

# Accelerator Device API Guide Program

## Outline

Accelerator 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 Accelerator related functions of mobile smart devices through JavaScript-based Accelerator DeviceAPI.

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

### Feature

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

For effective inquiry of changes to acceleration information, the information will be displayed in the form of changing 3D shape in addition to the notification window at the top. The 3D shape is generated through Three.js, an open source resource, and rotates in a direction that corresponds to the changes to the Device's acceleration information.

### Assumptions

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	N/A
Test Device	Galaxy S2
Test Platform	Android 2.3
Libraries Added	Three.js

### Restriction

Category	Description
Supported devices	Depending on the application of JavaScript library that supports 3D rendering for visualization of acceleration information, loading time may be extended or screen may appear cropped when viewed horizontally. Therefore, it is advisable to change settings to prevent auto conversion in horizontal view mode

s hen running API Guide Program.

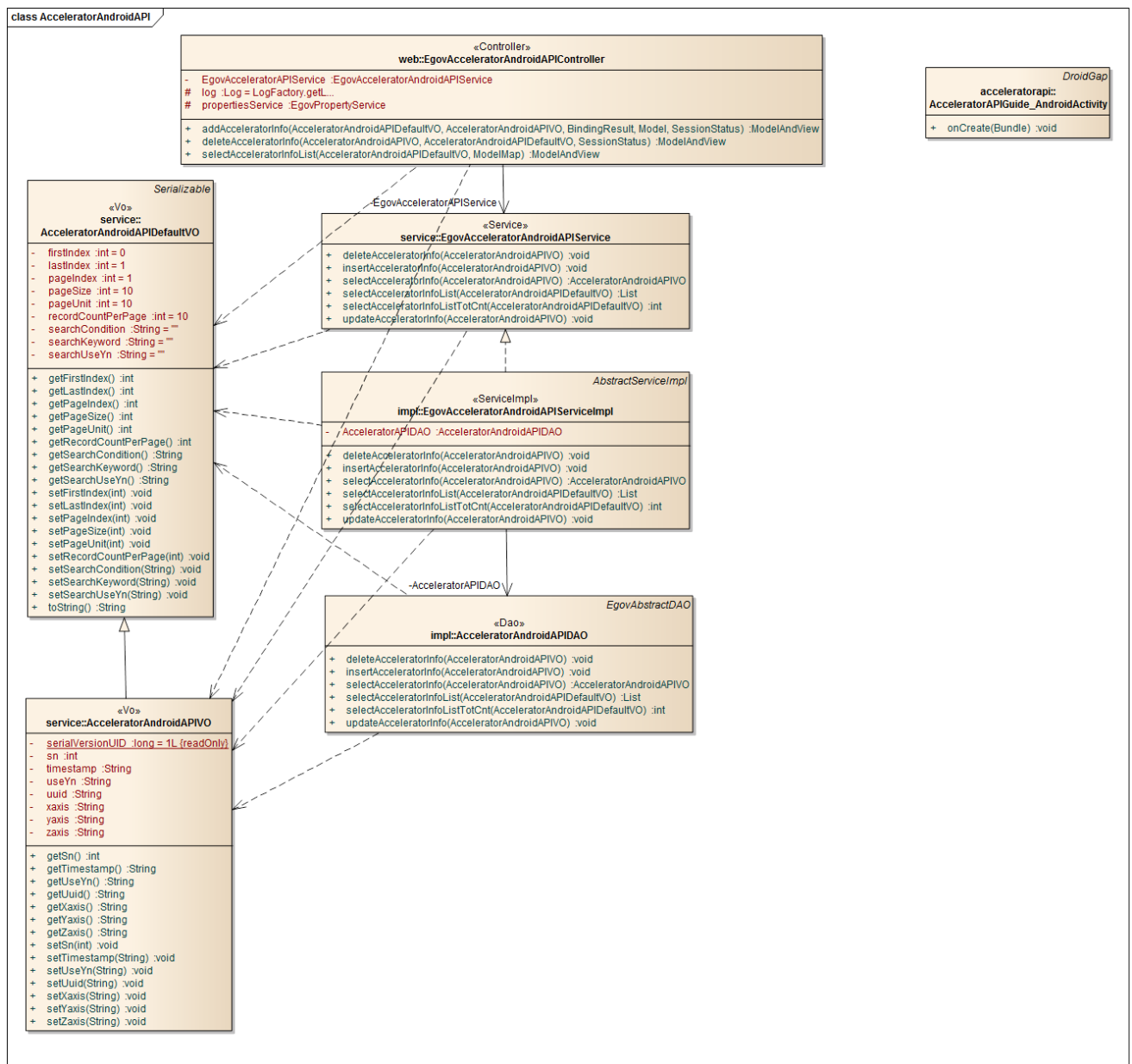
Using cross When using certain outside domains or its subdomains on PhoneGap, add such domains on <access ori s domain gin="" /> at Res/xml/config.xml.

License N/A

## Description

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

### Class Diagram



## Device Application

### Source

Type	Title	Remark
Activity	kr.go.egovframework.hyb.acceleratorapi.AcceleratorAPIGuide_AndroidActivity	AcceleratorAPI Guide Program Activity Class
CSS	assets/www/css/egovframework/mbl/hyb/AcceleratorAPI.css	AcceleratorAPI Guide Program Core Cascading Style Sheets
IMAGE	assets/www/images/egovframework/mbl/hyb/	AcceleratorAPI Guide Program main Image folder
JS	assets/www/js/egovframework/mbl/hyb/AcceleratorAPI.js	AcceleratorAPI Guide Program main JavaScript
JS	assets/www/js/egovframework/mbl/hyb/messages_ko.js	JavaScript for Validate Message Processing
RES	assets/www/res/	AcceleratorAPI Guide Program main Resource folder
XML	AndroidManifest.xml	Configuration XML for Android
HTML	assets/www/AcceleratorAPI.html	AcceleratorAPI main page
HTML	assets/www/intro.html	AcceleratorAPI Intro page
HTML	assets/www/license.html	AcceleratorAPI License page
HTML	assets/www/overview.html	AcceleratorAPI feature description page

### APIs Used

accelerator.getPicture

- Loads picture shot or in album
- Loads images encoded in base64 or in album

```
navigator.accelerometer.getCurrentAcceleration(accelerometerSuccess, accelerometerError);
function onSuccess(acceleration) {
    alert('Acceleration X: ' + acceleration.x + '\n' +
        'Acceleration Y: ' + acceleration.y + '\n' +
        'Acceleration Z: ' + acceleration.z + '\n' +
        'Timestamp: ' + acceleration.timestamp + '\n');
};
accelerometerOption
```

Option	Description	Remark
frequency	Frequency of inquiry for acceleration information	

Server Application

**Source**

Type	Title	Remark
Controller	egovframework.hyb.add.acl.web.EgovAcceleratorAndroidAPIController.java	Controller Class for AcceleratorAPI Guide Program
Service	egovframework.hyb.add.acl.service.EgovAcceleratorAndroidAPIService.java	Service Class for AcceleratorAPI Guide Program
ServiceImpl	egovframework.hyb.add.acl.service.impl.EgovAcceleratorAndroidAPIServiceImpl.java	ServiceImpl Class for AcceleratorAPI Guide Program
VO	egovframework.hyb.add.acl.service.AcceleratorAndroidAPIDefaultVO.java	VO Class for AcceleratorAPI Guide Program
VO	egovframework.hyb.add.acl.service.AcceleratorAndroidAPIFileVO.java	VO Class for AcceleratorAPI Guide Program
VO	egovframework.hyb.add.acl.service.AcceleratorAndroidAPIVO.java	VO Class for AcceleratorAPI Guide Program
VO	egovframework.hyb.add.acl.service.AcceleratorAndroidAPIXmlVO.java	XML-related VO Class for AcceleratorAPI Guide Program
DAO	egovframework.hyb.add.acl.service.impl.AcceleratorAndroidAPIDAO.java	DAO Class for AcceleratorAPI Guide Program
Util	egovframework.hyb.add.acl.service.impl.EgovAcceleratorAndroidFileMngUtil.java	Util Class for AcceleratorAPI Guide Program
QUERY XML	resources/egovframework/sqlmap/hyb/add/acl/EgovAcceleratorAndroidAPIGuide_XXX_mysql.xml	QUERY XML for AcceleratorAPI Guide Program
Idgen XML	resources/egovframework/spring/com/context-idgen.xml	IdGen XML for AcceleratorAPI Guide Program

**Related Tables**

Title	Table	Remark
accelerator	ACCELERATOR	Manages acceleration information

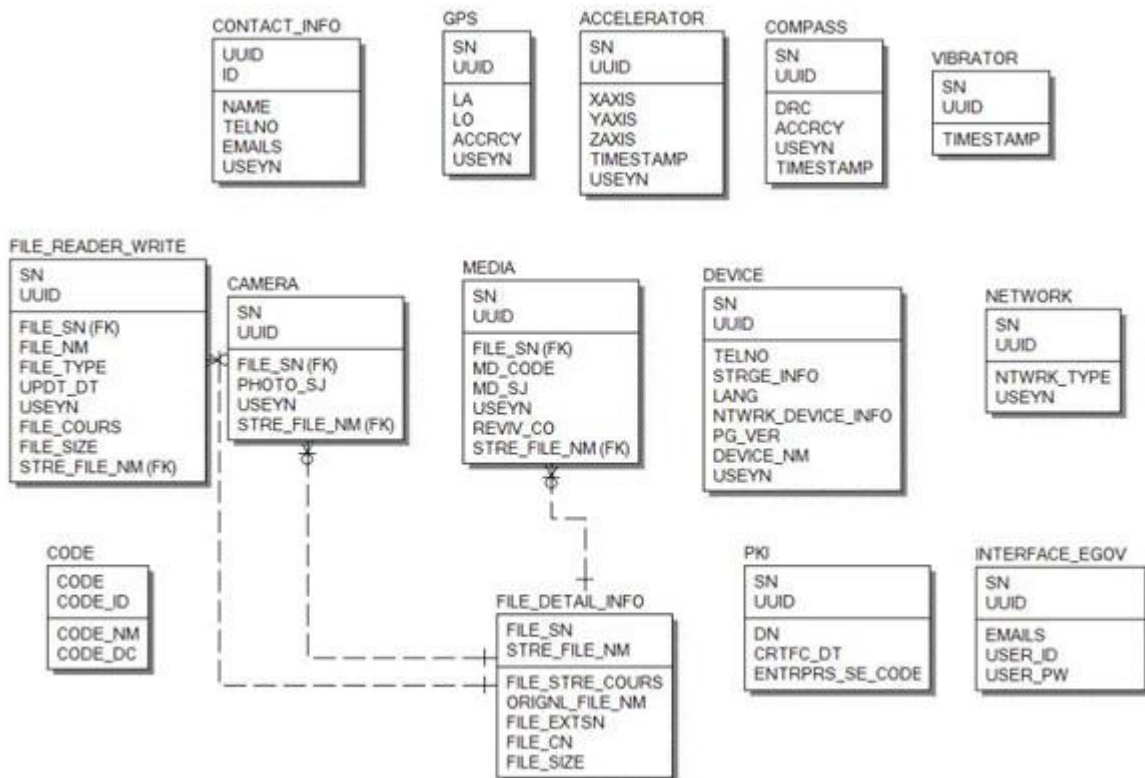
**Table Definition**

- Device

No.	Column ID	Title of Column	Type	Length	NULL
1	SN	Serial No.	NUMERIC	6	NotNull
2	UUID	UUID	VARCHAR	50	NotNull

3	XAXIS	X-axis	VARCHAR	20	Null
4	YAXIS	Y-axis	VARCHAR	20	Null
5	ZAXIS	Z-axis	VARCHAR	20	Null
6	TIMESTAMP	timestamp	VARCHAR	20	Null
7	USEYN	Activation	CHAR	1	Null

### ERD



## Properties

Device properties required for use of Accelerator-related functions of Accelerator Device API Guide Program are as follows:

Device Application

`res/xml/config.xml`

```

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

### 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>
```

### AndroidManifest.xml

```
<uses-permissionandroid:name="android.permission.ACCESS_FINE_LOCATION"/>
Server Application
```

### context-properties.xml

- Upload directory

```
<entrykey="fileStorePath"value="File_Save_Path"/>
resource/egovframework/sqlmap/sql-map-config_[DB_NAME].xml
```

```
<sqlMapresource="egovframework/sqlmap/hyb/add/acl/EgovAcceleratorAndroidAPIGuide_SQL_[D
B_NAME].xml"/>
```

## Functions

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

Inquiry for Acceleration Information

### Business Logic

Device API calls the present acceleration information on the monitor, causing the figure circulating to the acceleration direction.

### Code

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

```
function fn_egov_update_Acceleration(accelInfo)
{
    xaxis = accelInfo.x;
    yaxis = accelInfo.y;
    zaxis = accelInfo.z;
    timeStamp = accelInfo.timestamp;
// saves acceleration information (x, y, z, timestamp) within accelInfo object

    var html = "X : " + xaxis + "<BR />" + "Y : " + yaxis + "<BR />" + "Z : " + zaxis;

    $("#infoDetail").css("text-align", "center");
    $("#infoDetail").css("margin-left", "1px");

    html += ""
```

```
$("#infoDetail").html(html);
```

```
    if (firstRefresh)
    {
        accInitX = xaxis;
        accInitY = yaxis;
        accInitZ = zaxis;
        firstRefresh = false;
    }
```

```
    console.log("DeviceAPIGuide fn_egov_update_Acceleration Success");
```

```
}
```

**Related Screen and Implementation Manual**

**Acceleration information inquiry window**



Save acceleration information

#### **Business Logic**

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

#### **Code**

```
function fn_registAcceleratorInfo() {  
  
    useYn = "Y";  
  
    var url = "/acl/xml/addAcceleratorInfo.do";  
    var accept_type = "json";  
    var params = {uuid : device.uuid,  
                 xaxis: xaxis + ",  
                 yaxis: yaxis + ",  
                 zaxis: zaxis + ",  
                 useYn: useYn};  
    $.ajax({url: url, data: params, type: "POST", success: function(data) {  
        alert(data);  
    }});  
}
```



```

        yaxis: yaxis + ",
        zaxis: zaxis + ",
        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_InquireAccelerationInfoListXml();
    }else{
        $("#alert_dialog").click( function() {
            jAlert('Error occured while sending data.', 'Transmission
Error', 'c');
        });
    }

});

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

```

#### Related Screen and Implementation Manual

Function	URL	Controller	method	Display (HTML)
Sending acceleration information to server	/acl/xml/addAcceleratorInfo.do	EgovAcceleratorAndroidAPI Controller	addAcceleratorInfoXml	AcceleratorAP I.html

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

Save acceleration information: to send the acceleration information to server, click on the "Save" button at the bottom.

Acceleration information list: moves to **Acceleration information list** window.

Acceleration information list

#### Business Logic

Prints the saves Acceleration information list in a list form.

#### Code

```

function fn_InquireAccelerationInfoListXml()
{
    if(!fn_egov_network_check(false)){
        return;
    }

    var url = "/acl/xml/acceleratorInfoList.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("acceleratorInfoList").each(function(){
    var uuid = $(this).find("uuid").text();
        var x = $(this).find("xaxis").text();
        var y = $(this).find("yaxis").text();
        var z = $(this).find("zaxis").text();
    var t = $(this).find("timestamp").text();

        list_html += "<li><h3>UUID : " + uuid + "</h3>";
        list_html += "<p><strong>xaxis : " + x + "</strong></p>";
        list_html += "<p><strong>yaxis : " + y + "</strong></p>";
        list_html += "<p><strong>zaxis : " + z + "</strong></p>";
        list_html += "<p>timestamp : " + t + "</p></li>";

    });

    var theList = $('#theList');
    theList.html(list_html);
    $.mobile.changePage("#btnMoveAcceleratorInfoList", "slide", false, false);
    theList.listview("refresh");
    if(myScroll != null) {
        myScroll.refresh();
    }

    });

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

```

#### Related Screen and Implementation Manual

Function	URL	Controller	method	Display (HTML)
Acceleration information inquiry	/acl/xml/acceleratorInfoList.do	EgovAcceleratorAndroidAPI Controller	selectAcceleratorInfoXMLList	AcceleratorAPI.html

#### Acceleration information list window



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

Save acceleration information: to send the acceleration information to server, click on the "Save" button at the bottom.

Acceleration information list: moves to **Acceleration information list** window.

Acceleration information inquiry: moves to **Acceleration information inquiry** window.

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

Delete Acceleration information

### **Business Logic**

Resets the Acceleration information list saved on server.

## Code

```
function fn_DelAccelerationInfoList() {  
  
    var url = "/acl/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("#acceleratorInfo", { transition: "slide", reverse:  
true });  
        }else{  
            $("#alert_dialog").click( function() {  
                jAlert('Error encountered while deleting data.', 'Deletion  
error', 'c');  
            });  
        }  
  
    });  
  
    console.log("DeviceAPIGuide fn_DelAccelerationInfoList request Completed");  
  
}
```

## Related Screen and Implementation Manual

Function	URL	Controller	method	Display (HTML)
Reset Acceleration information list	/acl/xml/withdrawal.do	EgovAcceleratorAndroidAPIController	withdrawalXml	AcceleratorAPI.html

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

Save acceleration information: to send the acceleration information to server, click on the "Save" button at the bottom.

Acceleration information list: moves to **Acceleration information list** window.

Acceleration information inquiry: moves to **Acceleration information inquiry** window.

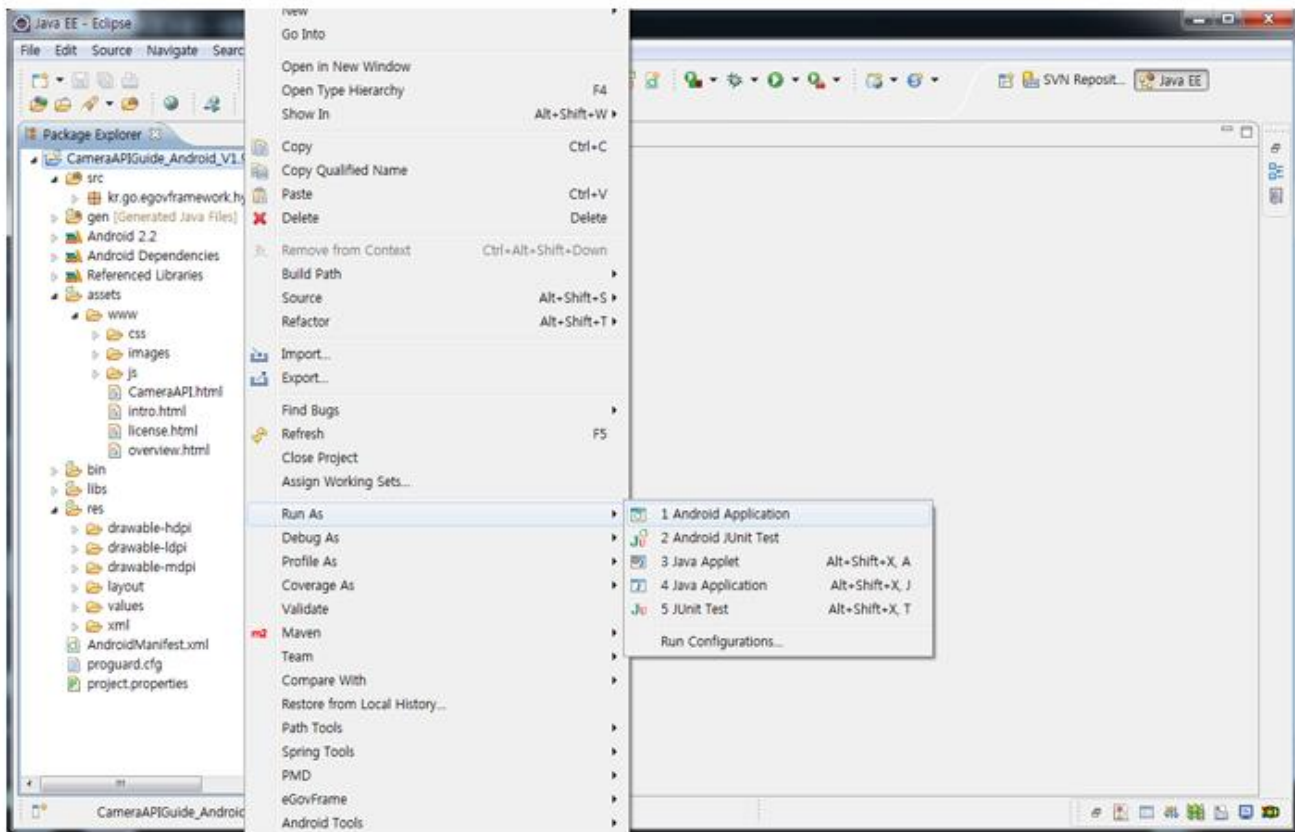
Delete Acceleration information: to reset the Acceleration information list, click on the "Delete Acceleration information inquiry" button.

## Compiling, debugging, distributing

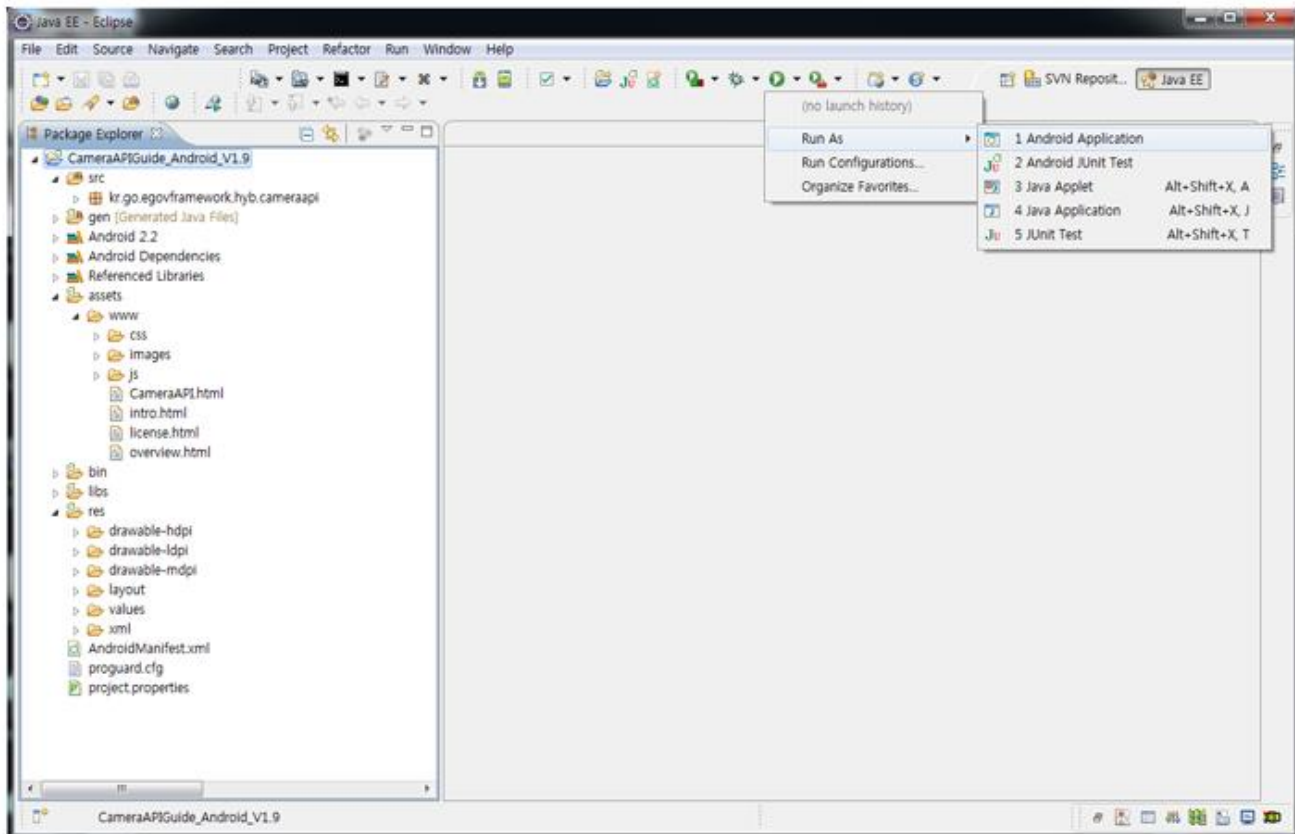
### Compiling

#### How to compile AcceleratorAPI Device Application

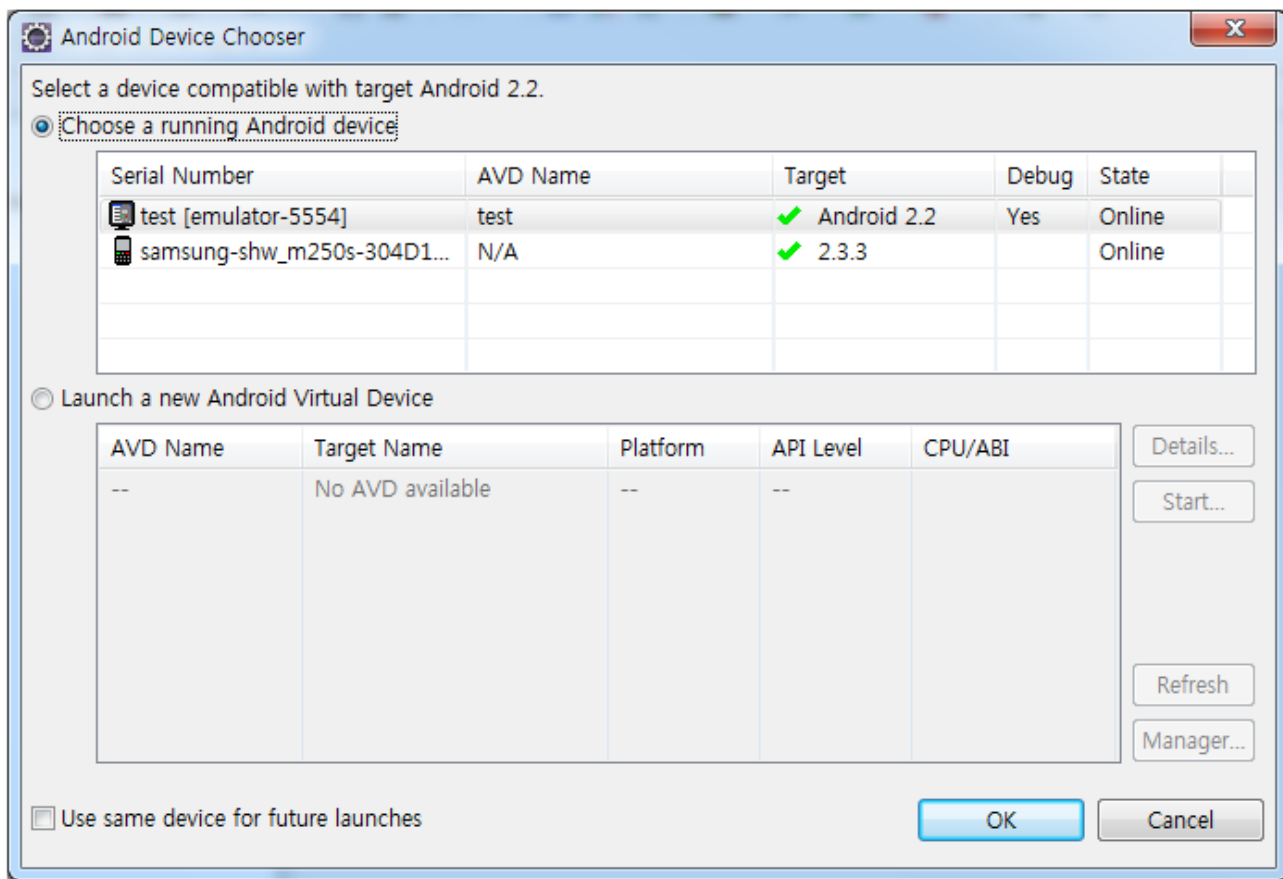
- Choose project > Right-click > Run As > Android Application



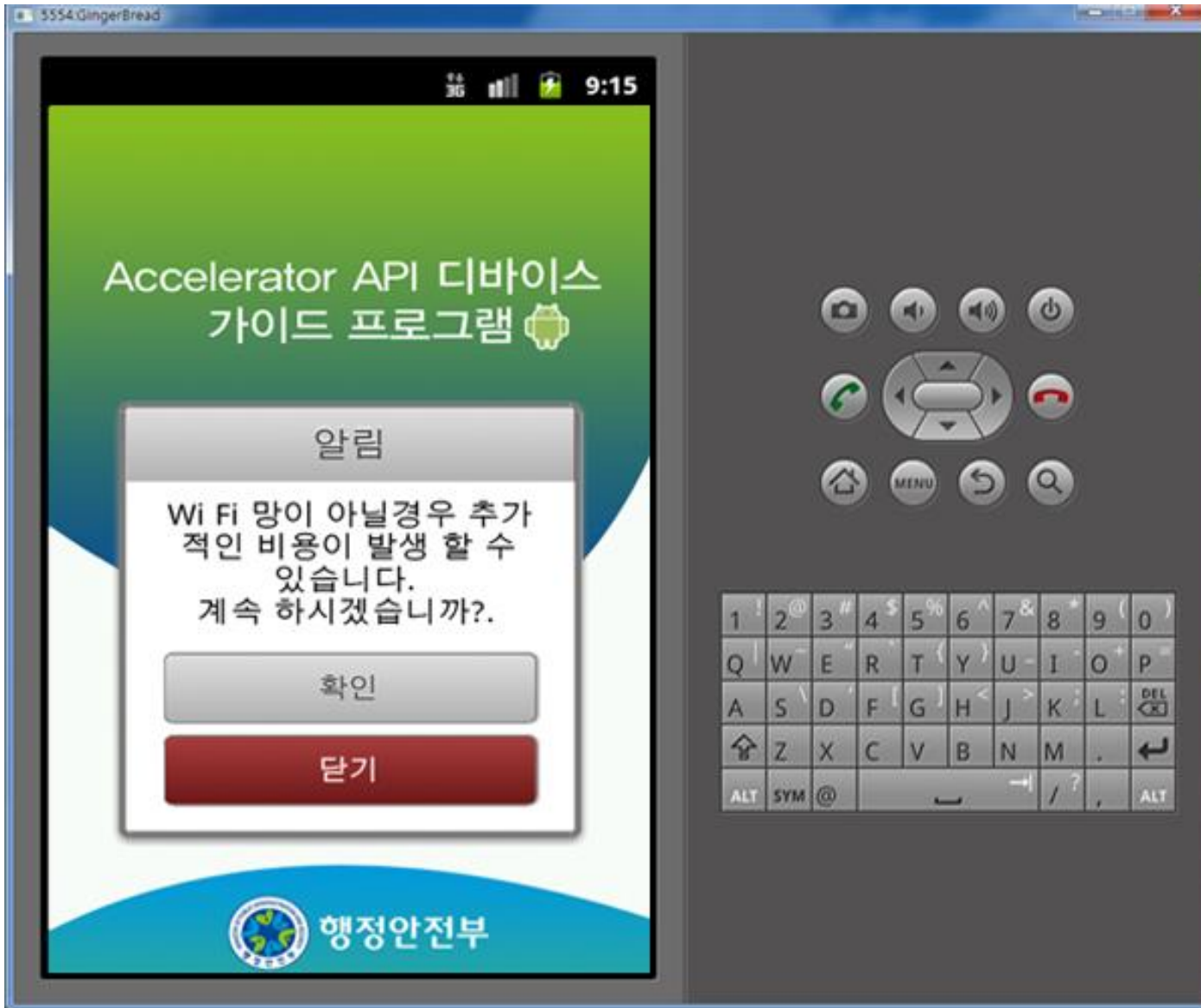
- Top menu > Run As > Android Application



- Select target to run > emulator, Device(debug mode)



- Program display on the emulator



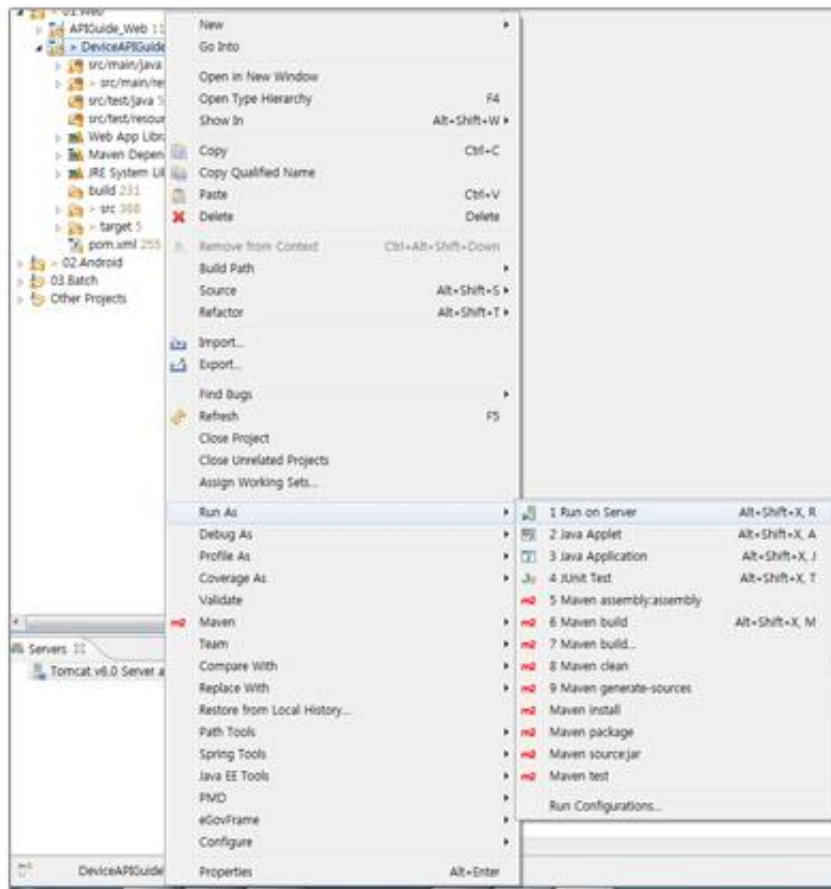
- Program display on the device





#### **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.servlet.mvc.annotation.AnnotationMethodMapping'
2012-09-14 09:15:49,767 DEBUG [org.springframework.beans.factory.support.DefaultListableBeanFactory] Returning cached instance of singleton bean 'org.springframework.web.servlet.mvc.annotation.AnnotationMethodMapping'
2012-09-14 09:15:49,768 DEBUG [org.springframework.beans.factory.support.DefaultListableBeanFactory] Creating instance of bean 'org.springframework.web.servlet.view.DefaultRequestResolver'
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.servlet.view.DefaultRequestResolver'
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 INFO [org.springframework.web.servlet.DispatcherServlet] Published WebApplicationContext of servlet 'action' as ServletContext attribute with name 'org.springframework.web.servlet.FrameworkServlet'
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 both Eclipse and Xcode.

The following is an example of how to write console.log.

```

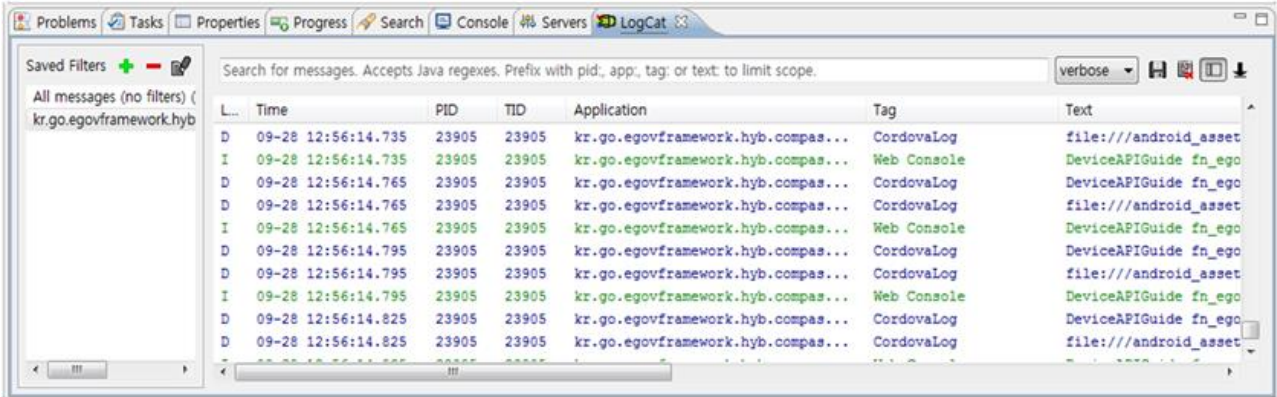
function fn_egov_network_check(doCheck)
{
    console.log('DeviceAPIGuide fn_egov_network_check');
}
  
```

```

var networkState = navigator.network.connection.type;
...
}

```

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



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

#### Debug code

#### Debug information

DeviceAPIGuide fn\_InquireAccelerationInfoList XML list return (upon request for network information saved on ser Xml request Completed ver) successful

eviceAPIGuide fn\_registAcceleratorInfo request Update of Device Accelerator information to server successful Completed

DeviceAPIGuide fn\_DelAccelerationInfoList re Accelerator information reset within server successful quest Completed

DeviceAPIGuide fn\_egov\_update\_Acceleration Information update on related functions (after the inquiry of Device Success Accelerator information) successful

DeviceAPIGuide fn\_egov\_get\_acceleration fail Inquiry of Device Accelerator information failed

Distribution

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

## References

- UX/UI library : jQuery Mobile [Click](#)
- Phonegap 4.3.0 : [Click](#)
- 3D rendering: Three.js (<https://github.com/mrdoob/three.js>)