

Network Device API Guide Program

Outline

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

Also, it connects with web server applications based on eGov standard framework to check the network information of the device and play media, as well as to send network information to server and inquire them.

Feature

This Guide Program provides **play media after checking network status, send network information to server, and receive network information from server** 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	N/A
Test Device	Galaxy S2
Test Platform	Android 2.3
Libraries Added	N/A

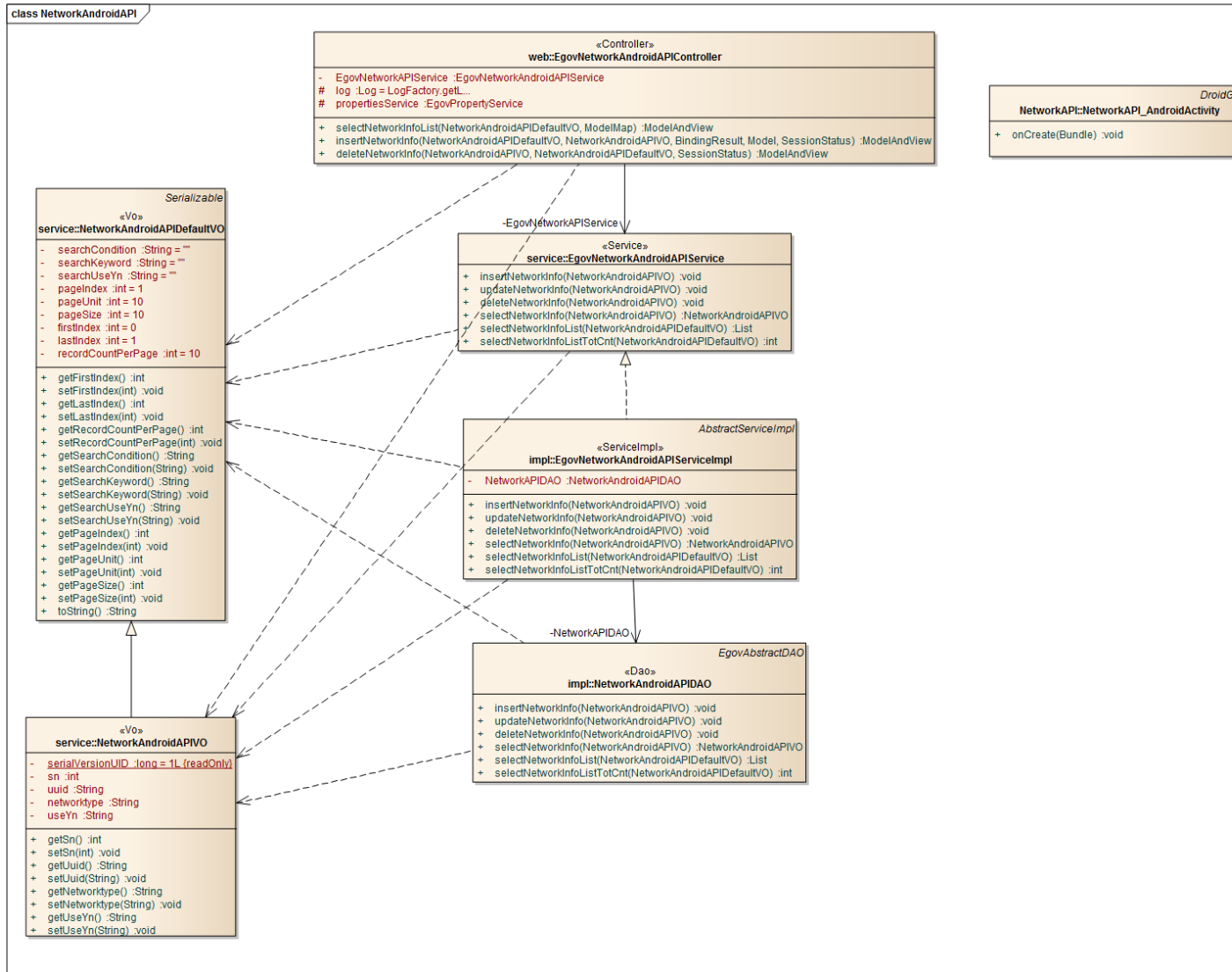
Restrictions

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

Network Device API Guide Program is comprised of **play media after checking network status, send network information to server, receive network information from server** features. (refer to related features section)

Class Diagram



Device Application

Sources

Type	Title	Remark
Activity	kr.go.egovframework.hyb.networkkapi.NetworkAPIGuide_AndroidActivity	NetworkAPI Guide Program Activity Class
CSS	assets/www/css/egovframwork/mbl/hyb/NetworkAPI.css	NetworkAPI Guide Program Core Cascading Style Sheets
IMAGE	assets/www/images/egovframwork/mbl/hyb/	NetworkAPI Guide Program Core Image Folder

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

APIs Used

navigator.connection.type

- Network status information for the current device

```
var states = { };
states[Connection.UNKNOWN] = 'Unknown connection';
states[Connection.ETHERNET] = 'Ethernet connection';
states[Connection.WIFI] = 'WiFi connection';
states[Connection.CELL_2G] = 'Cell 2G connection';
states[Connection.CELL_3G] = 'Cell 3G connection';
states[Connection.CELL_4G] = 'Cell 4G connection';
states[Connection.NONE] = 'No network connection';
```

```
var NowNetwork = states[navigator.connection.type];
```

Network Code	Network Status
--------------	----------------

Connection.UNKNOWN	Unknown connection
--------------------	--------------------

Connection.ETHERNET	Ethernet connection
---------------------	---------------------

Connection.WIFI	WiFi connection
-----------------	-----------------

Connection.CELL_2G	Cell 2G connection
--------------------	--------------------

Connection.CELL_3G	Cell 3G connection
--------------------	--------------------

Connection.CELL_4G	Cell 4G connection
--------------------	--------------------

Connection.NONE	No network connection
-----------------	-----------------------

Media

- An object that provides the audio file play function or audio record function.

```
var media = new Media(src, mediaSuccess, [mediaError], [mediaStatus]);
```

media.pause

- Pauses a media file

media.pause();
media.play

- Plays a media file

media.play();
media.release

- Releases an audio file registered in OS or memory.

media.release();
mediaError

- Media API error code

Error Code	Description	Remark
MEDIA_ERR_ABORTED	Plays aborted media	
MEDIA_ERR_NETWORK	Network error encountered	
MEDIA_ERR_DECODE	Decoding error (codec error)	
MEDIA_ERR_SRC_NOT_SUPPORTED	Media not supported	

Server Application

Source

Type	Title	Remark
Controller	egovframework.hyb.add.nwk.web.EgovNetworkAndroidAPIController.java	NetworkAPI Guide Program Controller Class
Service	egovframework.hyb.add.nwk.service.EgovNetworkAndroidAPIService.java	NetworkAPI Guide Program Service Class
ServiceImpl	egovframework.hyb.add.nwk.service.impl.EgovNetworkAndroidAPIServiceImpl.java	NetworkAPI Guide Program ServiceImpl Class
VO	egovframework.hyb.add.nwk.service.NetworkAndroidAPIDefaultVO.java	NetworkAPI Guide Program VO Class
VO	egovframework.hyb.add.nwk.service.NetworkAndroidAPIVO.java	NetworkAPI Guide Program VO Class
VO	egovframework.hyb.add.nwk.service.NetworkAndroidAPIXMLVO.java	NetworkAPI Guide Program XML related VO Class

DAO egovframework.hyb.add.nwk.service.impl.NetworkAndroidAPIDAO.java NetworkAPI Guide Program Dao Classes

QUERY X resources/egovframework/sqlmap/hyb/add/nwk/EgovNetworkAndroid NetworkAPI Guide Program QUERY
ML APIGuide_XXX_mysql.xml XML

Related Tables

Title	Table	Remark
-------	-------	--------

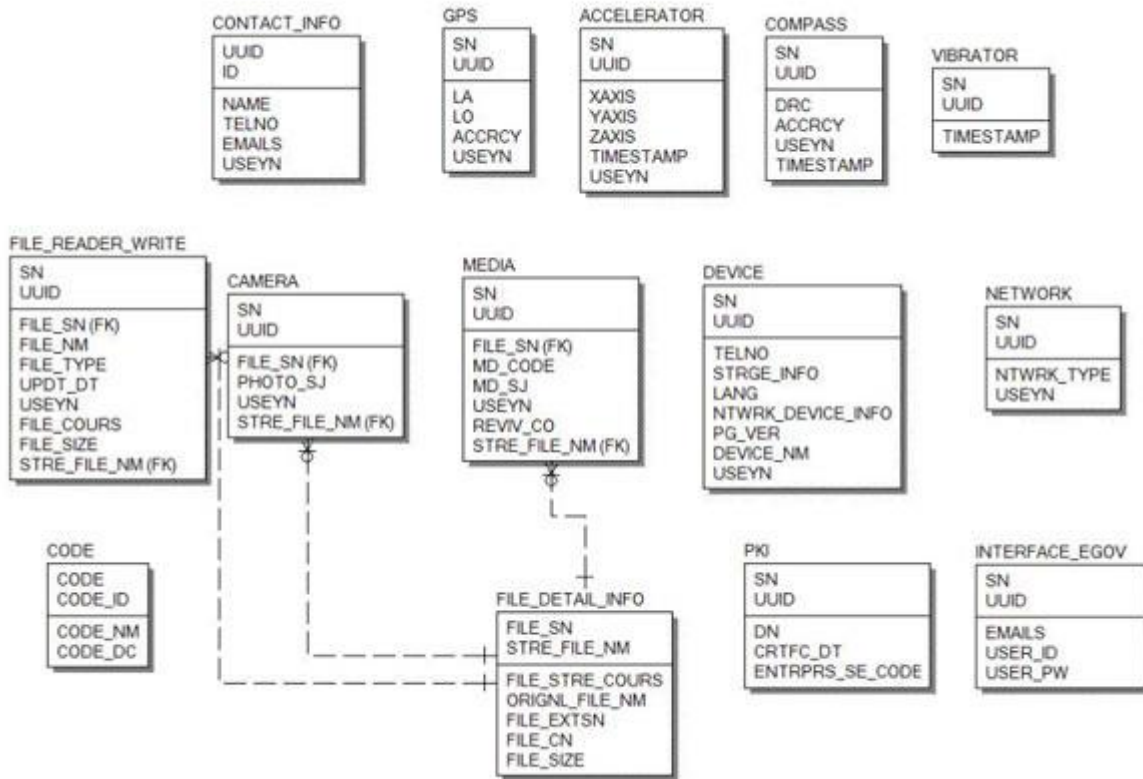
Network	Network Manage	Network information
---------	----------------	---------------------

Table Definition

- NETWORK

No	Column ID	Title of Column	Type	Length	NULL
1	SN	Serial No.	NUMERIC	6	NotNull
2	UUID	UUID	VARCHAR	50	NotNull
3	NTWRK_TYPE	Network type	VARCHAR	20	Null
4	USEYN	Activation	CHAR	1	Null

ERD



Caution

Streaming

- On non-Wi-Fi networks, one must be mindful of data usage when media is played, as legacy web streaming methods are used.

Properties

Device Application

res/xml/config.xml

```
<pluginname="NetworkStatus" value="org.apache.cordova.NetworkManager"/>
```

```
<pluginname="Media" value="org.apache.cordova.AudioHandler"/>
```

res/values/serverinfo.xml

```
<string
```

```
name="SERVER_URL">http://192.168.100.222:8080/DeviceAPIGuideTotal_Web_V1.7.1</string>
```

```
<!-- Server Directory for eGov Interface Device API Class -->
```

```
<?xmlversion="1.0"encoding="utf-8"?>
```

```
<resources>
```

```
  <stringname="SERVER_URL">Server_URL</string>
```

```
</resources>
```

AndroidManifest.xml

```
<uses-permissionandroid:name="android.permission.INTERNET"/>
<uses-permissionandroid:name="android.permission.ACCESS_NETWORK_STATE"/>
<uses-permissionandroid:name="android.permission.READ_PHONE_STATE"/>

<uses-permissionandroid:name="android.permission.RECORD_AUDIO"/>
<uses-permissionandroid:name="android.permission.MODIFY_AUDIO_SETTINGS"/>
<uses-permissionandroid:name="android.permission.WRITE_EXTERNAL_STORAGE"/>
    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/nwk/EgovDeviceAndroidAPIGuide_SQL_[DB
NAME].xml"/>
```

Functions

Play media after checking network status

Business Logic

- Check the network at application's initial execution. If the network is not Wi-Fi, function based on the user approval.
- Check the network when streaming media. If the network is not Wi-Fi, always check user approval.

Related Codes

Check network status.

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

    if (networkState == Connection.UNKNOWN || networkState == Connection.NONE)
    {
        showAlert("Network Connection Unavailable.", "Alert", "b");
        return false;
    }
    if(networkState != Connection.WIFI)
    {
        if(!doCheck)
        {
            if(isNetworkCheck)
            {
                return true;
            }
        }
    }
}
```

```

        if(confirm('Additional charges may be charged if not connected to Additional charges may
be charged if not connected to Wi Fi. \nContinue?'))
        {
            isNetworkCheck = true;
            return true;
        }
        else
        {
            isNetworkCheck = false;
            return false;
        }
    }
    else
    {
        return true;
    }
}
    Play Media

```

```

function fn_mediaPlayEvent() {

    fn_insertNetworkInfo();

    fn_mediaPlay();

    playTimer = setInterval(function(){
        mediaObj.getCurrentPosition(fn_currentPositionSuccess,
fn_currentPositionError);
    }, 1000);
}
function fn_mediaPlay() {

    mediaObj.play();

}
    Send Network Information to Server

```

```

function fn_insertNetworkInfo() {

    var url = "/nwk/addNetworkAndroidInfo.do";
    var acceptType = "xml";

    var networktype = fn_getDeviceInfo();

    var params = {

        uuid : device.uuid,
        networktype : networktype,
        useYn : "Y"
    };

    $.mobile.showPageLoadingMsg();
    egovHyb.post(url, acceptType, params, function(xmldata) {

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

```



```

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

```

Related Screen and Implementation Manual

Action	URL	Controller method	QueryID
Play Media	/nwk/getMp3FileAndorid.do	getMp3File	
Save Network Information	/nwk/addNetworkAndroidInfo.do	insertNetworkInfo	"networkAndroidAPIDAO.insertNetworkInfo"



Feature description: moves to **feature description** page.

License: moves to **License** page.

Media Play: Checks network. If network is not Wi-Fi, plays media based on user approval and uploads device's network information.

Receive network information from server

Business Logic

- Check the network. If the network is not Wi-Fi, function based on user approval.

Related Codes

Request network information list

```
function fn_selectNetworkInfoList() {  
  
    var url = "/nwk/networkAndroidInfoList.do";  
    var acceptType = "xml";  
  
    var params = {};  
  
    $.mobile.showPageLoadingMsg();  
    egovHyb.post(url, acceptType, params, function(xmldata) {  
  
        console.log("DeviceAPIGuide fn_selectNetworkInfoList request Completed");  
  
        fn_displayList(xmldata);  
  
    });  
}
```

Request network details list

```
function fn_selectNetworkInfo(sn) {  
  
    var url = "/nwk/networkAndroidInfo.do";  
    var acceptType = "xml";  
  
    var params = {  
  
        sn : sn  
  
    };  
  
    $.mobile.showPageLoadingMsg();  
    egovHyb.post(url, acceptType, params, function(xmldata) {  
  
        console.log("DeviceAPIGuide fn_selectNetworkInfo request Completed");  
  
        fn_displayNetworkInfoDetail(xmldata);  
  
        $.mobile.changePage($("#networkInfoDetail"));  
  
    });  
}
```

Request deletion of network information

```
function fn_deleteNetworkInfo() {
```

```

var url = "/nwk/deleteNetworkAndroidInfo.do";
var acceptType = "xml";

var params = {
    sn : currentNetworkInfoSn
};

$.mobile.showPageLoadingMsg();
egovHyb.post(url, acceptType, params, function(xmldata) {

    console.log("DeviceAPIGuide fn_deleteNetworkInfo request Completed");

    $.mobile.hidePageLoadingMsg();
    jAlert("Deleted", "Alert", "b", function(){

        $.mobile.changePage($("#apiListView"), {changeHash:false});

    });
});
}

```

Related Screen and Implementation Manual

Action	URL	Controller method	QueryID
Request network information list	/nwk/networkAndroidInfoList.do	selectNetworkInfoList	"networkAndroidAPIDAO.selectNetworkInfoList"
Request network details list	/nwk/networkAndroidInfo.do	selectNetworkInfo	"networkAndroidAPIDAO.selectNetworkInfo"
Request deletion of network information	/nwk/deleteNetworkAndroidInfo.do	deleteNetworkInfo	"networkAndroidAPIDAO.deleteNetworkInfo"





Feature description: moves to **feature description** page.

License: moves to **License** page.

List: requests details of the selected list.

List: calls network information list page.

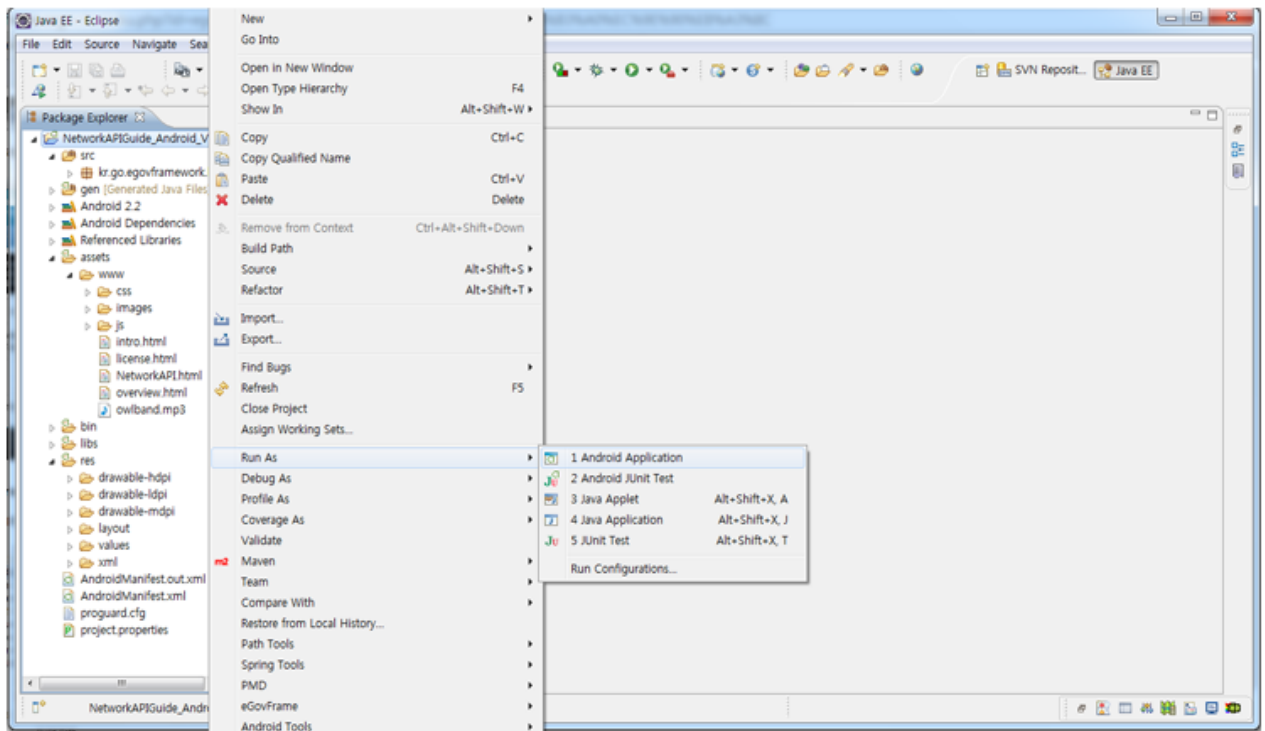
Delete: deletes network information.

Compiling, debugging, distributing

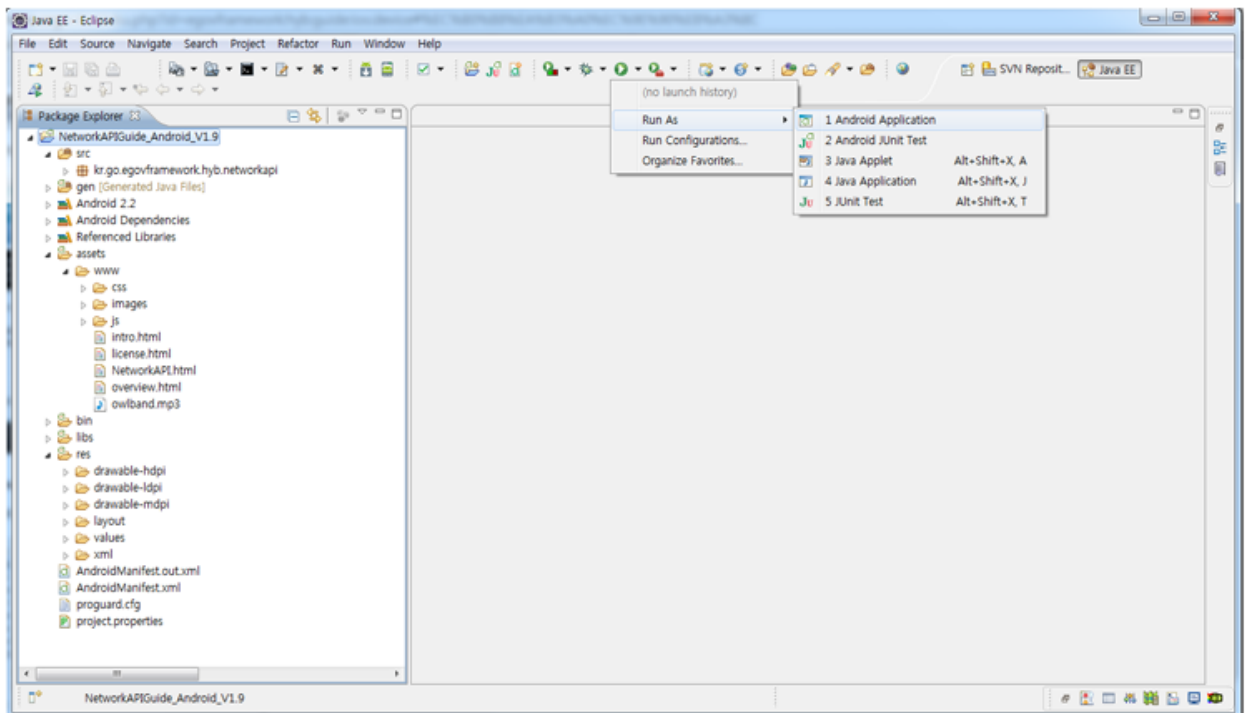
Compiling

How to compile NetworkAPI Device Applicaton

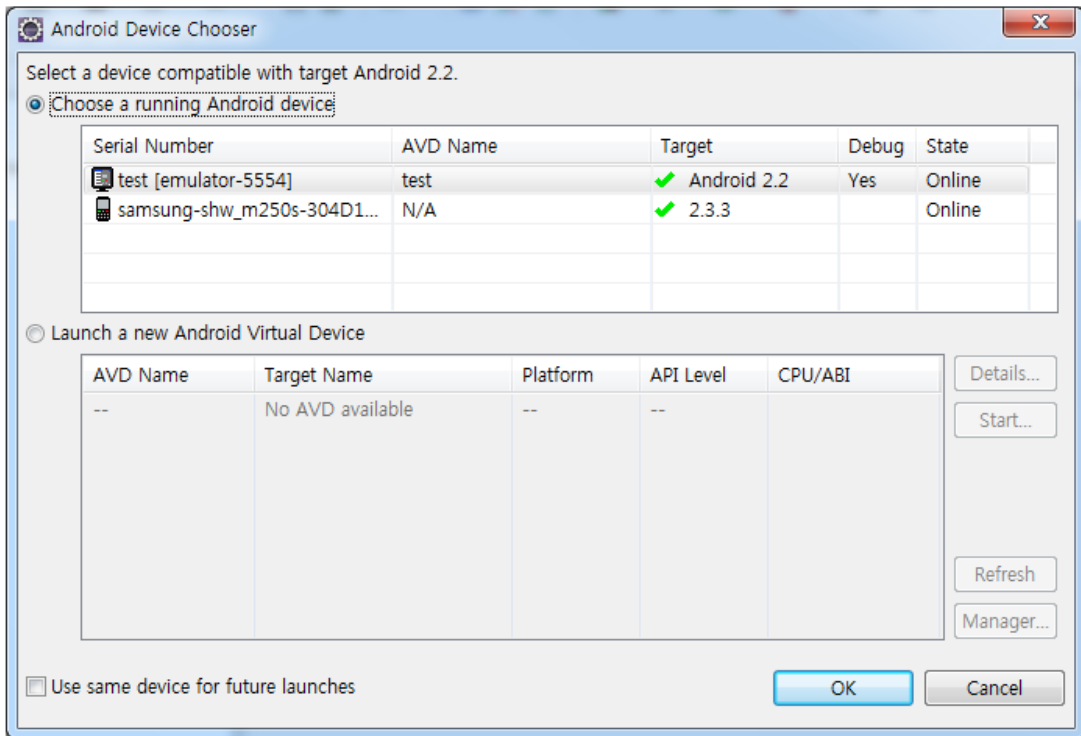
- Choose project > Right-click > Run As > Android Application



- Top menu > Run As > Android Application



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



- Program display on the emulator



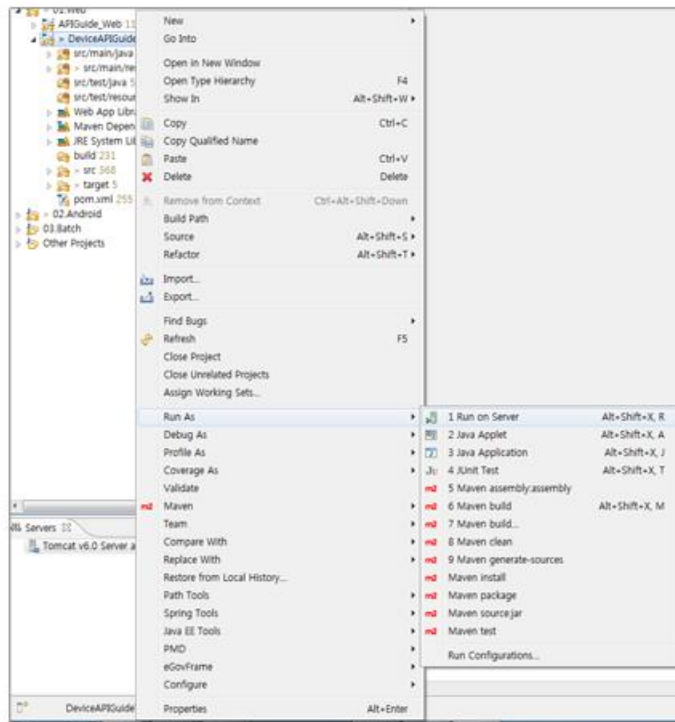
- Program display on the device





How to compile NetworkAPI Server Applicaton

- Right-click on the project and click on Run As>Run On Server in order to run the NetworkAPI 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.ser
2012-09-14 09:15:49,767 DEBUG [org.springframework.beans.factory.support.DefaultListableBeanFactory] Returning cached instance of singleton bean 'org.springframework.web.ser
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 09:15:49,772 DEBUG [org.springframework.beans.factory.support.DefaultListableBeanFactory] Returning cached instance of singleton bean 'org.springframework.web.ser
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 both Eclipse and Xcode.

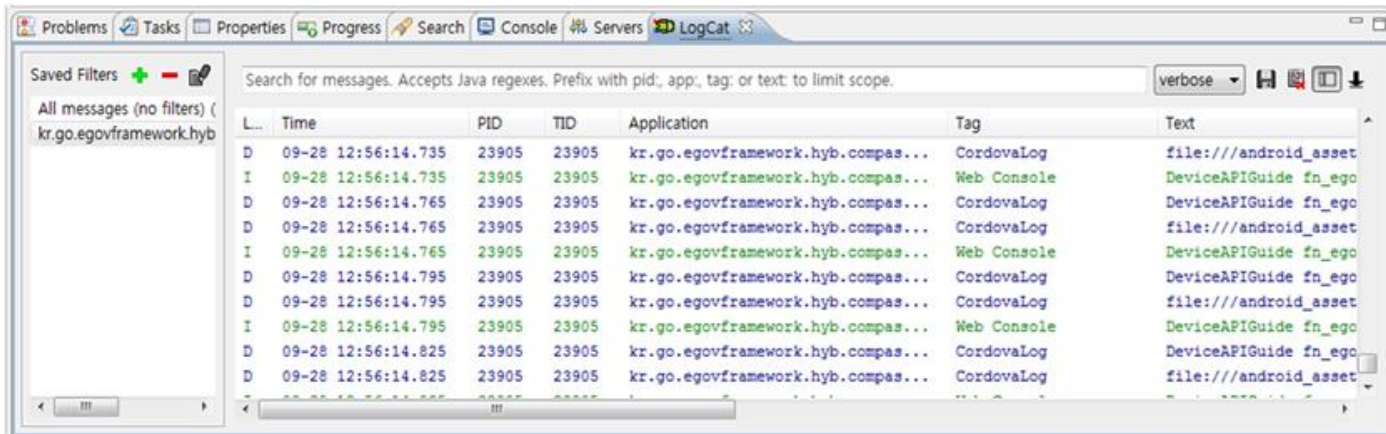
See the following for how to code console.log:

```

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

```

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



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

Debug code	Debug information
DeviceAPIGuide fn_egov_deviceConfig Success	Successfully acquired the device's server information.
DeviceAPIGuide Media Config Success	Successfully executed Media Device API.
DeviceAPIGuide fn_egov_currentPositionSuccess Success	Successfully loaded current location when playing media file.
DeviceAPIGuide fn_egov_selectNetworkInfoList request Completed	Successfully inquired network information list.
DeviceAPIGuide fn_egov_selectNetworkInfo request Completed	Successfully inquired network details.
DeviceAPIGuide fn_egov_deleteNetworkInfo request Completed	Successfully executed network information deletion request.
DeviceAPIGuide fn_egov_insertNetworkInfo request Completed	Successfully executed network information save request.
DeviceAPIGuide fn_egov_error Error	Error occurred when executing tasks related to media files.
DeviceAPIGuide fn_egov_currentPositionError Error	Failed to load current location when playing media file.

Distribution

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

References

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

