Developing Tizen Apps with the Tizen SDK

* This document is based on Tizen 2.4 SDK

Table of Contents (1/2)

Prerequisites for the Tizen SDK	
4	
System Requirements for Tizen SDK	5
System Requirements for Tizen Emulator	7
JDK Requirements	9
Tizen SDK Installation	12
Downloading the installer	13
Installing the Tizen SDK	14
Installing Additional Packages	18
Confirming and Removing Packages	25
Uninstalling the Tizen SDK	26

Table of Contents (2/2)

Running Applications on the Emulator

27

Launching the Tizen IDE	28
Creating the Application Project	37
Generating the Author Certificate	42
Creating the Emulator Instance	51
Running the Application on the Emulator	55
Running Applications on the Target Device	51
Installing the Certificate Extension	52
Connecting the Target Device	57
Generating the Author & Distributor Certificates	62
Running the Application on the Target Device	78
Appendix	79

Prerequisites for the Tizen SDK

System Requirements for Tizen SDK

The following table lists the operating systems supported by the Tizen SDK.

OS	Version	Bit
Ubuntu	14.04/12.04	32 and 64
Microsoft Windows	8/7	32 and 64
Mac OS🛛 X	10.10 (Yosemite) / 10.9 (Mavericks) / 10.8 (Mountain Lion)	64

For more instructions on how to check the system specifications, see Appendix: Checking System Specifications (pages 83-84).

System Requirements for Tizen SDK Processor and Memory

The following table lists the processor and memory requirements for the Tizen SDK.

Component	Minimum	Recommended
Processor Speed	2 GHz	3 GHz and above
Processor Type	Intel Dual-Core	Intel Core i5 and above
Memory	3 GB	4 GB and above
Disk Space	6 GB free	6 GB and above

Note

The Tizen SDK can be installed on AMD processors, but may not perform properly due to absence of the Intel Hardware Accelerated Execution Manager (HAXM), which accelerates the speed of Tizen application emulation.

System Requirements for Tizen Emulator

Screen Resolution

CPU &

The following table lists the CPU and screen resolution requirements for the Tizen Emulator.

Component	Requirement
CPU	Recommended: support for Intel VTx* (Virtualization Technology)
Screen resolution	Recommended: 1280 x 1024

* For more instructions on how to check for Intel VTx support, see Appendix: Checking CPU VTx Support (pages 85-86).

System Requirements for Tizen Emulator

The following table lists the Graphic Card requirements for the Tizen Emulator.

Brand	Product
NVIDIA	GeForce 8300 GS, GeForce 8500 GT, GeForce GT 220, GeForce GT 430, GeForce GT 530, GeForce GT 330M, GeForce GTX 550Ti, Quadro NVS 290 and later versions
ATI	RADEON HD 4850, RADEON HD 5450 and later versions
Intel	HD Graphics 2000, HD Graphics 2500, HD Graphics 4000 and later versions

For more instructions on how to update the graphic card driver, see Appendix: Checking and Updating the Graphic Card Driver (pages 87– 88).

JDK Requirements

Tizen SDK requires the JDK (Java Development Kit) installation for using the Java Runtime (VM).

Java 7 or higher is required for the Tizen SDK to work properly, and as of January 2016, it is recommended to install Oracle JDK 8 for the Tizen.

Do not install Open-JDK.

Note

Tizen SDK is a development tool based on the Eclipse IDE, which essentially requires the JDK installation as well.

For instructions on how to check and uninstall the existing JDK in your system, see Appendix: Checking and Uninstalling the JDK (page 89).

JDK Requirements

Download Oracle JDK 8 from <u>http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html</u>.

- 1. Select Accept License Agreement.
- 2. Download the installer (.exe file) according to your system environment.

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click 🛛 Accept License Ag	greement 💿	Decline License Agreement	
Product / File Description	File Size	Download	
Linux ARM v6/v7 Hard Float ABI	77.69 MB	jdk-8u65-linux-arm32-vfp-hflt.tar.gz	-
Linux ARM v8 Hard Float ABI	74.66 MB	jdk-8u65-linux-arm64-vfp-hflt.tar.gz	
Linux x86	154.67 MB	jdk-8u65-linux-i586.rpm	
Linux x86	174.84 MB	jdk-8u65-linux-i586.tar.gz	
inux x64	152.69 MB	jdk-8u65-linux-x64.rpm	
inux x64	172.86 MB	jdk-8u65-linux-x64.tar.gz	
Mac OS X x64	227.14 MB	jdk-8u65-macosx-x64.dmg	
Solaris SPARC 64-bit (SVR4 package)	139.71 MB	jdk-8u65-solaris-sparcv9.tar.Z	
Solaris SPARC 64-bit	99.01 MB	jdk-8u65-solaris-sparcv9.tar.gz	Choose the
Solaris x64 (SVR4 package)	140.22 MB	jdk-8u65-solaris-x64.tar.Z	
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Windows x86	181.24 MB	jdk-8u65-windows-i586.exe	20 hito ($y00$
Vindows x64	186.57 MB	jdk-8u65-windows-x64.exe	JZDIIS (X80
			64 bits (x64

JDK Requirements

Install the JDK by following the instructions.



Do not change the installation folder from the default location.



Download Tizen SDK installer from https://developer.tizen.org/downloads.

Choose the Tizen SDK installer (IDE) according to your system environment.

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For more information about the IDE and CLI options, see Appendix: Tizen SDK Installation Options – IDE and CLI (page 90).

Double-click on the installer (.exe file), and the installer starts verifying the system

requirements prior to the installation of Tizen SDK.



If the JDK is not installed on your computer, the following pop-up appears.

Click **OK** and install the JDK before installing the Tizen SDK.



For more information about the JDK requirements and how to install JDK, see **JDK Requirements** (page 7-9).

When the installer window appears, start installation by following the steps:

- 1. Accept the Software License Agreement.
- 2. Confirm the Installation Location. The directory must be empty.
- 3. Click the Install button on the right to continue.



The installer installs the basic packages (IDE for Web application development) for the Tizen SDK.



When the installation is completed, click Done.



Run the Update Manager to install additional packages required for the development of Tizen applications.

Click **Yes** on the prompt message upon the completion of the SDK installation.



Later, you can launch the Update Manager-<version> from Windows Start Menu <a>> All Programs > Tizen SDK-<version>.

When the Update Manager is launched, it shows the **All Packages** tab, which lists all the available packages that can be installed at the moment.

Select a specific platform and profile (2.4 Mobile, 2.3.1 Mobile, 2.3 Mobile, 2.3.1 Wearable, or 2.3 Wearable) you want to install.

For the purpose of this tutorial, the 2.3.1 Wearable package is used.



Click the arrow on the left and expand to view the components of the package.

The description of each component is provided at the bottom of the window.

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2.3.1 Wearable	2.3.1 Wearable	2.3.1 Wearable
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You can install tools to develop applications for the Tizen 2.3.1 wearable platform. Select IDE (Integrated Development Environment), CLI (Command Line Interface) and Emulator(application debugging and analyzing tool) what you want to use, by which you can develop a web or native application of 2.3.1 wearable. And you can also install and utilize TAU (Tizen Advanced UI) to develop a web application.	You can install tools to develop applications for the Tizen 2.3.1 wearable platform. Select IDE (Integrated Development Environment), CLI (Command Line Interface) and Emulator(application debugging and analyzing tool) what you want to use, by which you can develop a web or native application of 2.3.1 wearable. And you can also install and utilize TAU (Tizen Advanced UI) to develop a web application.	You can install tools to develop applications for the Tizen 2.3.1 wearable platform. Select IDE (Integrated Development Environment), CLI (Command Line Interface) and Emulator(application debugging and analyzing tool) what you want to use, by which you can develop a web or native application of 2.3.1 wearable. And you can also install and utilize TAU (Tizen Advanced UI) to develop a web application.
Information The Information The Information	Information	

For the purpose of this tutorial, install all components of the 2.3.1 Wearable package by clicking **Install**.



The update manager automatically detects and installs any dependent packages required.



Click Yes to automatically install all the required packages.

Do not switch off the update manager while it is downloading and installing packages. Downloading and installing may take a few minutes.



Select the Progress tab to view the detailed progress of the installation.

The Install button changes to Installed when the packages are installed.



Select the **Installed Packages** tab to confirm the installed packages. You can also remove a package if you want.



Uninstalling the Tizen SDK

To uninstall the entire Tizen SDK, launch the SDK Uninstaller-<version> from Windows Start Senu > All Programs > Tizen SDK-<version>.



Running Applications on the Emulator Launching the Tizen IDE

Launch Tizen IDE-<version> from Windows Start Mer > All Programs > Tizen SDK-<version>.



Running Applications on the Emulator Launching the Tizen IDE

The Tizen IDE is launched successfully.

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Tizen IDE is a branded version of the Eclipse IDE.

Running Applications on the Emulator Launching the Tizen IDE

Tizen IDE is composed of the following sections.



For more information about each section, see the Appendix: Tizen IDE Views (page 99).

In this tutorial, a Tizen Web application project is created.

Go to File > New > Tizen Web Project.

	New	Alt+Shift+N ▶	<u>s</u>	Tizen Web Project		⊈] <= + → ->	-	Quick Access		1
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Creating the Application Project Generating the <u>Author Certificate</u>

Creating the Emulator Instance Running the Application on the Emulator

The New Tizen Web Project pop-up appears, and there are 3 project types you can choose from.



For more information about each project type, see Appendix: Tizen SDK Project Types (pages 100-102).



In the New Tizen Web Project pop-up window, (1) select the Template tab, (2) select WEARABLE-2.3.1 > Basic template application, (3) enter the project name as "myFirstApp", and (4) click Finish



Creating the Application Project Generating the Author Certificate Creating the Emulator Instance Running the Application on the Emulator

The new project is created and shown in the Project Explorer.



Creating the Application Project

Generating the Author Certificate Creating the Emulator Instance Running the Application on the Emulator

- 1. Click the arrow on the left of the project name to expand and view the file structure.
- 2. Click the arrow on the left of a folder to expand and view files inside the folder.





To install and run applications on devices, you must sign the application package by generating a vendor-specific certificate and registering it in the IDE. (The certificate policy may vary between different vendors and/or models.)

Since an emulator is a pseudo device as well, applications to be installed and run on the emulator must also be signed with certificates generated from the Tizen SDK.

Security profile is a tool for managing certificates and it helps generating, registering, and activating certificates in Tizen SDK.

Creating the Application Project Generating the Author Certificate Creating the Emulator Instance Running the Application on the Emulator
Open **Window > Preferences** to set a security profile for generating certificates.



Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

Go to Tizen SDK > Security Profiles, and click Add.

	Preferences						
	type filter text	🗼 Set an active profile				↓ ↓ ↓ ↓	
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Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

Enter a profile name and click OK.

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Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

Set the profile active by clicking Set Active.

If there is only one profile on the list, the profile is automatically set active.



Creating the Application Project Creating the Emulator Instance

Click Generate.

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Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

Fill in the information in the Certificate Generator.

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 Tizen SDK Appearance 	State		d Generate
Logging ⊳ Native	City		Edit
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Sample Security Profiles	Department		path (Edit
⊳ Tools ⊳ Web	Name		
Validation Veb	E-mail		purposes
			Apply
(?)	click	OK Cancel	OK Cancel

Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

Click Yes to fill the author certificate information automatically.



Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

Security profile has been registered successfully. Click OK.

Preferences						- • •
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Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

Launch an Emulator instance.

Launch the Emulator Manager by clicking the icon in the Connection Explorer.



Click Create New Emulator > Wearable.



Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

Click Confirm.

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Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

Click the play button to launch the emulator instance.



Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

The Emulator is launched in its own window, and the structure of the emulator is shown in the **Connection Explorer**.





Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

Right-click on the project title, and select Run As > Tizen Web Application while the Emulator display of the is switched on.

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Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

The application is launched in the Emulator successfully.



Creating the Application Project Generating the Author Certificate Creating the Emulator Instance

The **Certificate Extension** is an extra package of Tizen SDK. It is required for generating an author certificate for **commercial devices**, such as Samsung Gear S2, and registering it in the IDE.

To install the Certificate Extension, close the IDE, and launch Update Manager-<version> from Start > All Programs > Tizen SDK-<version>.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

In All Packages tab, click the arrow on the left of Extra and expand to see the Certificate Extension.

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TIZEN SOK			
Installed Packages All Packages Progress	201	Installed Packages All Packages Progress	2
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2.3.1 Wearable		2.3 Mobile	ᆂ /Ins
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Information		Information	

Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

- 1. Click the Accept checkbox to accept the EULA (End User License Agreement).
- 2. Click Install.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

If any of the SDK programs are still running on the system, the following pop-up appears.

- 1. Click OK, and close all the SDK programs.
- 2. After closing all the programs, click Install.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Close the Update Manager when the Certificate Extension is installed.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

For Gear S2, you must connect the device to the computer using Wi-Fi. For devices that can be connected using USB cable, you can simply connect the device to the computer with an USB cable.

For connecting a Gear S2 device using Wi-Fi:

1. Switch on the Debugging mode in Settings > Gear info.



Installing the Certificate Extension Connecting the Target Device Generating the Author & Distributor Certificates Emulator

57

2. Switch off Bluetooth in Settings > Connections.



3. Switch on Wi-Fi in Settings > Connections and note the IP address.

The device and the computer must be connected to the same Wi-Fi network.



Launch the **Remote Device Manager** by clicking the icon **I**, in the **Connection Explorer** and click **New**.





Fill in the information about the device and click Add.



Select the device to connect and click Connect button.

Remote Device Manager			×
Name	IP	Port	New
172.20.10.13	172.20.10.13	26101	Edit
			Delete
Connect Disconnect			Close

Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

In the first attempt, the connection can fail. In this case, a pop-up appears in the device.

Click the check button to allow Gear to install apps in the device manually.



In the Connection Explorer, note that the device is connected successfully.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Click the **Certificate** icon 🙀 to generate and register a developer certificate.



click



Click New to create security profile.

Samsung Tizen Certificate	×	
Step 1. Select Device Type		
Mobile/Wearable O TV		
Step 2. Create Security Profile ?		
	New	cli
Step 3. Create an author certificate	Replace	
Create new certificate		
	Advanced	
Step 4. Create a distributor certificate	Replace	
Create new certificate		
ОК ОК	Cancel	

Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Name the profile and click OK.

Samsung Tizen Certificate	×
Step 1. Select Device Type	
Mobile/Wearable	
Step 2. Create Security Prof	ile ⑦
	▼ New
Generate a new Security	y Profile
Profile Name :	
profile1	
U IIII	clīck
-	OK Cancel
	Create new certificate
(?)	OK Cancel
•	

Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Select Crete new certificate to create an author certificate.

Samsung Tizen Certificate	×	
Step 1. Select Device Type		
Mobile/Wearable		
Step 2. Create Security Profile ⑦		
profile1	▼ New	
Step 3. Create an author certificate	Replace	
Create new certificate		clīcl
	Advanced	
Step 4. Create a distributor certificate	Replace	
Create new certificate		

Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Fill in the information and click Request.

Generate a new certificat	e signing request. (*) indicates the required fields		
Name(*)	Christina		
Password(*)			
Password confirm(*)			
State City			
Organization			
Department			
	Clear		

Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Click OK.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Sign in with your Samsung account.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Click OK.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Select Crete new certificate to create a distributor certificate.

Stap 1 Select Device Type		
Step 1. Select Device Type		
Mobile/Wearable		
Step 2. Create Security Profile	? — — — — — — — — — — — — — — — — — — —	
profile1		▼ New
Step 3. Create an author certif	ficate	Replace
	Create new certificate	
C:₩tizen-sdk-data.1₩keystore₩	profile1\author.p12	Advanced
Step 4. Create a distributor ce	rtificate	Replace
	Create new certificate	
(2)	(OK Cancel

Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Enter the Device ID and click Request.

You can cope the DUID from the list on the right.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Click OK.



Installing the Certificate Extension

Connecting the Target Device Generating the • Author & Distributor Certificates
Sign in with your Samsung account.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Click OK when the device has been registered successfully.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Click OK.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Right-click on the target device in the **Connection Explorer**, and go to **Permit to install applications**.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Click OK when the upload is completed.



Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Right-click on the project title, and select Run As > Tizen Web Application while the Emulator display is switched on.

le Edit Source Ref	actor	Navigate Search Project R	un Window Tizen Tool	Help				
5• I E & 3	¢	0.0.0.0.	0 = 3 . 2 4	A 2 0 0 0				
				Quick Access		Tizen V	Veb 🕥 Tizen M	Nati
Project Expl. 22	e c	basiculapplications.c	2		- 8	St Outline S	z =	- 6
Basicapplication	2	New Go Into	,		ń	₽ ⊟ Pk	<i>8</i> × • #	ŧ.
BasicULApplicati	0	Show In	Alt+Shift+W *			u ba	siculapplications	sh
	2	Copy Copy Qualified Name	Ctrl+C			 apj apj apj s wir 	pdata pdata_s <u>i struct</u> n_delete_request	ap) t_cl
		Paste Colete Remove from Context Moves	Ctrl+V Delete Ctrl+Alt+Shift+Down	Ctrl=V Delete H=Alt-Shift+Down		 ⁵ win_back_cb(void+, Ev ⁹ create_base_gui(appd ⁶ app_create(void+) bit ⁶ app_control(app_control(app_control) 		
		Rename	F2	to a substant second state of		e ^s ap	p_resume(void*)	2
2 2	2	Import Export		b], void "event_into)		 ⁶ app_terminate(void*) ⁶ ul_app_lang_changed ⁶ ul_app_orient_change ⁶ ul_app_orient_change 		
		Build Project	F10					
Connection 22		Refresh Close Project Close Unrelated Projects	F5			Properties	21) = 12	•
> mulator-261		Build Package		d(PACKAGE, PACKAGE);		Basicapplication		
		Check Stale Object Check JavaScript Rules	,	<pre>get(ad->win)) {</pre>		Resource	Property Info	-
	13	Check Privilege		• <i>I</i>)			editab	sle
+ Itt		Validate Profile As	,	R a] d ⊂ . () -			linked	ioi i
Din 20	-	Dehura As		5 1 Titles Web Application	1 ×		name path	9
boot 20		Compare With		Tuten Web Unit Test Application				
		Restore from Local History		Run Configurations			2 1 m 1	
		Configure Localization	•				· · · · · · · · · · · · · · · · · · ·	
Basicapplication	-			command: (2) :				

Installing the Certificate Extension

Connecting the Target Device Generating the Author & Distributor Certificates

Running the Application on the Target Device



Checking System Specifications

You can view a summary of important information about your computer and operating system by clicking Windows **Start (Properties)**, right-clicking **Computer**, and clicking **Properties**.



Checking System Specifications

You can check the available disk space by clicking the Windows Start Menu > Computer.



Disk Space

63

Checking the CPU VTx Support

SecurAble - What security features are available?

SecurAble examines this system's processor to

determine which of three useful security features

SecurAble.exe

Download the SecurAble.exe file from <u>http://securable.en.softonic.com/</u> and execute the software.

STATISTICS.

SecurAble - What security features are available?

SecurAble examines this system's processor to determine which of three useful security features 💼 🗆 🐹

VT supported by CPU but locked off by mainboard



CPU VT supported and HAXM available

VT supported but locked on by BIOS (BIOS setup required)

CPU VT not supported and HAXM <u>NOT</u> available

Checking the CPU VTx Support

VTx Option in BIOS

You have to set the VT option to **enabled** in the BIOS menu. The entrance point of the BIOS menu depends on the type of the PC mainboard.

CPU VT supported and controllable in BIOS

Phoenix SecureCore	(tm) Setup Util
Advanced	
Advanced Processor Options	
Active Processors	[Max. Cores]
Processor Hyper-Threading	[Enabled]
Intel(R) Virtualization Technology	[Enabled]
Adjacent Cache Line Prefetch	[Enabled]
Hardware Prefetcher	[Enabled]
► CPU Power Management	
u u u u u u u u u u u u u u u u u u u	

CPU VT supported but NOT controllable in BIOS

Syslnfo	Advanced.	Secur itt
System Time System Date	[18:47:32 [<mark>91/25/20</mark>	1
SATA Port 1 SATA Port 2	SAMSUNG H TSSTcorp	n-m500mbb Cddvdw SN-
CPU Vendor CPU Type CPU Speed	Intel(R) Core(IM) 2.40 GHz	i5-2430M Cl
CPU UT (UT-x) Supported	

Checking and Updating the Graphic Card Driveindows Update

You can check your graphic card driver in your system by clicking Windows Stort Menu , right-clicking Control Panel, and clicking Adjust screen resolution > Advanced Settings.

		Color Management Catalyst(TM) Control Center
User Accounts and Family Safety	File Edit View Tools Help	Adapter <u>Monitor</u> Troubleshoot Adapter Type ATI Radeon HD 3200 Graphics
Appearance and Personalization Change the theme Change desktop background Adjust screen resolution	Change the appearance of your display Detect Identify	Adapter Information Chip Type: ATI display adapter (0x9612) DAC Type: Internal DAC(400MHz) Adapter String: ATI Radeon HD 3200 Graphics
Clock, Language, and Region Change keyboards or other input methods Change display language	Display: Display: 1. Generic Non-PnP Monitor on Standard VGA Graphics Adapter Resolution: 800 × 600 If your resolution is below 1024 x 768, some items may not fit on the screen.	Bios Information: BK-ATI VER010.094.001.005.031636 Total Available Graphics Memory: 1918 MB Dedicated Video Memory: 256 MB System Video Memory: 0 MB
Ease of Access Let Windows suggest settings Optimize visual display	Advanced settings Make text and other items larger or smaller What display settings should I choose?	Shared System Memory: 1662 MB
	OK Cancel Apply	OK Cancel &pply

Generic PnP Monitor and ATI Radeon HD 3200 Graphics Properti...

Checking and Updating the Graphic Card Driveindows Update

You must update to the latest vendor-provided version of the graphic card driver for OpenGL ES acceleration to use the Tizen Emulator.

 For Microsoft Windows® 8/7, check and install the necessary drivers in Control Panel > System and Security > Windows Update.



Checking and Uninstalling the JDK

Confirm the JDK installation in Control Panel > Programs > Programs and Features.



The Tizen IDE (Integrated Development Environments) provides a development tool with based on the Eclipse IDE.

- Provides GUI editor and analysis tools with an excellent UX
- Easy for general users and developers
- Requires relatively high system resources

The Tizen CLI (Command Line Interfaces) provides an environment for creating, building, and packaging projects by using commands on a terminal.

- Suitable for high-level developers with automated build system
- Requires relatively low system resources

Advanced Configuration

You can change the package server, upload a custom SDK image, change the proxy settings, and add extra repositories in the Advanced Configuration.



You can install or update the Tizen SDK by using one of the following options.

- Configuring the Package Server
 - 1. In the combo box at the top, select Package Server.
 - 2. In the text box, type an available repository address and click Refresh.
 - 3. In the **Distribution** box, select the distribution you want to download.
 - 4. Click Confirm.

SDK Manager Config	guration					
Install Option Proxy Settings	http://download.tizen.org/sdk/sdk-packages					
Extra Repository	Distribution	official 👻	Auto Update Show All			
	Status	Name	Date			
	Latest	TizenSDK_2.4.0_Rev2	Thu Dec 10 21:45:46 KST 2015			
		TizenSDK_2.4.0_Rev1	Tue Nov 24 21:26:00 KST 2015			
		TizenSDK_2.4.0	Fri Oct 23 09:53:00 KST 2015			
		TizenSDK_2.4.0b	Thu Aug 20 00:08:30 KST 2015			
			Confirm Cancel			
	Install Option Proxy Settings Extra Repository	Install Option Proxy Settings Extra Repository Distribution Status Latest	Install Option Proxy Settings Extra Repository Distribution official Category Distribution official Category Distribution			

You can install or update the Tizen SDK by using one of the following options.

- Configuring the SDK Image
 - 1. In the combo box at the top, select SDK Image.
 - 2. Click the folder icon, browse to the SDK image file, and click OK.
 - 3. Click Confirm.



You can configure a proxy to connect to a repository server.

- 1. Click the **Proxy Settings** tab.
- 2. Select the configuration you want to use.
- 3. If you select Manual Proxy Configuration, enter HTTP Proxy and Port in the fields.
- 4. Click Confirm.



The Tizen SDK supports extension packages, called extra repositories, contributed by external developers and companies.

To add an extra repository, click the Extra Repository tab and click Add.



When the Add Repository dialog appears, enter the Name and Repository in the fields. The repository indicates the external server address.



Advanced Configuration

To remove an extra repository, click the Trash icon for the repository in the table, and click **Confirm**.

Tizen	SDK Manager Config	juration			
÷	Install Option	Add	Modify		Name
s	Drova Sattings	Name	Repository		certificate
¥	Proxy Settings	Samsung Tize	http://d3f5cmlctbt8h4.cloudfront.net	İ	Vendor
1 1	Extra Repository	Certificate Ext	http://developer.samsung.com/sdk	İ	Unknown
		Wearable Ext	http://developer.samsung.com/sdk	Ť.	Repository URL
		certificate	file:///C:	Ē	file:///C:
					Description
					No description
					Confirm Cancel

If the external repository is removed, the packages from the external repository are deprecated.

To modify an extra repository, click the target repository and click Modify in the table.



When the Modify Repository dialog box appears, modify the Name and Repository fields. The repository indicates the external server address. You can also click the folder icon on Repository to select a local image file or local server location.



Advanced Configuration

To activate or deactivate an extra repository, select the check box of the repository to be activated, or clear the check box of the repository to be deactivated.

Tizen	Tizen SDK Manager Configuration					
Tizen	SDK Manager Configuent Install Option Proxy Settings Extra Repository	Add Add Mame Samsung Tize Certificate Ext Wearable Ext	Modify Repository http://d3f5cmlctbt8h4.cloudfront.net http://developer.samsung.com/sdk http://developer.samsung.com/sdk		Name certificate Vendor Unknown Repository URL	
		certificate	file:///C:	ā	file:///C:	
					No description	
					Confirm Cancel	

Tizen IDE Views

- The **Project Explorer** view provides a hierarchical view of all resources in the workspace. You can open files for editing, or select resources for operations, such as building, packaging, signing, or validating an application.
- The Connection Explorer view shows the devices connected to the system.
 A list of connected devices is available after connecting a device or launching a Tizen Emulator with a tree view.
- The Outline view shows the structure outline and Object hierarchy of C/C++ and Javascript
- The **Property** view shows the property of selected files on **Project Explorer**, such as file path, size, editability, and name.
- The **Problem** view shows the status of build and packaging error or warning.
- The **Console** view shows the target or emulator log when applications are run.

Tizen SDK Project Type

Template

The **Template** tab provides a list of templates with basic structure the developers can use to create their own Web application project.



Tizen SDK Project Type

The **Online Sample** tab provides a list of sample applications demonstrating the usage of various APIs and UI design which developers can refer to.



If the list of online samples does not appear properly, see Appendix: Custom Network Settings (pages 103–104).

Tizen SDK Project Type

The User Template tab provides a list of user-customized templates that can be used as a basis for creating other projects.



Custom Network Settings

If the list of online samples does not appear properly, you may have to change the network settings.

Go to Window > Preferences > General > Network Connections and change the Active Provider option to Manual.

Preferences								
type filter text	Networ	k Con	nections					<p <<="" th="" ▼=""></p>
General Appearance Compare/Patch Content Types Content Type Content Content Content Type Content Co	Active F Proxy e	Provide Intries	r: Manual 🔻	2				
Editors	S	che	Host	Port	Provi	Auth	User	Password
Kevs	T H	ITTP			Man	No		
	V H	ITTPS			Man	No		
Search	V S	OC			Man	No		
Security	H	ITTP	Dynamic	Dyn	Native	No		
Startup and Shutdo =								
Tracing								
Web Browser								
> Workspace								
Ant								
C/C++ Data Management	•						1	4

Custom Network Settings

Select HTTP and click Edit.

Preferences			
type filter text	Network Connections		⇔ ▼ ⇔ ▼ ▼
▲ General Appearance Compare/Patch Content Types	Active Provider: Manual Proxy entries		
Editors	Sche Host	Port Provi Auth User	Password Edit
Network Connection	HTTP	Man No	Clear
Perspectives	HTTPS	Man No	
Search	SOC	Man No	
Security	HTTP Dynamic	Dyn Native No	
Startun and Shutdo -			

Change the proxy setting accordingly

For the Seoul R&D campus, the host: 10.112.1.184 and the port is 8080.

🚯 Edit Pro	xy Entry
Schema:	НТТР
Host:	10.112.1.184 Port: \$080
Require	s Authentication:
User:	
Password:	
	OK Cancel

Do the same for HTTPS and click **Apply**.

Emulator Control Panel

Right-click on the Emulator screen to view more options on the Emulator. Click **Control Panel**.



Emulator

Emulator Control Panel

Emulator

In the Emulator Control Panel, developers can create and use any data required during application execution and imitate environmental conditions for the device sensors.





Screen Timeout on the Emulator

You can adjust the screen timeout of the emulator in Settings > Display > Screen timeout.



You can troubleshoot your Tizen SDK installation by referring to the installation log file. The log file is located in a different directory based on your operating system:

- Windows® 7: %LOCALAPPDATA%\.installmanager\install-log
- Windows® XP: %USERPROFILE%\Local Settings\Application Data\.installmanager\install-log
- Ubuntu, MacOS®: \$HOME/.installmanager/install-log

If the Install Manager fails to connect to the SDK package server:

- Check whether you can access the Tizen Web site using the Web browser on the system where you are installing the SDK.
- If not, install the SDK using the SDK image.
- Check whether you are using a network proxy. If yes, run the Install Manager. Click Settings and select the desired option. If the proxy server needs authentication, an ID and password dialog appears.
- The proxy option is not provided anymore.

When installing the Tizen SDK using the SDK image, you may see the **Cannot open SDK image file** dialog box.

The box is displayed if you are using the JDK1.6 updates 26 JDK. To avoid this problem, ensure that you are using the latest version of Java.

See JDK Requirements (pages 7-9) for the JDK installation guide.

During the Tizen SDK installation, the Java application can crash unexpectedly, and the following window is displayed.



To avoid this problem:

- Ensure that you are using the latest version of the error DLL file, such as MSVCR100.dll. If the error file version is not the latest, upgrade it.
- Update your system with all the Windows-related updates using Windows Update.
If the Install Manager does not appear, an error may have occurred in the JDK installation.

You can check your problem by following these directions:

• Run the Install Manager with the -help options.

./install-manager.exe -help

• If you see the following message, the Java libraries are not suitable to Java executables.

"Registry key 'Software₩JavaSoft₩Java Runtime

Environment₩CurrentVersion' has value 'XXX', but 'XXX' is required."

The cause is that Java files in System32 do not match the Java Runtime Environment in the registry.

To avoid this problem, copy the java.exe file to the System32 directory.

If Tizen Emulator does not appear when you launch it, you may face the same trouble log at <TIZEN-SDK-DATA>/emulator/vms/<Emulator name>/logs/emulator.log file.

If the Emulator does not work properly, there might be an error in the HAXM.

The Intel Hardware Accelerated Execution Manager (Intel HAXM) is a hardware-assisted virtualization engine (hypervisor) that uses Intel Virtualization Technology (VT) to speed up Tizen application emulation on a Windows® or Mac® host machine.

HAXM is supposed to be installed automatically as part of the Tizen SDK installation.

However, to install HAXM separately, you can download the Windows installer package using the link below: <u>http://download.tizen.org/sdk/haxm/1.1.9/win/intelhaxm-tizen.exe</u>

HAXM

HAXM supports the following Windows® versions:

- Windows® 7 (32/64-bit)
- Windows® Vista (32/64-bit)
- Windows® XP SP2 or later (32-bit only)

Run the installer and accept the UAC prompt, if you are running the standalone installer.



HAXM

When the first HAXM install screen is displayed, click Next.



You can access the documentation at any time by clicking Intel HAXM Documentation.

Read and accept the Intel HAXM End-User License Agreement (EULA).

Ind-User License Agreement Please read the following license agreement carefully	tel
Copyright (c) 2011 Intel Corporation. All rights reserved.	* III
Redistribution. Redistribution and use in binary form, without modification, are permitted provided that the following conditions are met: 1.Redistributions must reproduce the above copyright notice and the following disclaimer in the	•
☑ I accept the terms in the License Agreement Print Back Next Can	cel

You are prompted to adjust the amount of RAM to be allocated to Intel HAXM.

Intel® Hardware Ac Memory limit for Intel H	celerated Execution Manager AXM	(intel)
Intel HAXM reserves a p RAM available for Intel H Note: Setting a large me using the x86 Tizen emul	ortion of RAM when running. Please set the n IAXM to use for all x86 emulator instances. mory reservation may cause other programs ator with HAXM.	naximum amount of to run slowly when
Oefault Value	2.0 GB	
🔘 Set manually	2.0 GB 🔻	
The value must be betwe	een 512 Mb and 5.9 Gb	
	Documentation Rack Nex	t Cancel

Note

The installer also functions as a configuration tool for Intel HAXM. To change the memory settings, run the installer again.

The next screen confirms your Intel HAXM memory allocation settings. Click **Install** to proceed.

Intel® Hardware Accelerated Execution Manager Setup
Ready to install Intel® Hardware Accelerated Execution Manager
Intel HAXM will use 2.0 GB of system memory for all x86 Tizen emulator instances.
Note: The memory reservation setting can be changed by running this installer again. For more information on Intel HAXM memory usage, please refer to Intel HAXM documentation.
Intel® HAXM Documentation Back Install Cancel

When the Intel HAXM installation is finished, click **Finish** to exit the installer.



HAXM

To verify that Intel HAXM is running, open a Command Prompt window and execute the command: sc query intelhaxm

If Intel HAXM is working, the command will show a status message indicating that the state is 4 RUNNING.

C:\Windows\system32\cmd.exe		×
C:\>sc query intelhaxm SERVICE_NAME: intelhaxm TYPE STATE WIN32_EXIT_CODE SERVICE_EXIT_CODE CHECKPOINT WAIT_HINT	: 1 KERNEL_DRIVER : 4 RUNNING (STOPPABLE, NOT_PAUSABLE, IGNORES_SHUTDOWN) : 0 (0×0) : 0 (0×0) : 0×0 : 0×0	



Starting and Stopping HAXM

To stop or start Intel HAXM, open a Command Prompt window with administrator privileges and execute one of the following commands:

- Stop HAXM: sc stop intelhaxm
- Start HAXM: sc start intelhaxm

Adjusting Intel HAXM Memory Allocation

To change the amount of memory allocated to Intel HAXM, run the installer again.

Note

Changes to Intel HAXM memory settings take effect when Intel HAXM is restarted. The currently running emulators continue to use the previous memory setting.

Removing HAXM

Warning

Close all instances of the Tizen emulator before removing Intel HAXM.

To uninstall Intel HAXM, run the installer again or use the Control Panel.

Important

Removing Intel HAXM disables the acceleration of all Tizen emulators, but the Tizen emulator still functions. Installing Intel HAXM again re-enables the emulator acceleration.

Troubleshooting HAXM (BIOS/OS Setting)

Hardware feature required by HAXM may be disabled by BIOS or OS. If your installation fails because of a hardware requirement, please check BIOS/OS as followed suggestion:

- Make sure VT is enabled in BIOS.
- Make sure Execute Disable Bit is enabled in BIOS.
- Make sure Data Execution Prevention is enabled in Windows. On the Windows platform, click Control Panel > System > Advanced system settings > Advanced tab > Performance section, Options (or Settings) button > Data Execution Prevention. Make sure that DEP is enabled.