



Introduction to Tizen SDK 2.0.0 Alpha

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Contents

- Web technologies of Tizen
- Components of SDK 2.0.0 Alpha
- Hello world!
- Debugging apps
- Summary

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Web technologies on Tizen

- Tizen utilizes web technologies for application compatibility



- Tizen follows many standard W3C APIs and provides a powerful set of device specific APIs

Tizen specific Device API

Alarm Contact FileSystem Call
Bluetooth Application LBS Geocoder
Time Power Calendar Messaging
Media Content NFC System Information

Web UI framework

Button Check Box List
Color Context Pop-up Option Header
Pop-up Header & Footer Handler
Image Slider Control bar Multimedia View

W3C API

Serve-Sent Events Canvas Orientation Web Storage
Video Audio Acceleration Application Cache
WebSocket Web SQL DB Web Worker File API
CORS Media Query Geolocation 2D Transforms
XMLHttpRequest Animations 3D Transforms

Supplementary API

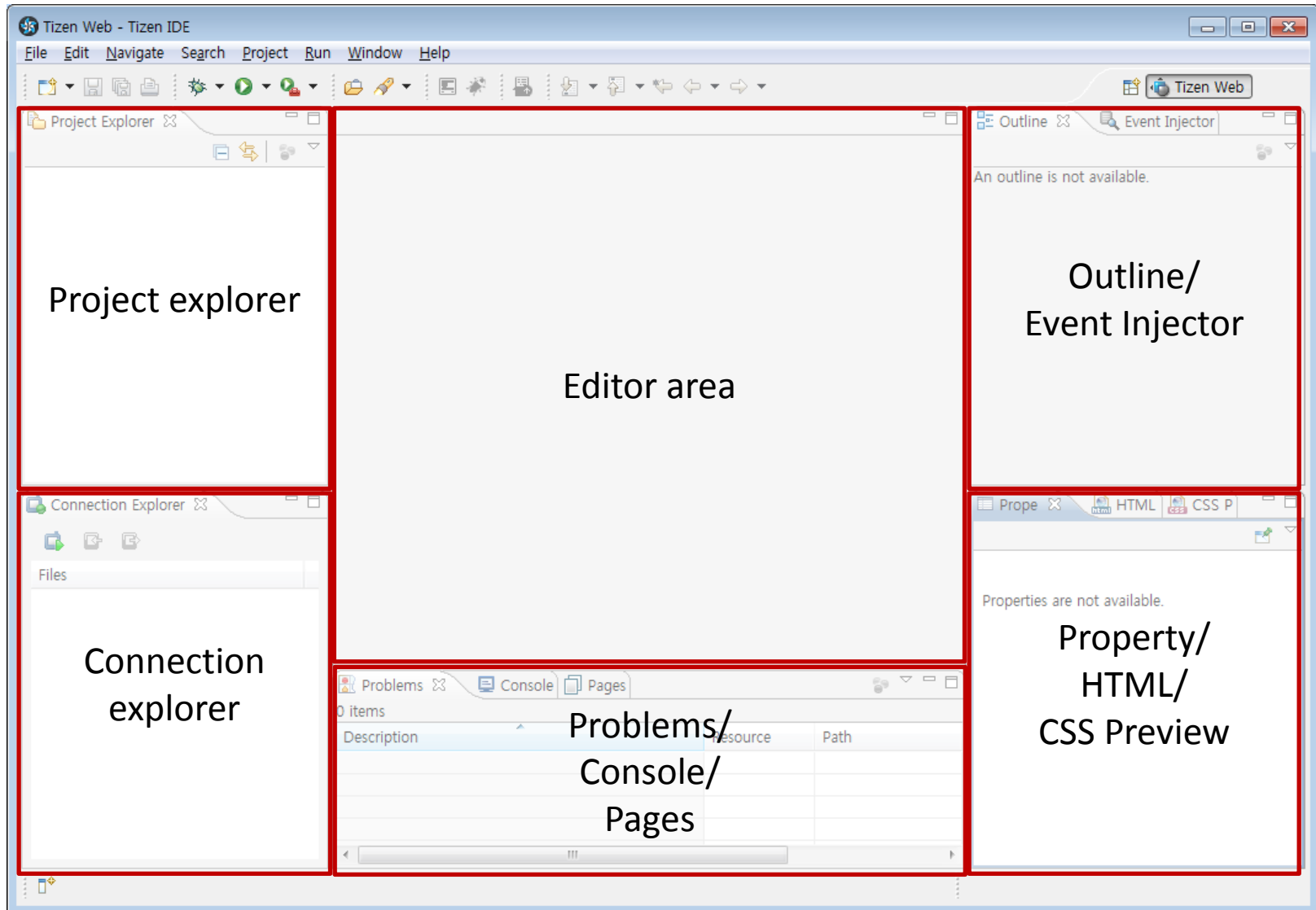
Viewport Metatag
WebGL Fullscreen
Typed Array

2

Component of Tizen SDK 2.0.0 Alpha

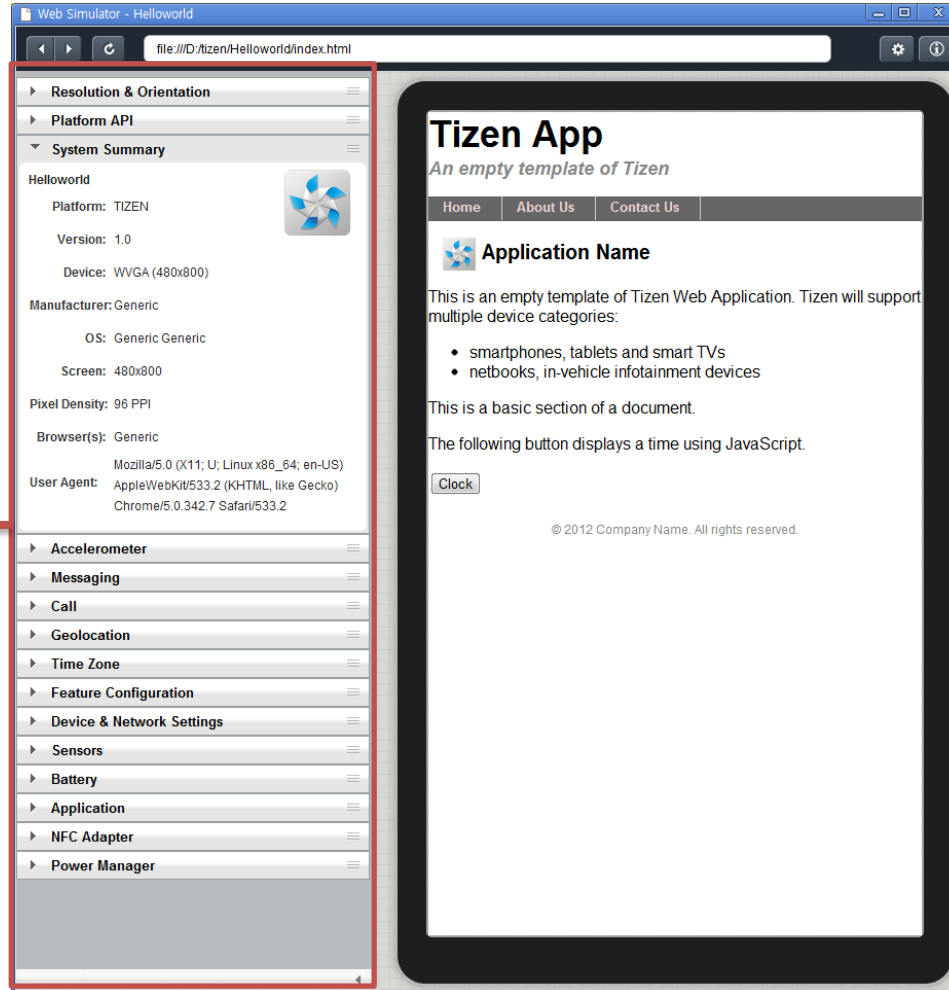
- Consists of
 - IDE
 - Web Simulator
 - Emulator
 - Event Injector
 - UI Builder
 - Documents
 - Sample applications
 - Remote Inspector
 - Localization Wizard
 - Project Wizard
 - ...

- Eclipse + additional plug-ins

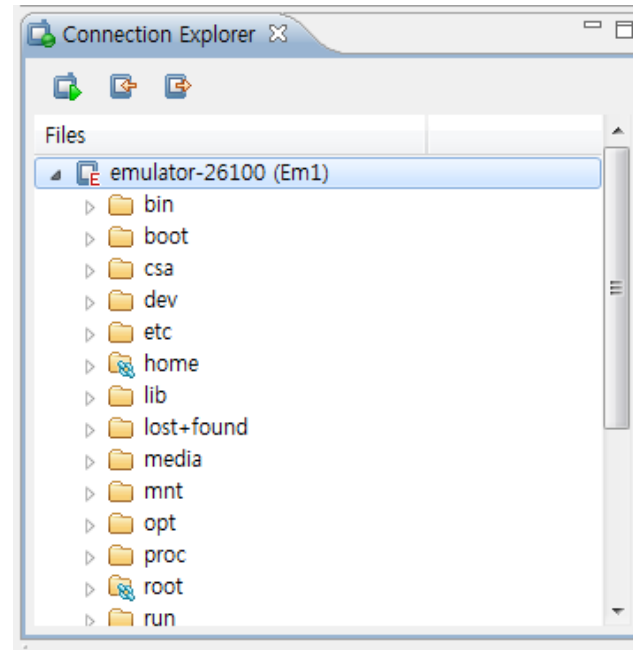


- Can simulate Tizen Web App.
 - Using Configuration Panel, simulates various aspect of device

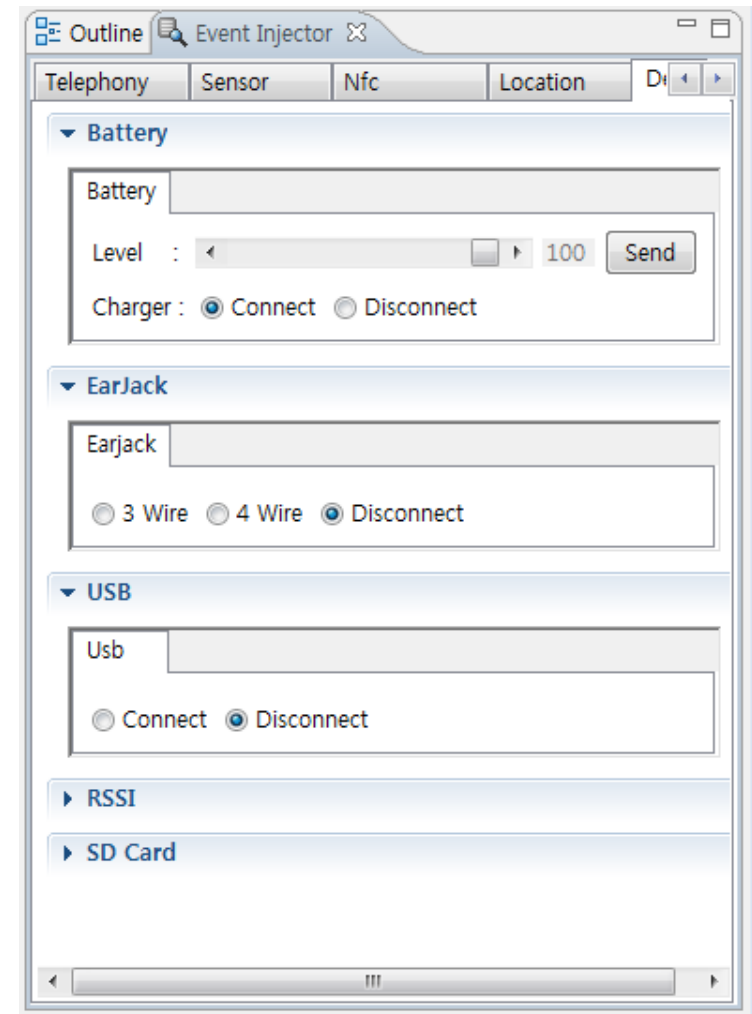
Configuration panel



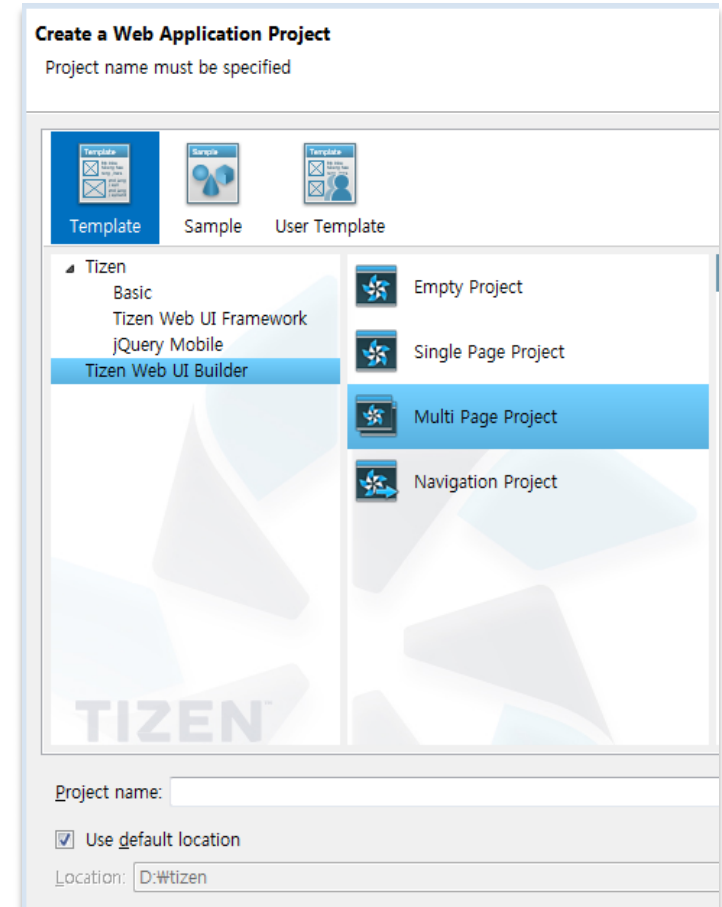
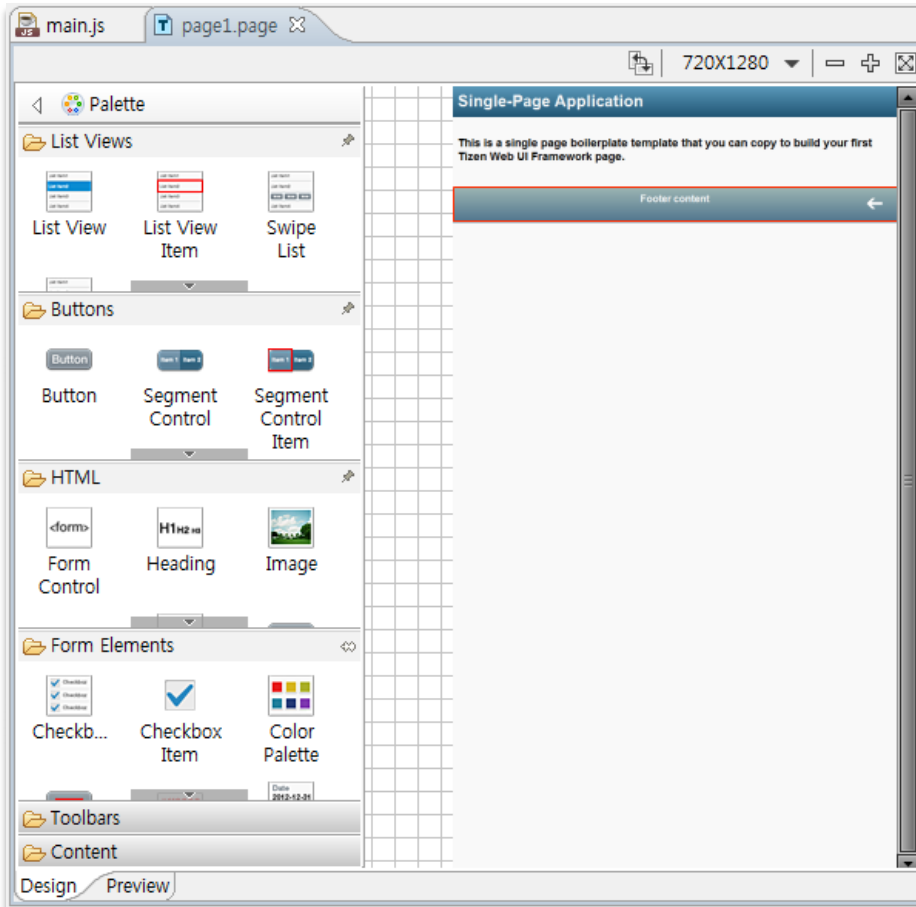
- Emulator
 - Using Emulator Manager, you can configure certain device characteristics
 - You can test your application before deploying to physical device
- Connection Explorer
 - Shows connected devices and emulators
 - Can explore the file system of the device



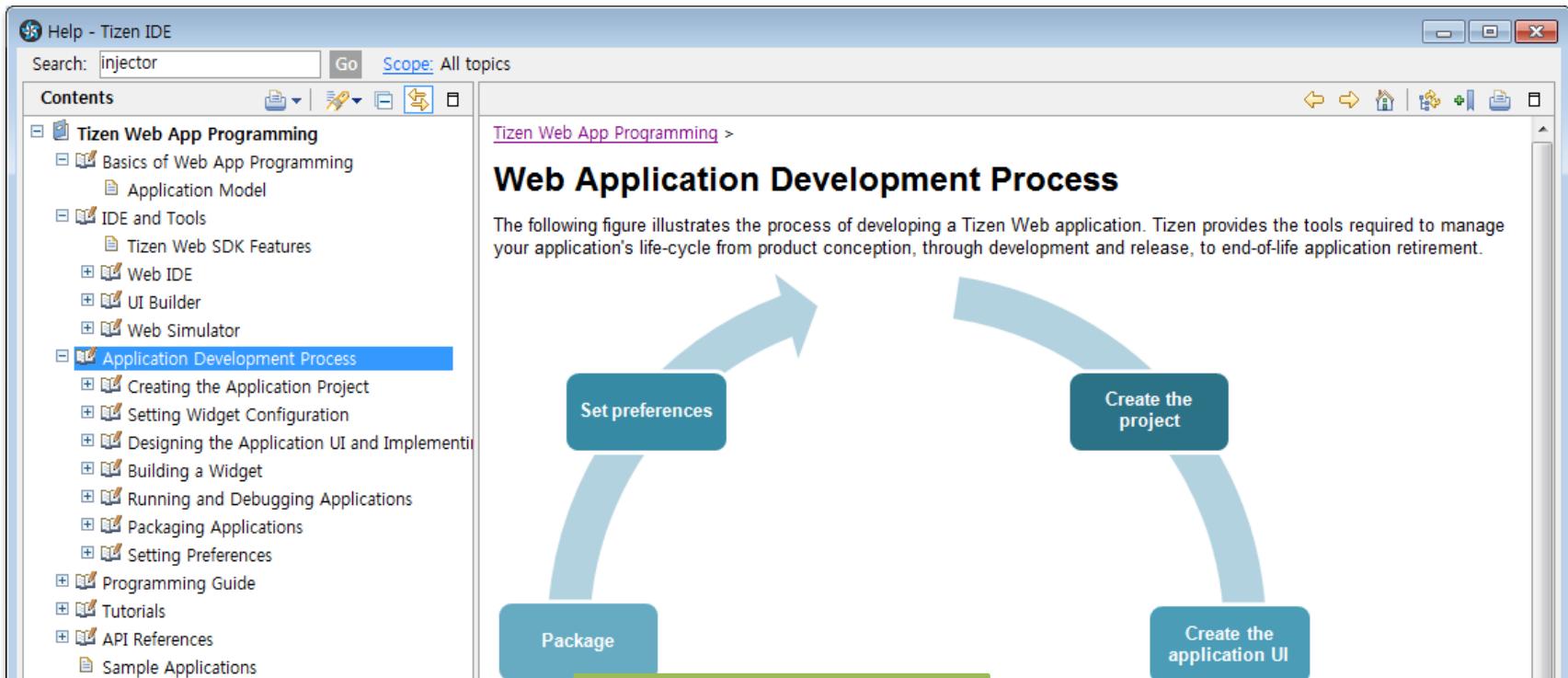
- Artificial events are generated and transferred to emulator
 - Device
 - Location
 - NFC
 - Sensor
 - Telephony



- UI layout code generation
- Easy programming model – Tizen Web UI Builder Project



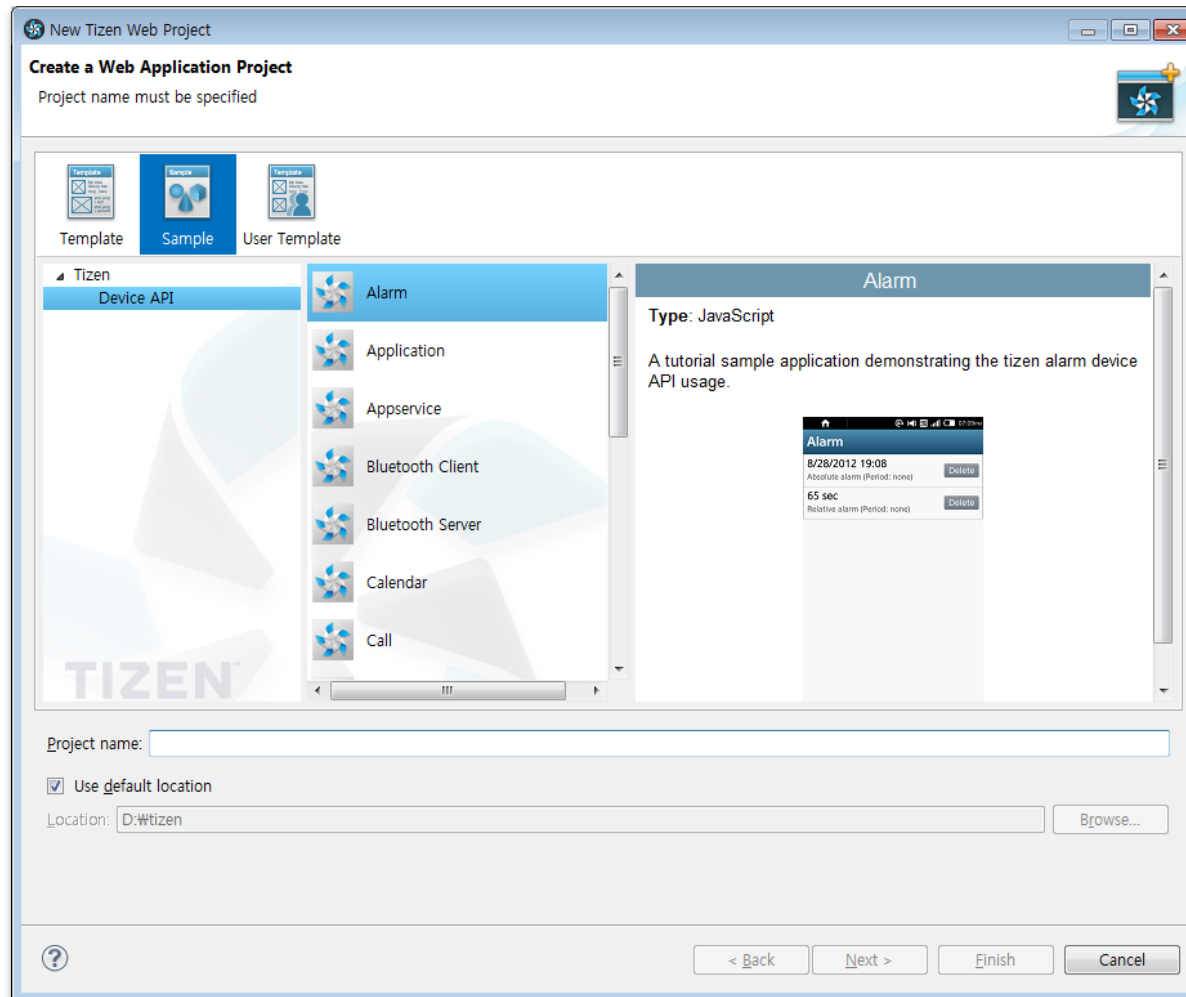
- Documentation for development is provided
 - Getting started with Tizen
 - Programming guide & Tutorials
 - API references
 - Tizen platform programming



The screenshot shows the Tizen IDE Help window. The search bar contains 'injector' and the scope is set to 'All topics'. The left sidebar shows the 'Contents' tree with 'Application Development Process' selected. The main content area displays the 'Web Application Development Process' diagram, which is a circular flow of four steps: 'Set preferences', 'Create the project', 'Create the application UI', and 'Package'. The diagram is connected by curved arrows in a clockwise cycle.

Help->Help Contents

- Speeds up the learning curve for a new developers
 - 15 sample applications are provided to demonstrate the Tizen Web API

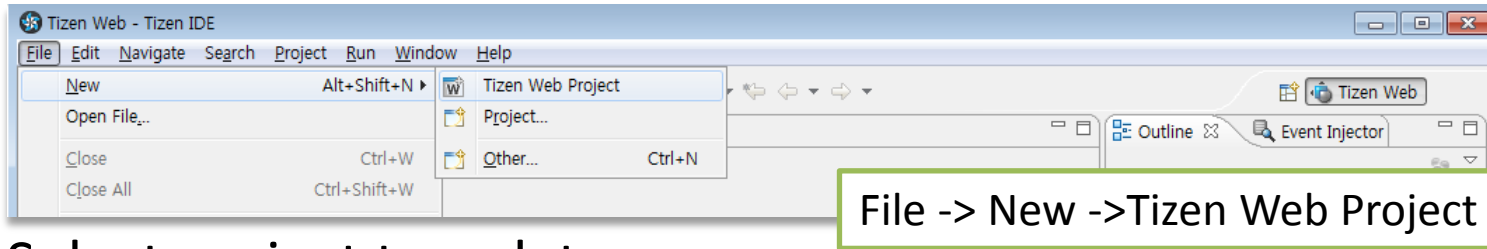


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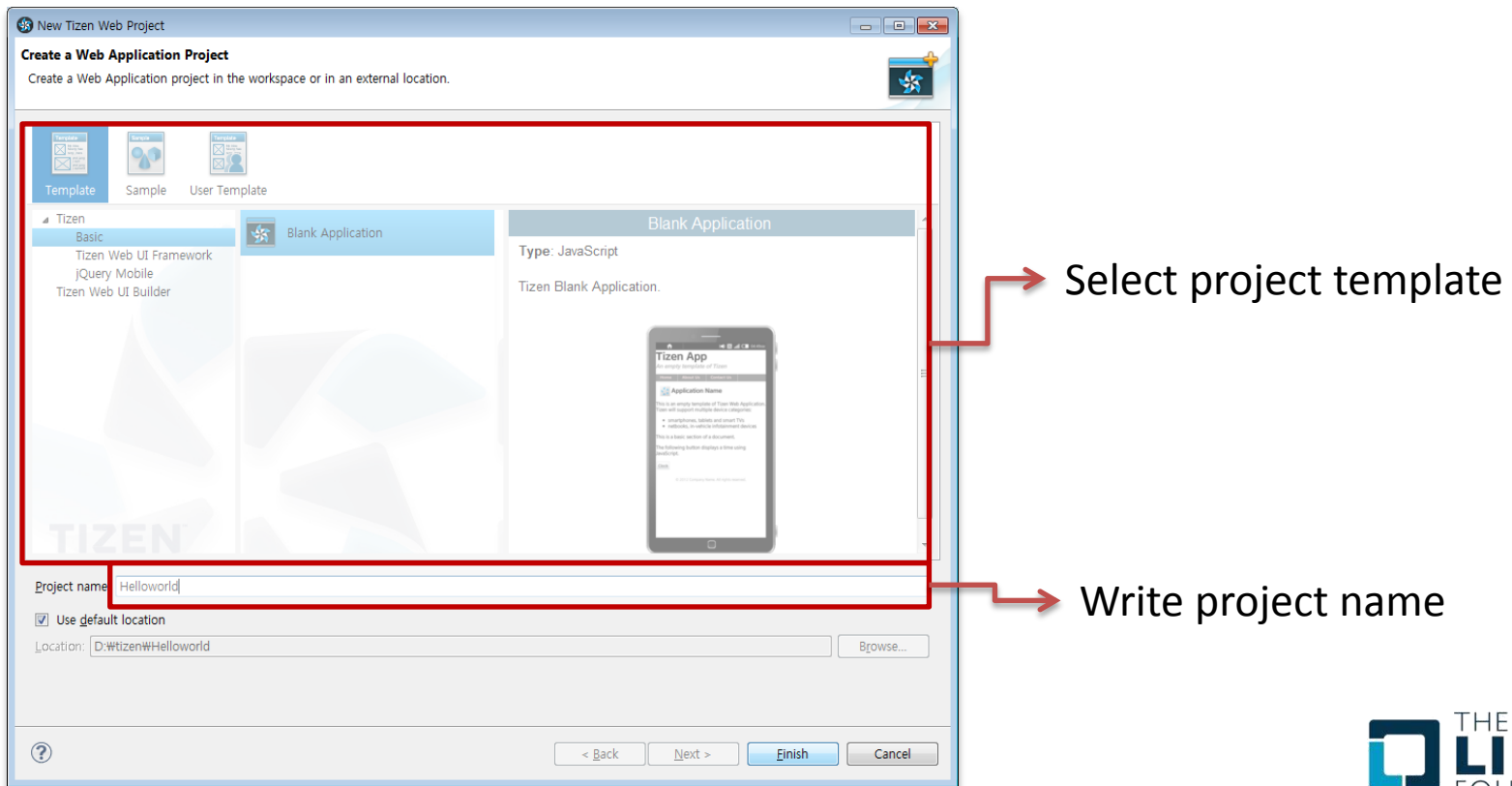


Hello world!

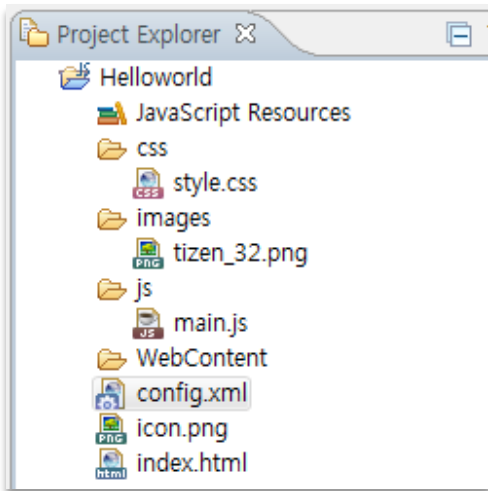
- Create a new project



- Select project template

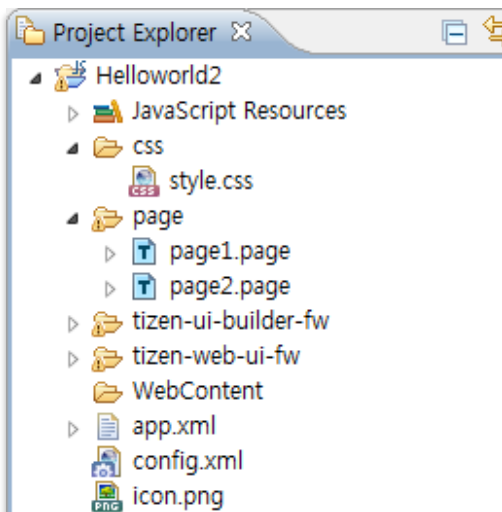


- Files created using Blank template



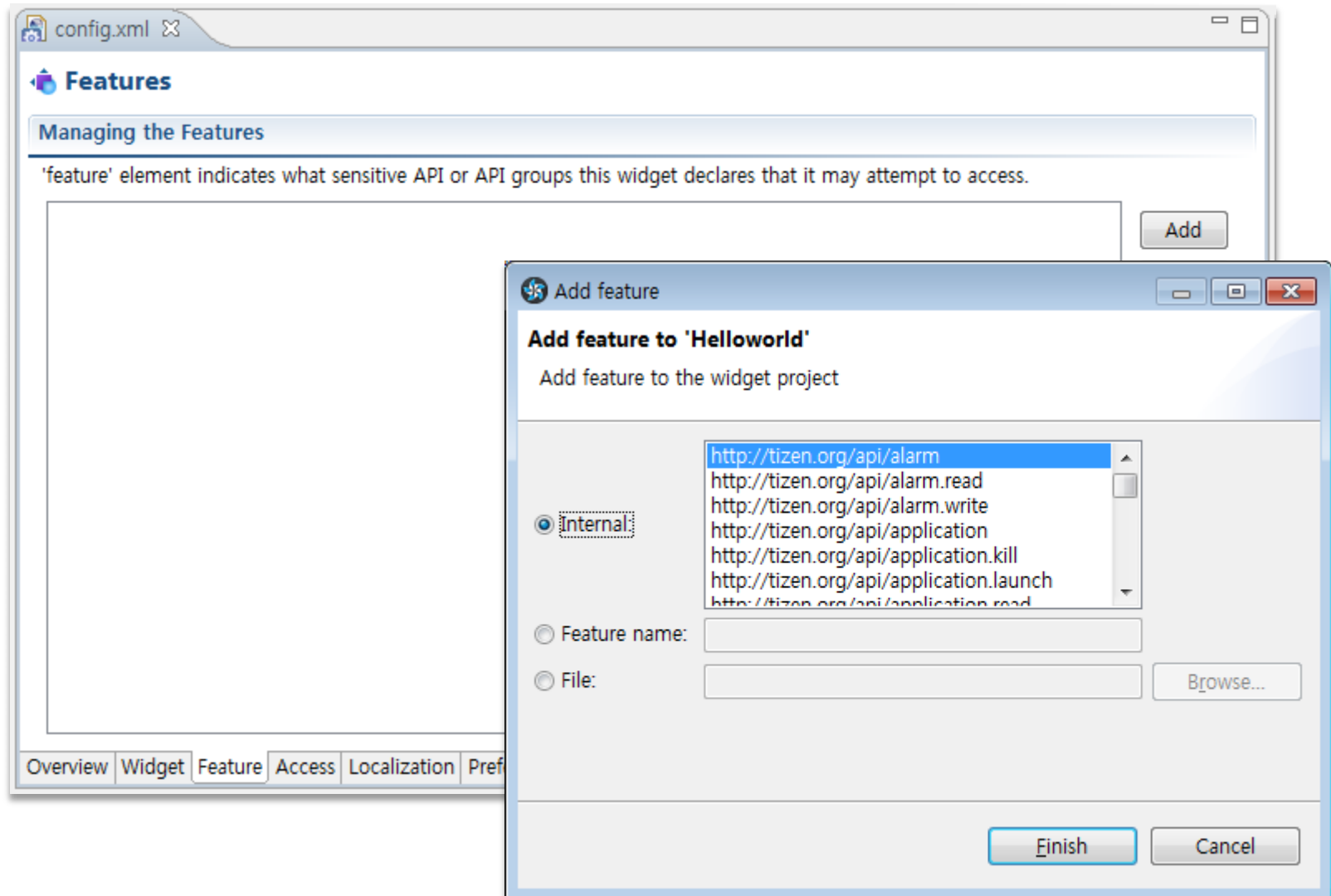
File	Description
config.xml	General information about icon, license, width, height, and others
index.html	App starting page
icon.png	Application icon shown on menu
main.js	Main JavaScript file
style.css	CSS file to define consistent look and feel

- Files created using Tizen Web UI Builder template

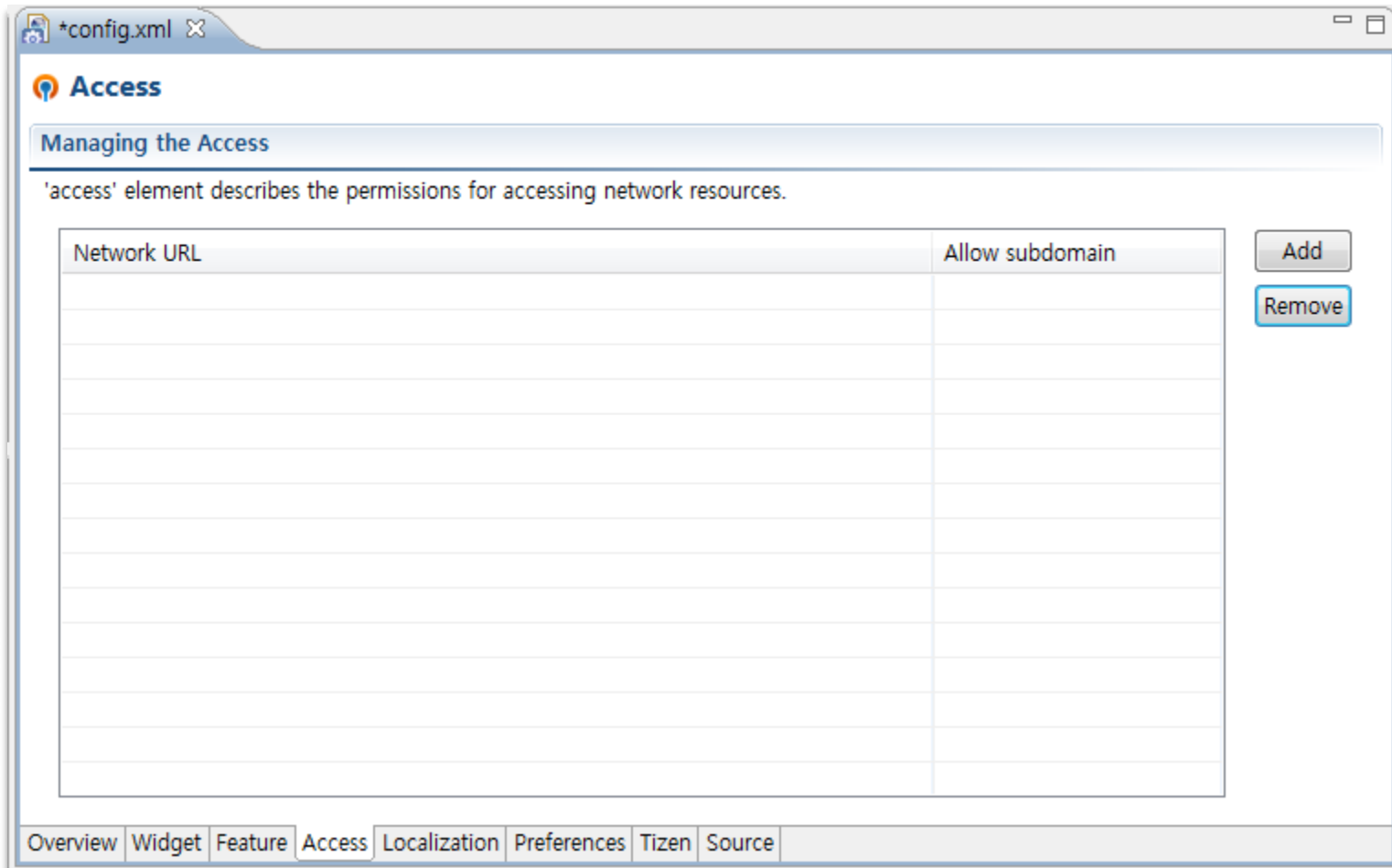


File	Description
page	Set of files describes how to construct an individual page
app.xml	Manages page hierarchy, page transition, event handler binding
tizen-ui-builder-fw	Framework files that define page base-class and start-up page
tizen-web-ui-fw	Tizen Web UI Framework library

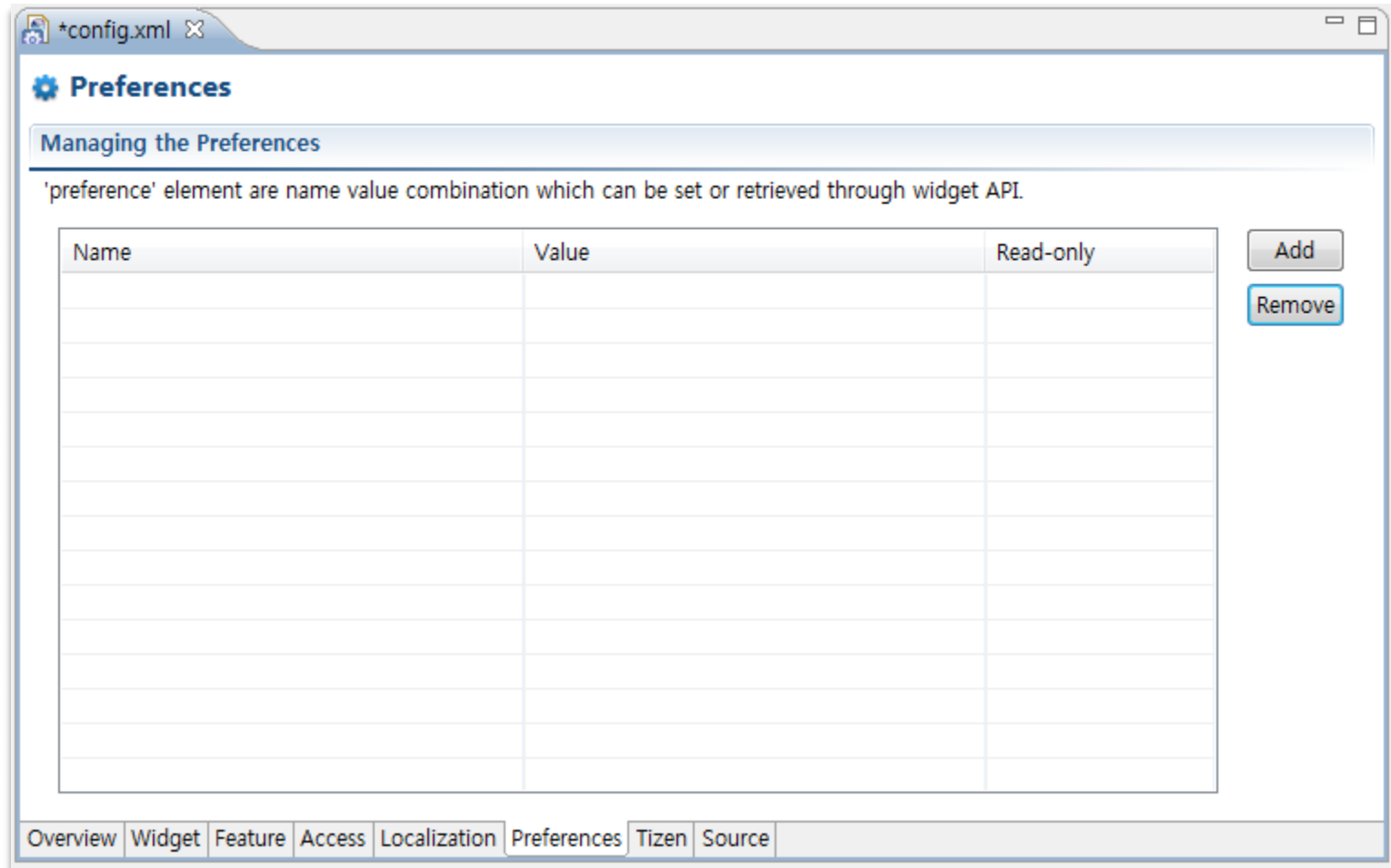
- To use restricted APIs, declare features



- Declare the URL to access external network resources



- Persistently stored name-value pair that is associated with the application the first time the application is initiated



Managing the Preferences

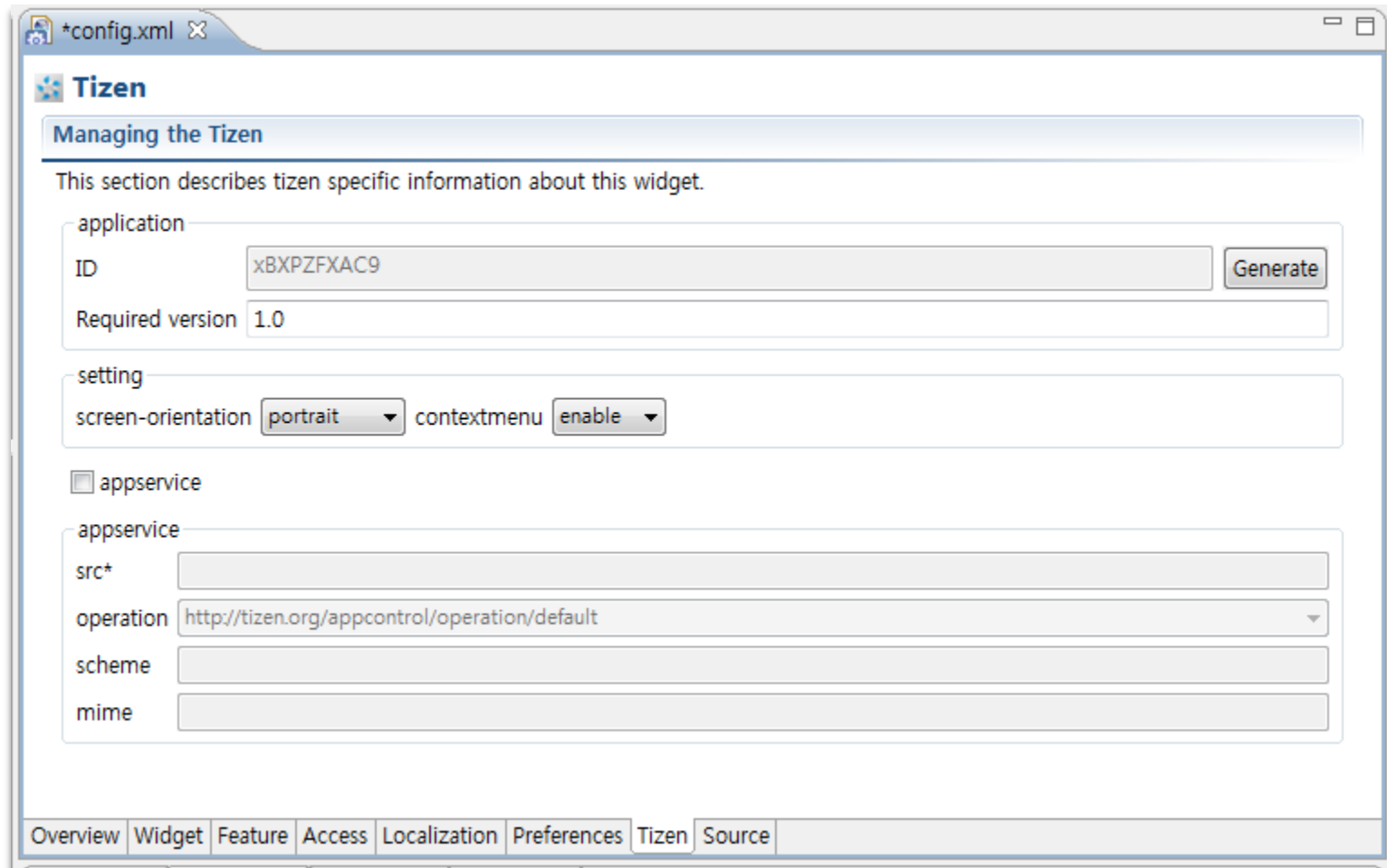
'preference' element are name value combination which can be set or retrieved through widget API.

Name	Value	Read-only

Add
Remove

Overview | Widget | Feature | Access | Localization | Preferences | Tizen | Source


- Setting for Tizen schema extension, like ID or appservice

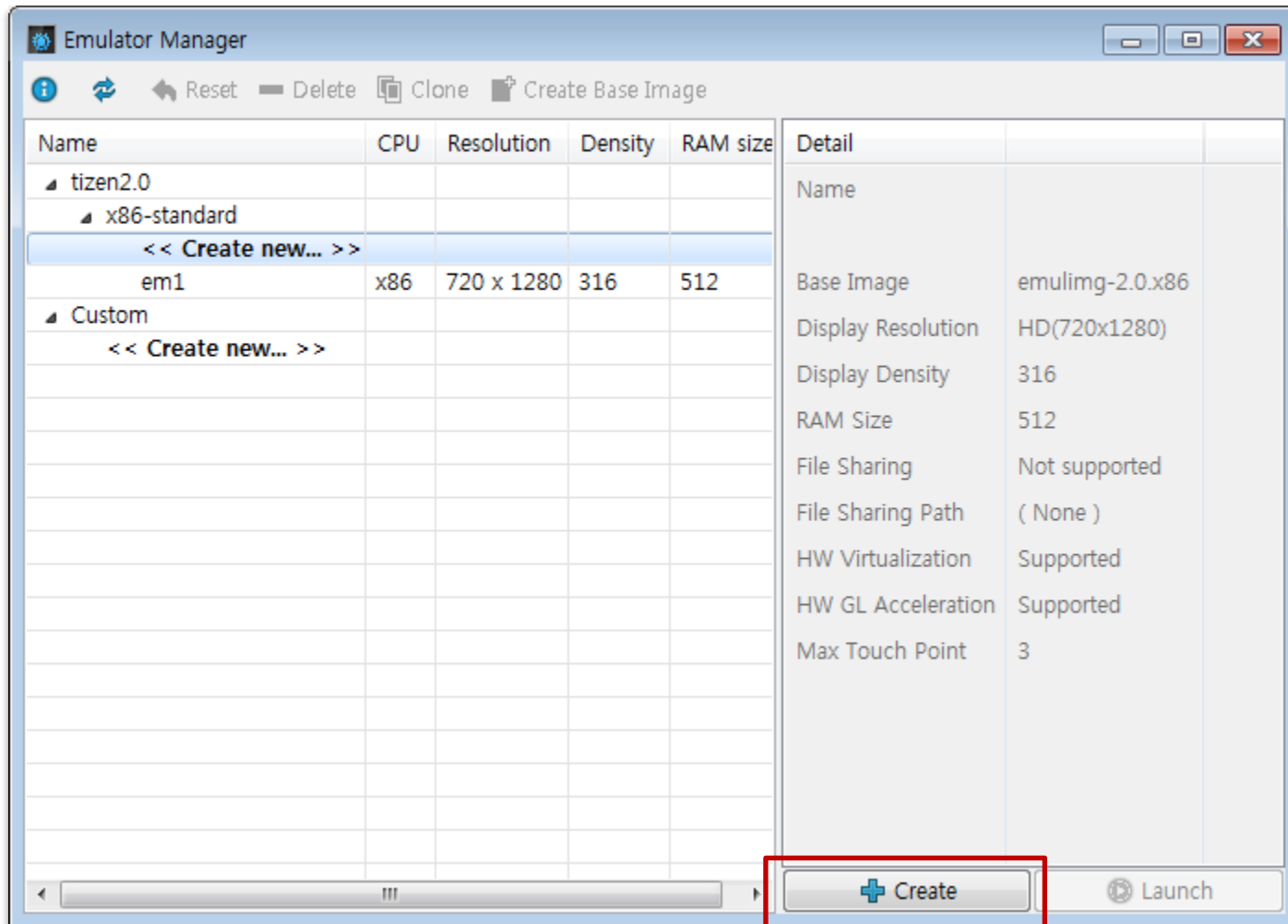



The screenshot shows a configuration window titled "Tizen" with a sub-section "Managing the Tizen". Below this, a description states: "This section describes tizen specific information about this widget." The configuration is organized into three main sections:

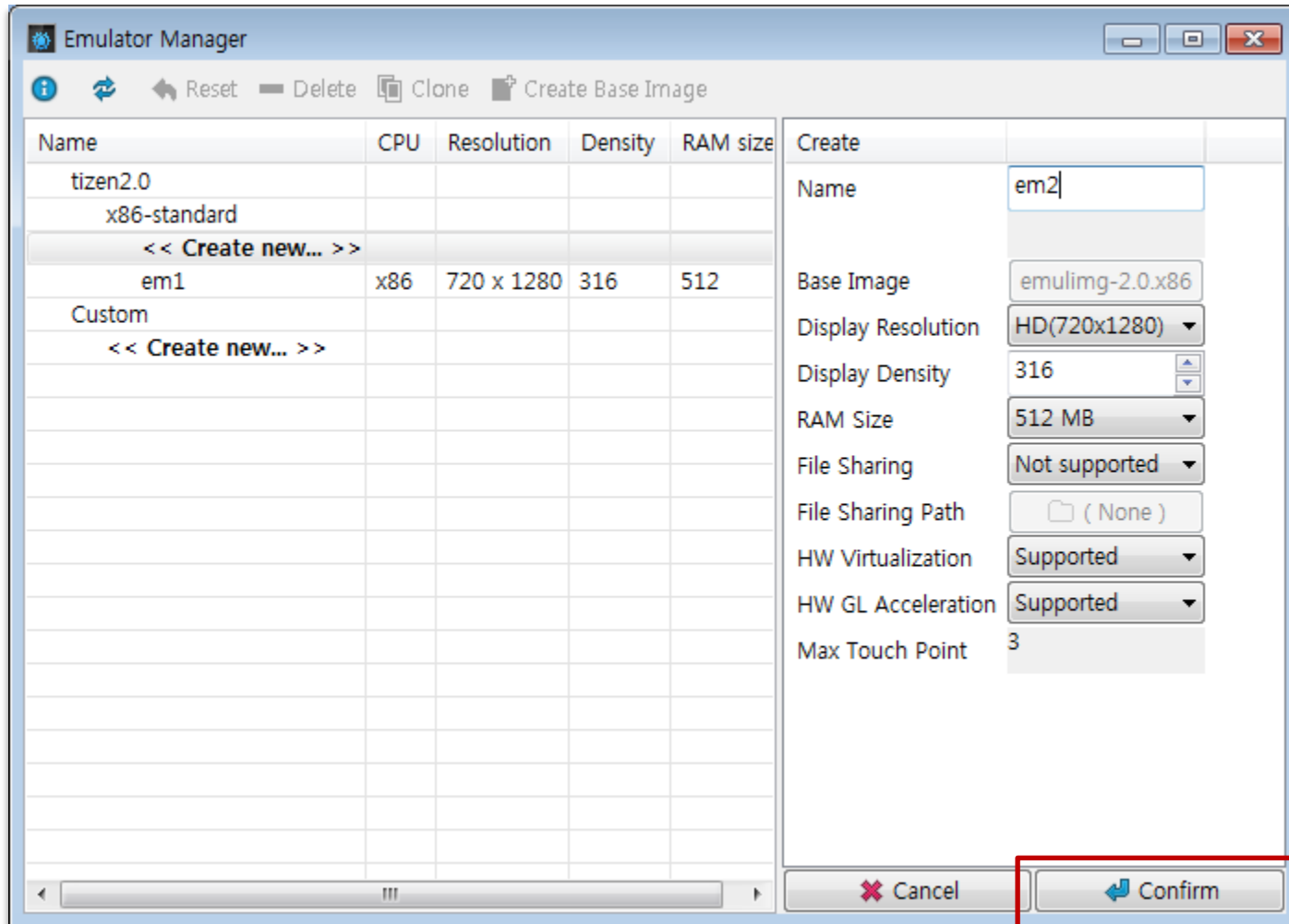
- application**: Contains an "ID" field with the value "xBXPZFXAC9" and a "Generate" button, and a "Required version" field with the value "1.0".
- setting**: Contains two dropdown menus: "screen-orientation" set to "portrait" and "contextmenu" set to "enable".
- appservice**: A checkbox is checked. Below it, the "appservice" section contains four fields: "src*" (empty), "operation" (set to "http://tizen.org/appcontrol/operation/default"), "scheme" (empty), and "mime" (empty).


At the bottom of the window, a navigation bar includes tabs for "Overview", "Widget", "Feature", "Access", "Localization", "Preferences", "Tizen", and "Source".

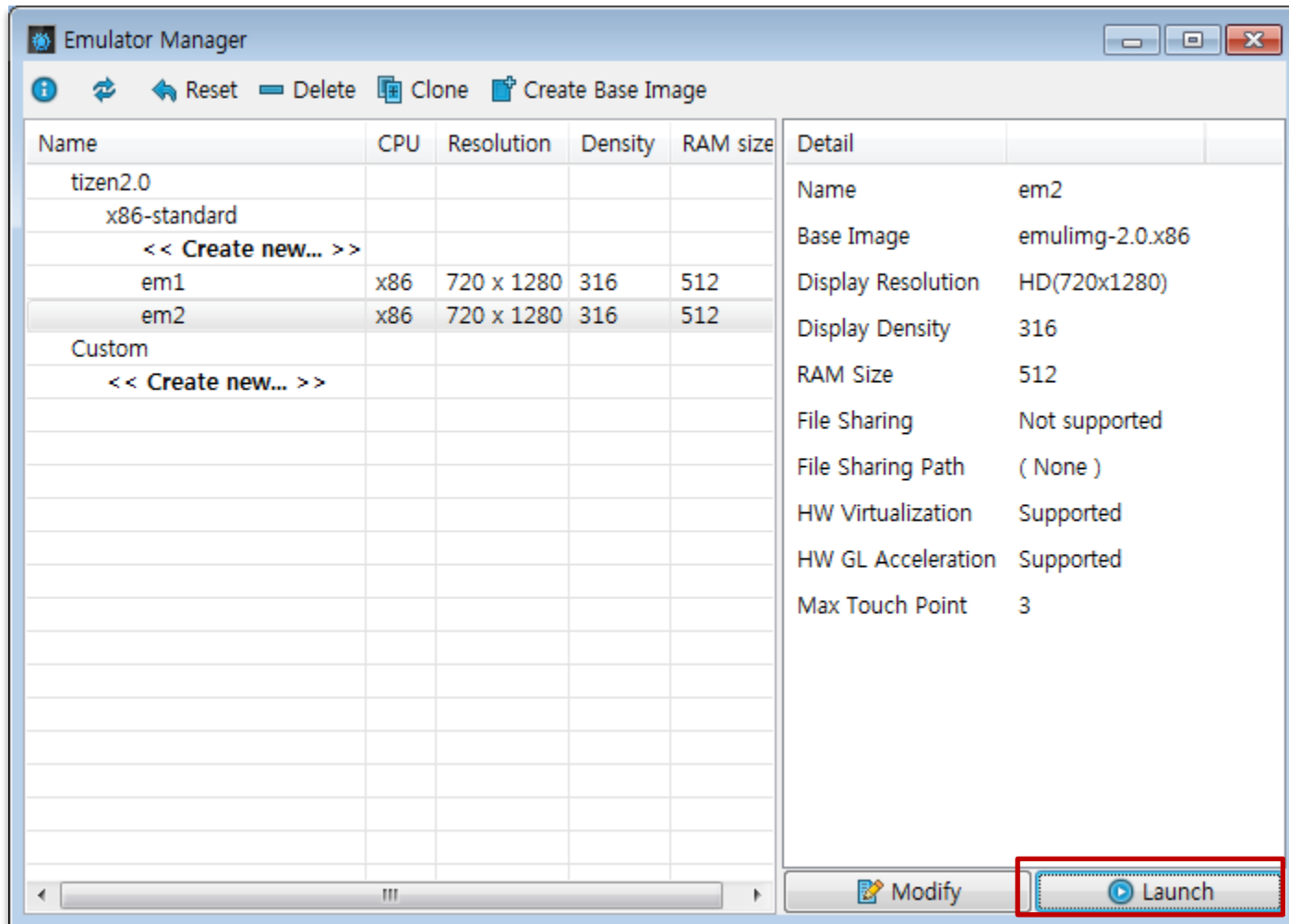
- Using Emulator Manager, you can create an emulator
 - Click  button in Connection Explorer

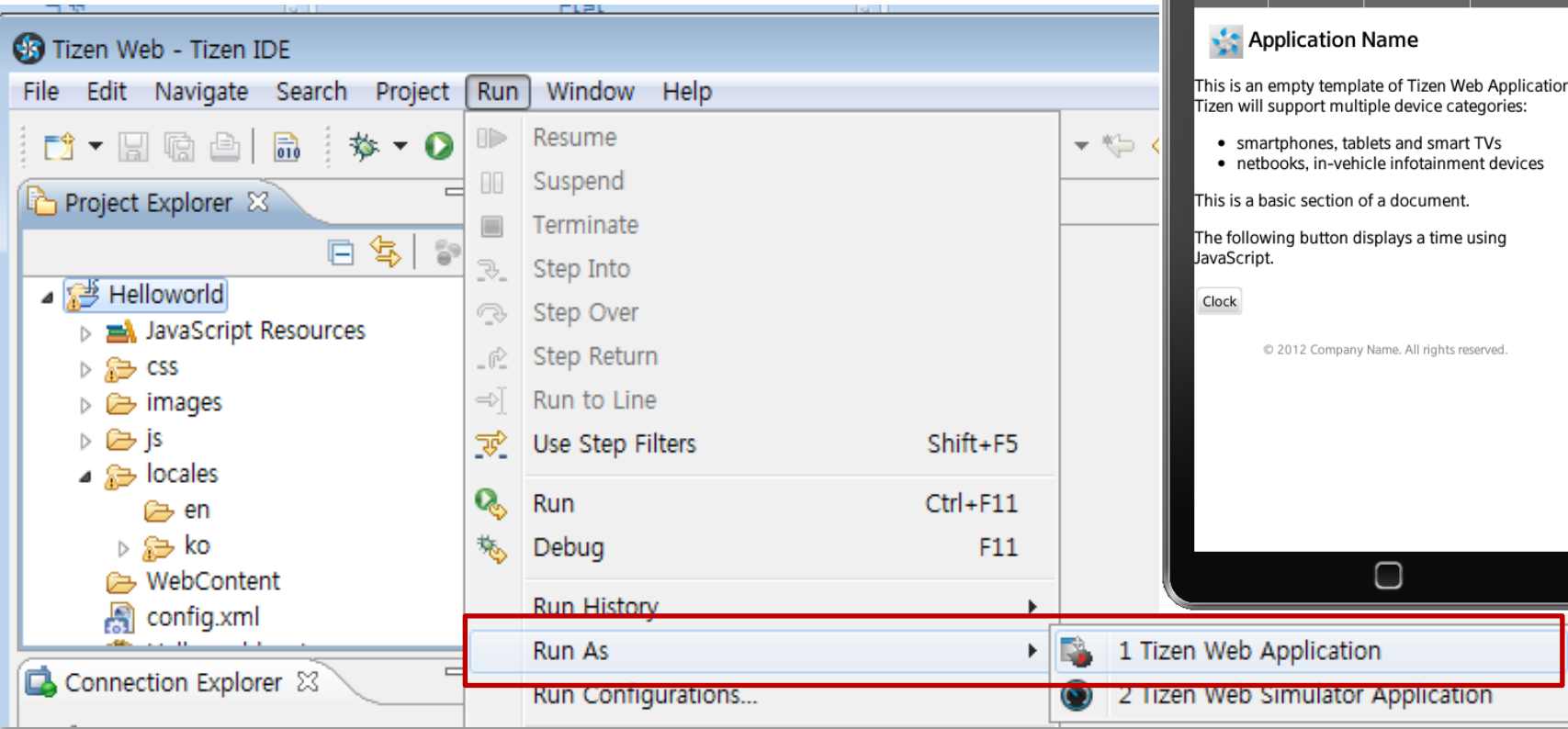


- Using Emulator Manager, you can create an emulator
 - Click  button in Connection Explorer



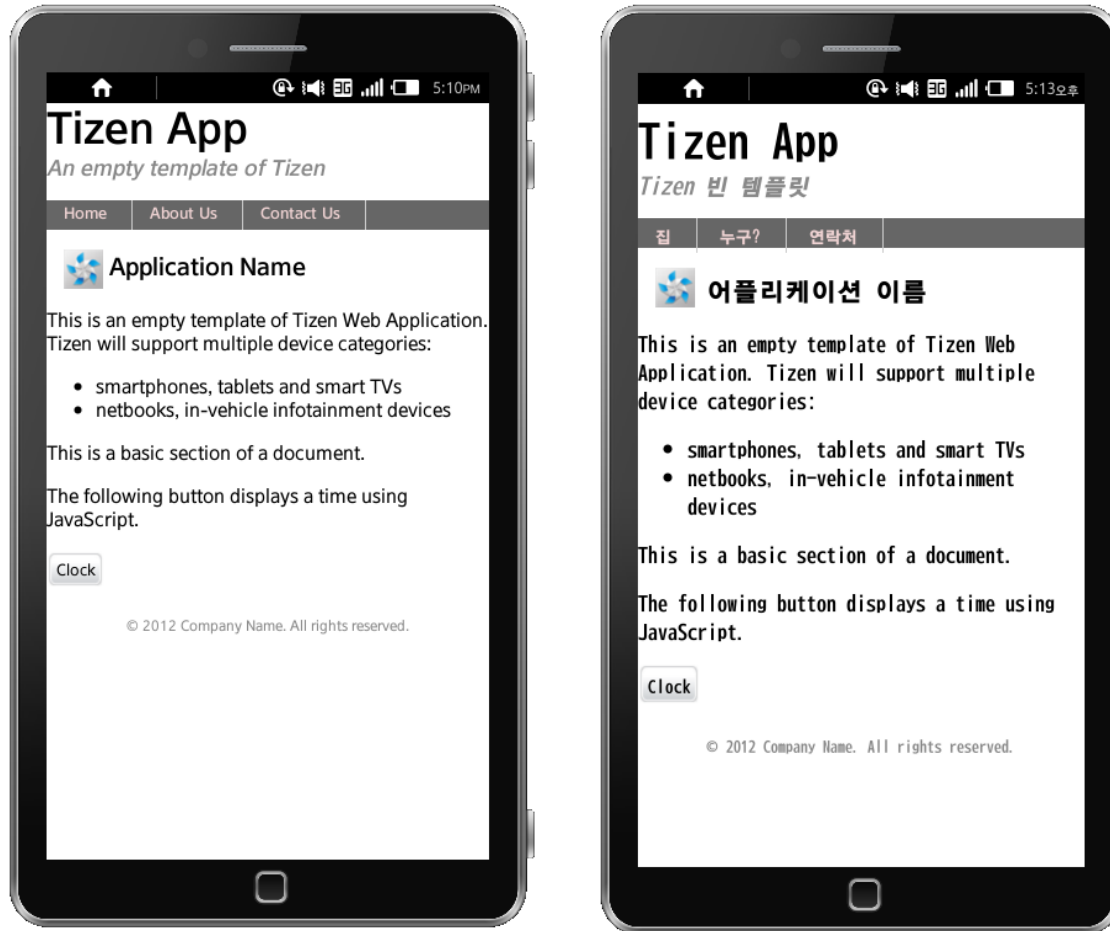
- Using Emulator Manager, you can create an emulator
 - Click  button in Connection Explorer





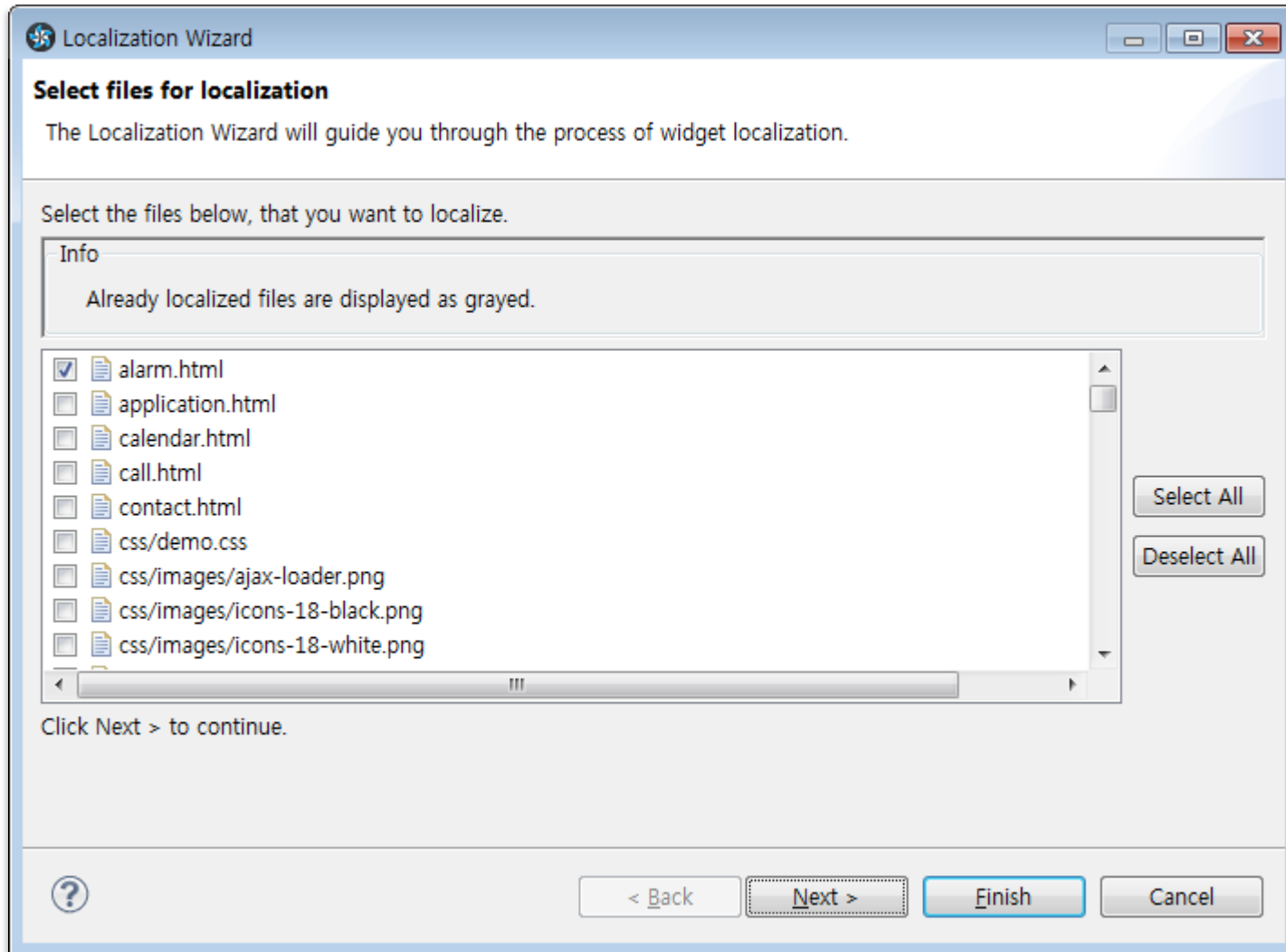
Run -> Run As ->Tizen Web Application

- Tizen provides a tool for multi-lingual support

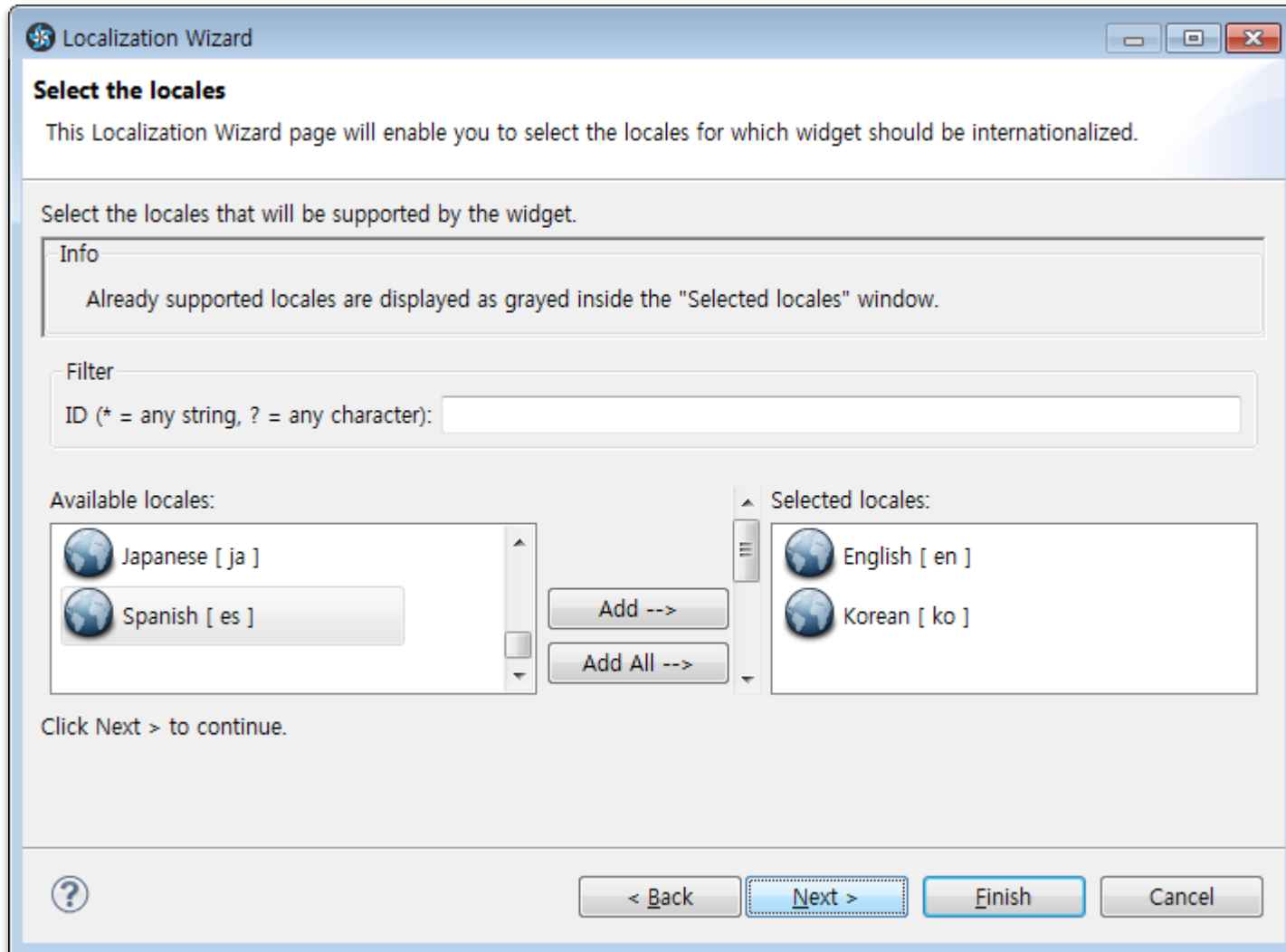


Project -> Localization -> Localization Wizard

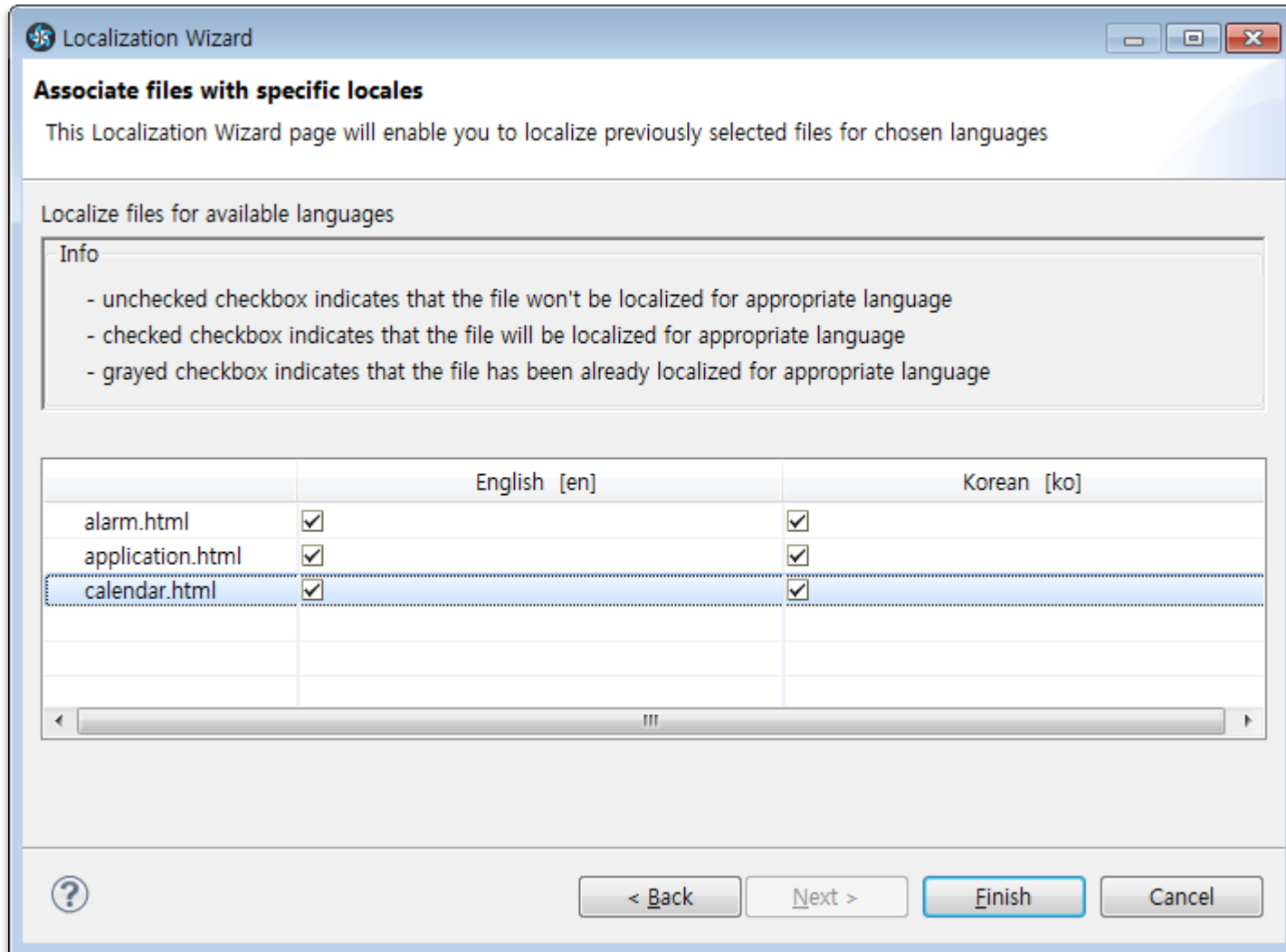
- Select files for localization



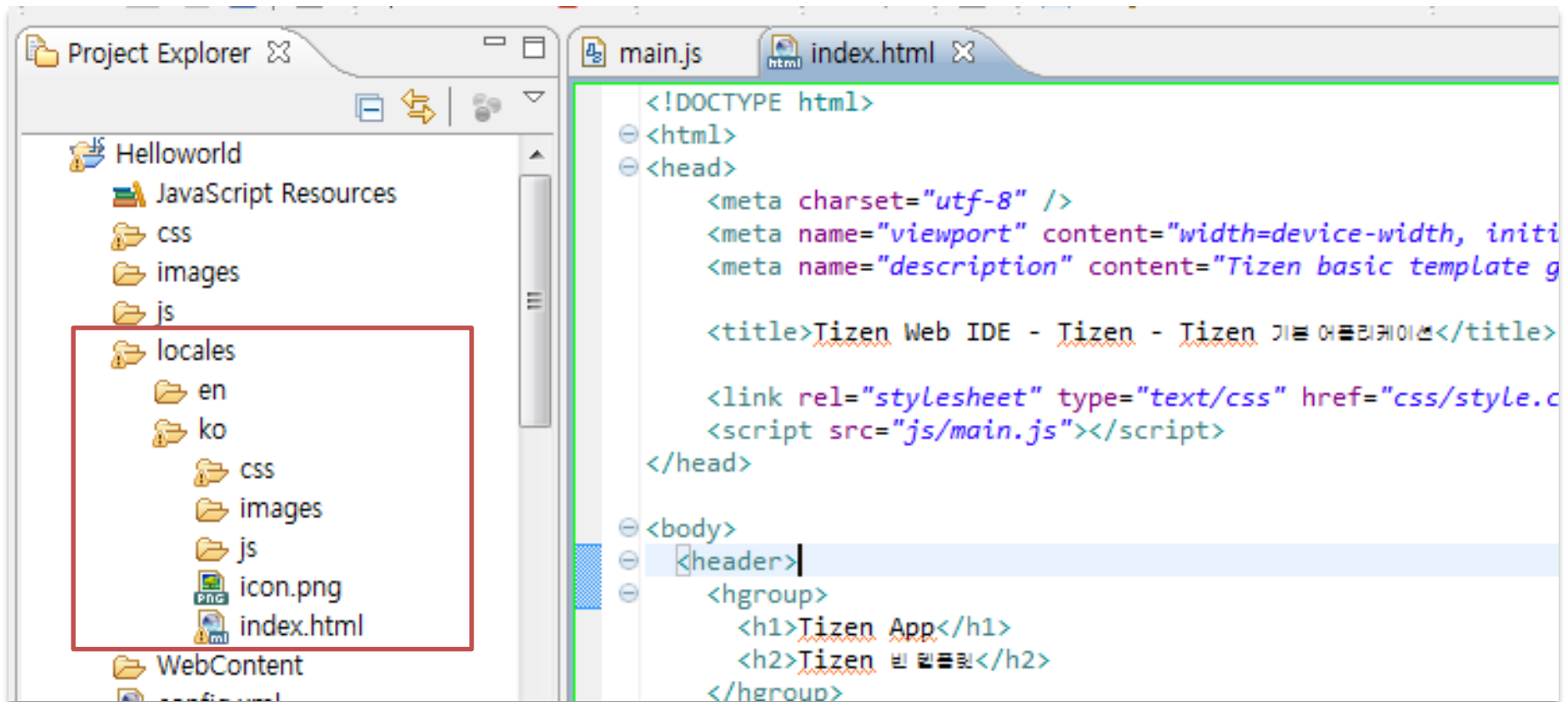
- Select the locales



- Associate files with specific locales



- Update the files on locales folder



The screenshot displays the Tizen Web IDE interface. On the left, the Project Explorer shows a project named 'Helloworld' with a 'locales' folder highlighted by a red box. The 'locales' folder contains subfolders for 'en' and 'ko', and files for 'css', 'images', 'js', 'icon.png', and 'index.html'. The main editor window shows the 'index.html' file with the following code:

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="utf-8" />
  <meta name="viewport" content="width=device-width, initi
  <meta name="description" content="Tizen basic template g

  <title>Tizen Web IDE - Tizen - Tizen 기본 애플리케이션</title>

  <link rel="stylesheet" type="text/css" href="css/style.c
  <script src="js/main.js"></script>
</head>
<body>
  <header>
    <hgroup>
      <h1>Tizen App</h1>
      <h2>Tizen 기본 애플리케이션</h2>
    </hgroup>
```

4

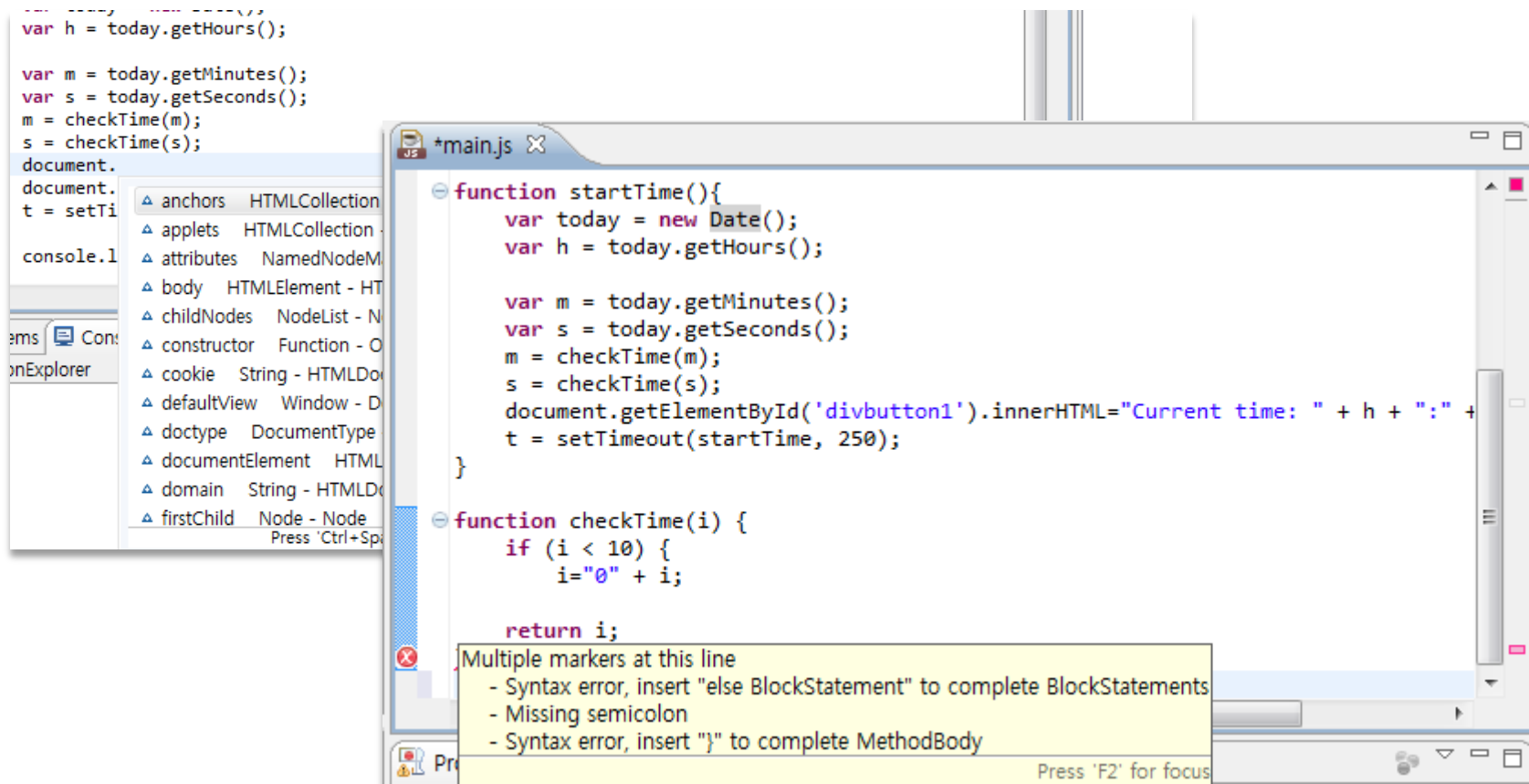


Debugging apps

- “Contents Assist” suggests available functions and keywords
- “Jlint” automatically shows the syntax errors and warnings

```
var h = today.getHours();

var m = today.getMinutes();
var s = today.getSeconds();
m = checkTime(m);
s = checkTime(s);
document.
document.
t = setTi
console.l
ms
onExplorer
```



The screenshot shows a code editor window titled '+main.js'. The code defines two functions: 'startTime()' and 'checkTime(i)'. The 'startTime()' function uses 'today' to get the current date and time, and updates the page content. The 'checkTime(i)' function checks if a time value is less than 10 and pads it with a zero. A syntax error message is displayed at the bottom of the editor, pointing to a line in the 'checkTime' function. The message reads: 'Multiple markers at this line' followed by three bullet points: '- Syntax error, insert "else BlockStatement" to complete BlockStatements', '- Missing semicolon', and '- Syntax error, insert "}" to complete MethodBody'. The error message is highlighted in yellow. The code in the editor is as follows:

```
function startTime(){
    var today = new Date();
    var h = today.getHours();

    var m = today.getMinutes();
    var s = today.getSeconds();
    m = checkTime(m);
    s = checkTime(s);
    document.getElementById('divbutton1').innerHTML="Current time: " + h + ":" + m + ":" + s;
    t = setTimeout(startTime, 250);
}

function checkTime(i) {
    if (i < 10) {
        i="0" + i;
    }

    return i;
}
```

Multiple markers at this line

- Syntax error, insert "else BlockStatement" to complete BlockStatements
- Missing semicolon
- Syntax error, insert "}" to complete MethodBody

Press 'F2' for focus

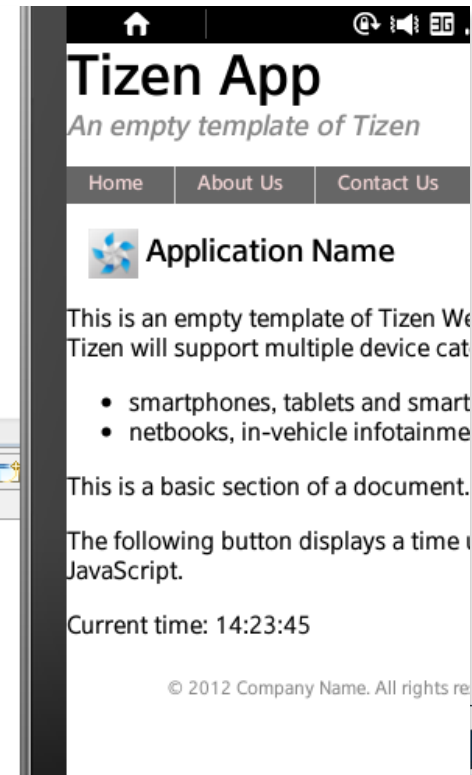
- Display messages in console view
 - `console.log("console.log");`
 - `console.info("console.info");`
 - `console.warn("console.warn");`
 - `console.error("console.error");`
 - `console.debug("console.debug");`

```
};  
// window.onload can work without <body onload="">  
window.onload = init;  
  
function startTime(){  
    var today = new Date();  
    var h = today.getHours();  
  
    var m = today.getMinutes();  
    var s = today.getSeconds();  
    m = checkTime(m);  
    s = checkTime(s);  
    document.getElementById('divbutton1').innerHTML="Current time: " + h + ":" + m + ":" + s;  
    t = setTimeout(startTime, 250);  
  
    console.log("Current time: " + h + ":" + m + ":" + s);  
}
```

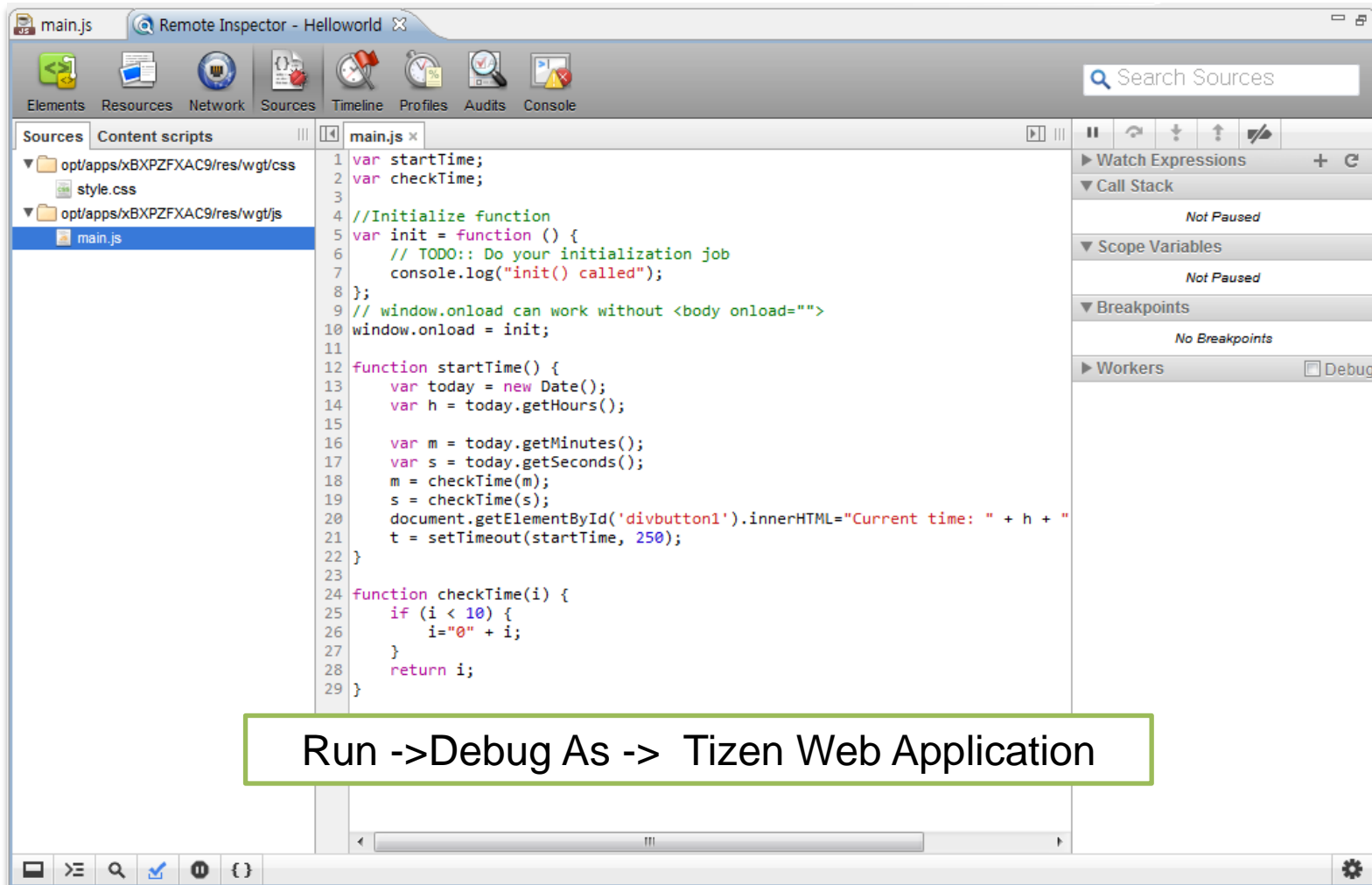
Problems Console Pages Progress

javascript log console (emulator-26100)

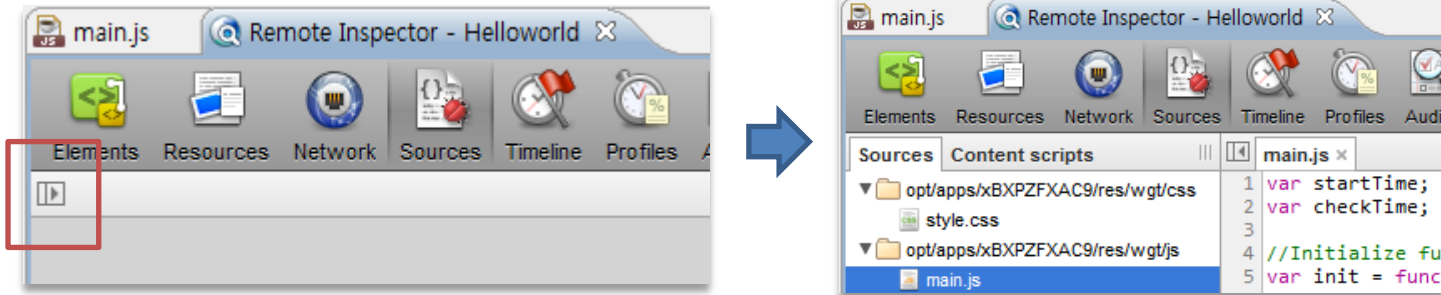
```
arc = 2, optind = 1 ,Kb 0, rotate 4  
----- beginning of /dev/log_system  
----- beginning of /dev/log_main  
js/main.js (29) :SyntaxError: Expected token '}'  
js/main.js (5) :init() called  
js/main.js (12) :Current time: 14:23:41  
js/main.js (12) :Current time: 14:23:41  
js/main.js (12) :Current time: 14:23:41  
js/main.js (12) :Current time: 14:23:42  
js/main.js (12) :Current time: 14:23:42
```



- Remote Inspector supports JavaScript debugging with Emulator

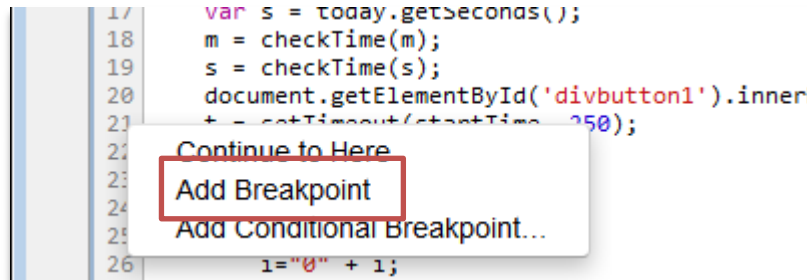


- Opening a JavaScript File

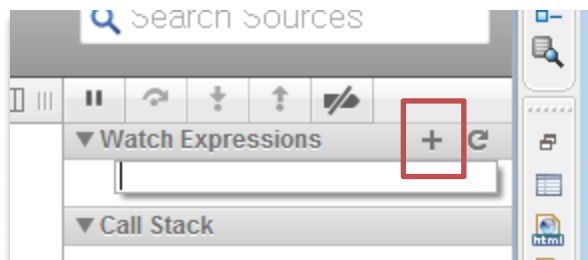


- Adding a breakpoint

– Right Click on Line number -> select “Add Breakpoint”



- Adding a watch expressions



5



Summary

- Tizen SDK supports various tools for Web app development



The screenshot shows the Tizen main website homepage. At the top, there is a search bar and a 'Go' button. Below the search bar is the TIZEN logo and a navigation menu with links for 'About', 'Blogs', 'Community', 'Developers', 'Source', 'Devices', and 'Conference'. The main content area features a 'Home' section and a prominent announcement for 'Tizen 2.0 Alpha SDK and Source Code release'. The announcement includes a sub-header 'Submitted by tsg on 25 Sep, 2012' and a paragraph stating that the Tizen 2.0 alpha source code and SDK are now available. It encourages developers to start working with these new features and provides a link to the community page for more information. Below the announcement, there is a list of features and improvements, including enhanced Web framework, Multi-process WebKit2-based Web Runtime, Advanced HTML5 features, New Tizen Device APIs, Advanced IDE & SDK, and Enhanced support for OpenGL ES. An 'Upcoming Events' section lists 'LinuxCon Europe 2012' from 05 Nov, 2012 to 07 Nov, 2012. At the bottom, there is a link to the source code and a note about future enhancements.

Main site : <https://www.tizen.org>

The screenshot shows the Tizen Developers website. At the top, there is a search bar and a 'Go' button. Below the search bar is the TIZEN logo and the word 'Developers'. A navigation menu includes 'Home', 'Documentation', 'SDK', 'Resources', and 'Forums'. The main content area features a 'Home' section and a prominent announcement for 'Tizen 2.0 Alpha SDK'. The announcement states that the Tizen 2.0 Alpha SDK is now available and encourages developers to start working with these new features. It also mentions that further enhancements and improvements will continue as they work towards additional releases. Below the announcement, there is a 'Getting Started' section with a sub-header 'Get the essential resources, guidelines, and tools needed to create Tizen applications.' This section contains four cards: 'The Tizen SDK', 'Getting Started', 'Tizen Source', and 'Join the Tizen Community'. Each card provides a brief description and a link to the relevant resource.

Developer site : <https://developer.tizen.org>

The screenshot shows the Tizen Source website. At the top, there is a search bar and a 'Go' button. Below the search bar is the TIZEN logo and the word 'Source'. A navigation menu includes 'Home', 'Documentation', and 'Release'. The main content area features a 'Source Code Available for Tizen 2.0 Alpha' section. The announcement states that the source code for the Tizen 2.0 Alpha has been released and is targeted towards smartphones and runs on the PC emulator and an ARM-based reference device. It encourages OEMs to begin considering Tizen 2.0 for their commercial devices and open source developers to look into Tizen to find what they can improve and contribute. Below the announcement, there is a 'Getting Started' section with a sub-header 'Get the essential resources, guidelines, and tools needed to create Tizen applications and download the source code.' This section contains four cards: 'Tizen Source Code', 'Latest Snapshots', 'Code Review', and 'Contribute to OS Development'. Each card provides a brief description and a link to the relevant resource.

Source site: <https://source.tizen.org>

The screenshot shows the Tizen Issue-tracking site. At the top, there is a search bar and a 'Log In' button. Below the search bar is the TIZEN logo and the word 'Issue-tracking'. A navigation menu includes 'Dashboards', 'Projects', and 'Issues'. The main content area features a 'Login' section with a sub-header 'To get an account, please register on https://www.tizen.org and use your account to log into JIRA. Please read our bug guidelines for more details.' Below the login section, there is an 'Activity Stream' section with a sub-header 'Tizen Project'. The activity stream shows a comment from Wang Quanxian on TMI-215, which discusses a workaround for a cursor movement issue on the VNC1000 device. The comment includes a code snippet for a JavaScript function that handles the cursor movement.

Issue-tracking site: <https://bugs.tizen.org>

Thank you!