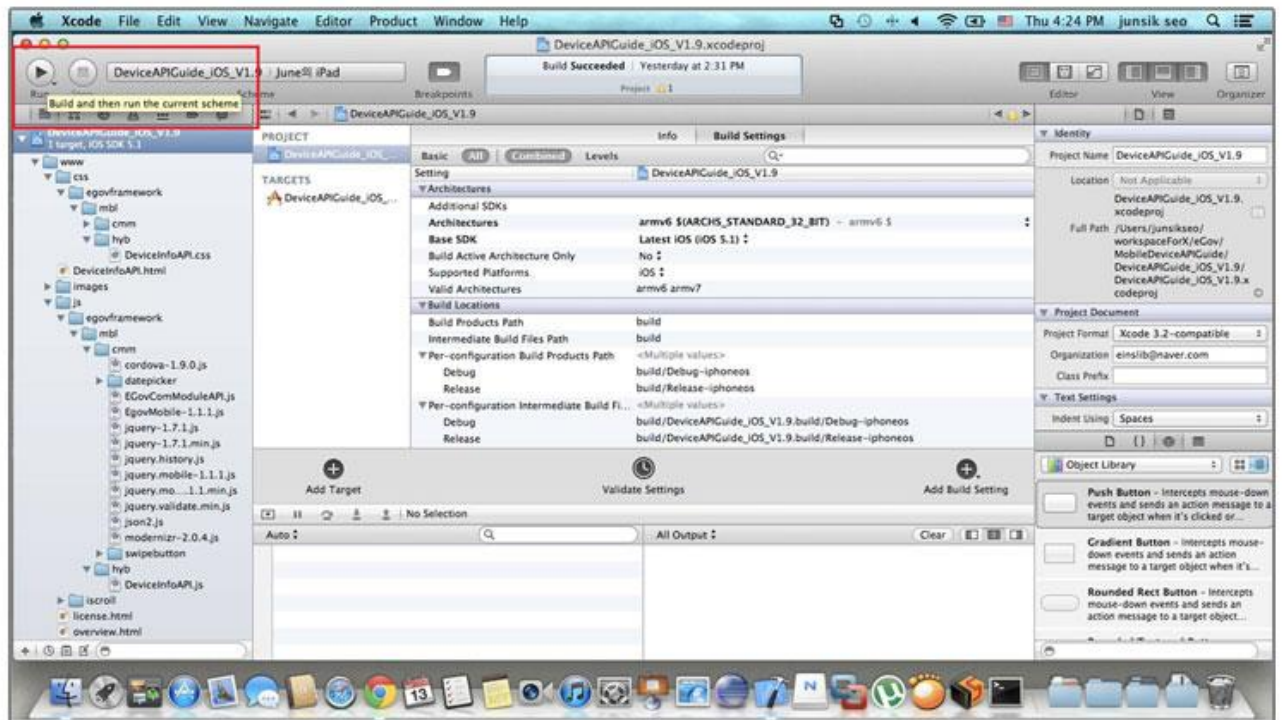
To reset the Compass information list saved in server, click on the "Delete Compass information."

Compiling, debugging, distributing

Compiling

How to compile Compass Device Application

- Click the triangular button on top left to build the Guide Program and install it to the iPhone Device.

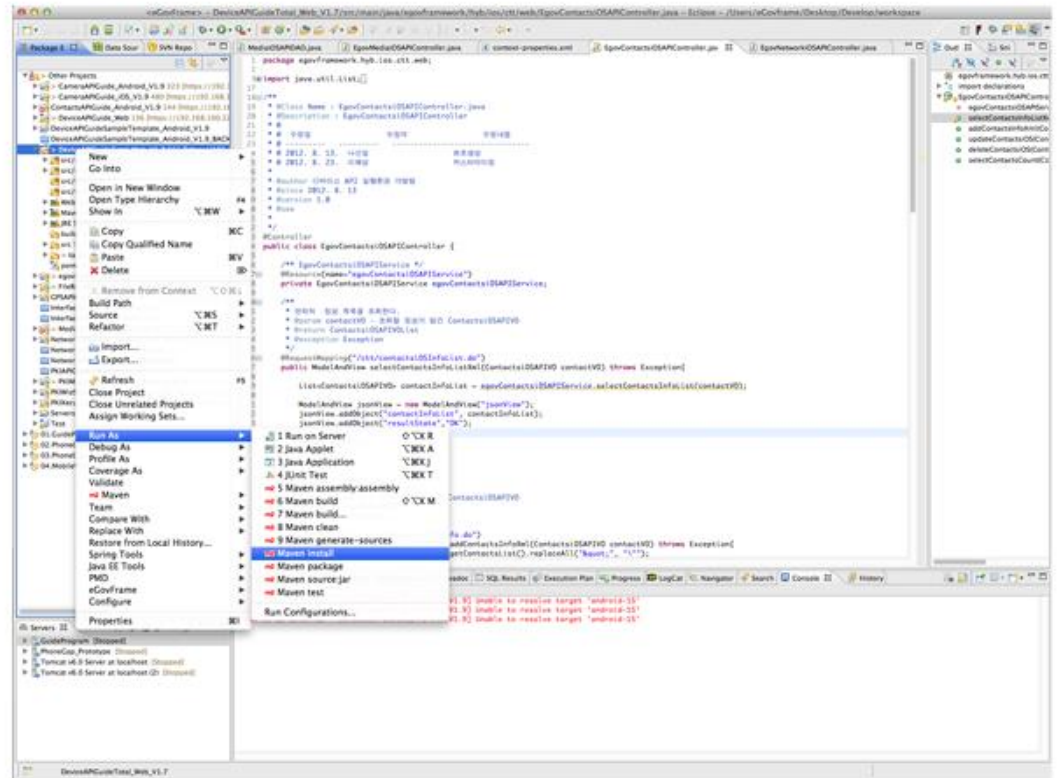


- Upon successful build, the following screen is displayed.



How to compile Compass Server Application

1. Right-click on the project>Run as>Maven install to build.



2. Build successful (check console information)

```
Problems Tasks Properties Bookmarks Javadoc SQL Results Execution Plan LogCat Progress Navigator Search Console History
<terminated> /System/Library/Java/JavaVirtualMachines/1.6.0.jdk/Contents/Home/bin/java (2012. 9. 13. 오후 4:18:33)

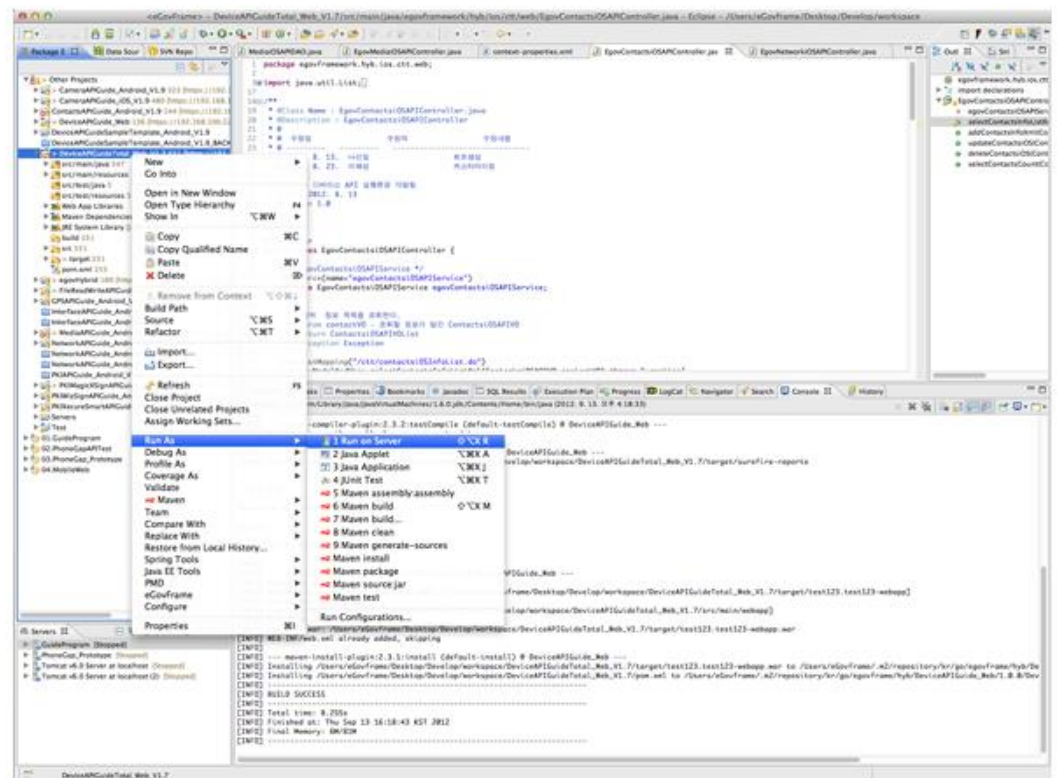
[INFO] --- maven-compiler-plugin:2.3.2:testCompile (default-testCompile) @ DeviceAPIGuide_Web ---
[INFO] Nothing to compile - all classes are up to date
[INFO] --- maven-surefire-plugin:2.7.1:test (default-test) @ DeviceAPIGuide_Web ---
[INFO] Surefire report directory: /Users/eGovframe/Desktop/Develop/workspace/DeviceAPIGuideTotal_Web_V1.7/target/surefire-reports

T E S T S
-----
There are no tests to run.

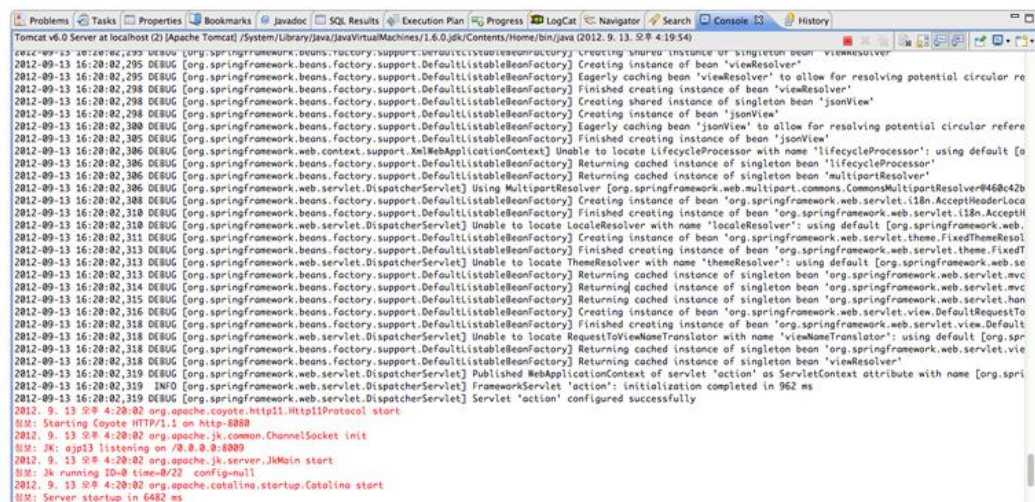
Results :
Tests run: 0, Failures: 0, Errors: 0, Skipped: 0

[INFO] --- maven-war-plugin:2.1.1:war (default-war) @ DeviceAPIGuide_Web ---
[INFO] Packaging webapp
[INFO] Assembling webapp [DeviceAPIGuide_Web] in [/Users/eGovframe/Desktop/Develop/workspace/DeviceAPIGuideTotal_Web_V1.7/target/test123-test123-webapp]
[INFO] Processing war project
[INFO] Copying webapp resources [/Users/eGovframe/Desktop/Develop/workspace/DeviceAPIGuideTotal_Web_V1.7/src/main/webapp]
[INFO] Webapp assembled in [1438 msecs]
[INFO] Building war: /Users/eGovframe/Desktop/Develop/workspace/DeviceAPIGuideTotal_Web_V1.7/target/test123-test123-webapp.war
[INFO] WEB-INF/web.xml already added, skipping
[INFO] --- maven-install-plugin:2.3.1:install (default-install) @ DeviceAPIGuide_Web ---
[INFO] Installing /Users/eGovframe/Desktop/Develop/workspace/DeviceAPIGuideTotal_Web_V1.7/target/test123-test123-webapp.war to /Users/eGovframe/.m2/repository/kr/go/egovframe/hyb/De
[INFO] Installing /Users/eGovframe/Desktop/Develop/workspace/DeviceAPIGuideTotal_Web_V1.7/pom.xml to /Users/eGovframe/.m2/repository/kr/go/egovframe/hyb/DeviceAPIGuide_Web/1.0.0/Dev
[INFO] BUILD SUCCESS
[INFO] Total time: 8.255s
[INFO] Finished at: Thu Sep 13 16:18:43 KST 2012
[INFO] Final Memory: 6M/81M
[INFO]
```

- Right-click on project>Run as>Run on Server to execute.



- Check to see if project is successfully executed.



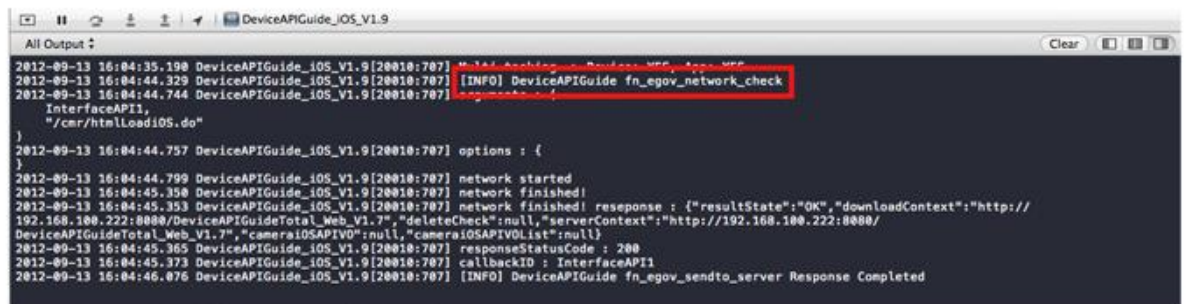
Debugging

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 both Eclipse and Xcode.

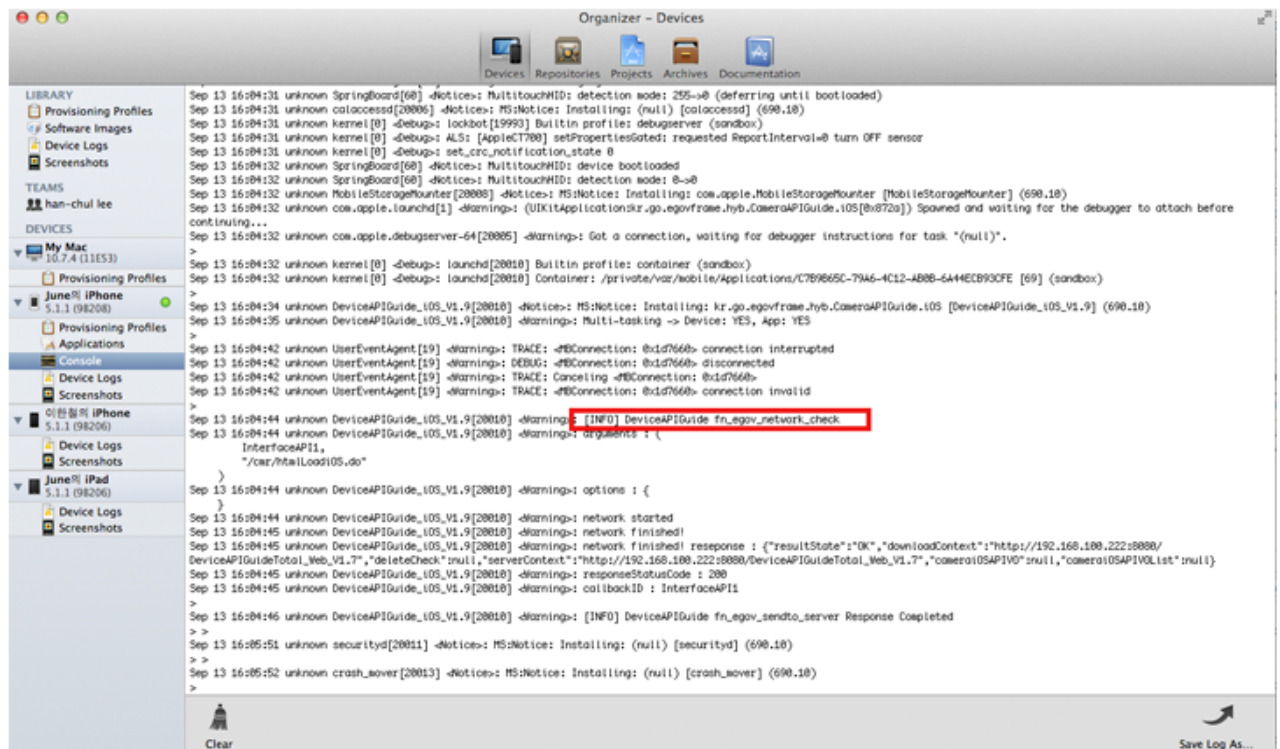
- Example of actual console log

```
function fn_egov_network_check(doCheck)
{
    console.log('DeviceAPIGuide fn_egov_network_check');
    var networkState = navigator.network.connection.type;
    ...
}
```

- xCode console window



- Organizer log window



Debug code

Debug information

[DeviceAPIGuide] fn_egov_get_compass : start	Inquiry of Compass information started
[DeviceAPIGuide] fn_egov_get_compass : stop	Inquiry of Compass information stopped
[DeviceAPIGuide] fn_egov_goCompassInfoList : completed	Inquiry of Device Compass information successful
[DeviceAPIGuide] fn_egov_registCompassInfo : completed	Update of Device Compass information to server successful
[DeviceAPIGuide] fn_egov_deleteCompassInfoList : completed	Compass information reset within server successful

Distribution

Download Compass Device API Guide: [Click](#)

References

- UX/UI library : jQuery Mobile [Click](#)
- Phonegap 4.3.0 : [Click](#)