

Confidential:

No.:



Skyworth Standalone VR SDK (Unreal)

Developer Guide

Prepared by _____ Date _____

Checked by _____ Date _____

Approved by _____ Date _____

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SKYworthVR

1 Introduction

As a plug-in for the Unreal engine, this SDK is developed on the basis of the XR framework and can display the image rendered by the Unreal engine on the Skyworth VR headsets. And the plug-in can obtain Sensor data from the VR device and apply it to the camera. The SDK supports 3DOF gamepads, which need to be connected to the startup page of the VR device. When the gamepad is not connected, input can be realized by anchor and the Enter key.

2 SDK Configuration

2.1 Model of Supported Equipment

V901 and S802

2.2 Requirements on Development Environment

Name of Software	Required Versions
Unreal engine	4.25.4 or 4.26.1
Android SDK	API Level 25 and higher
Visual Studio	VS2017 and higher
JDK	Jdk 1.7.0_01 and higher
Android NDK	R21b

- Android users, please set the environment by [Android Works](#).
- Visual Studio 2017 needs to check “Game development with C++”.

3 QuickStart

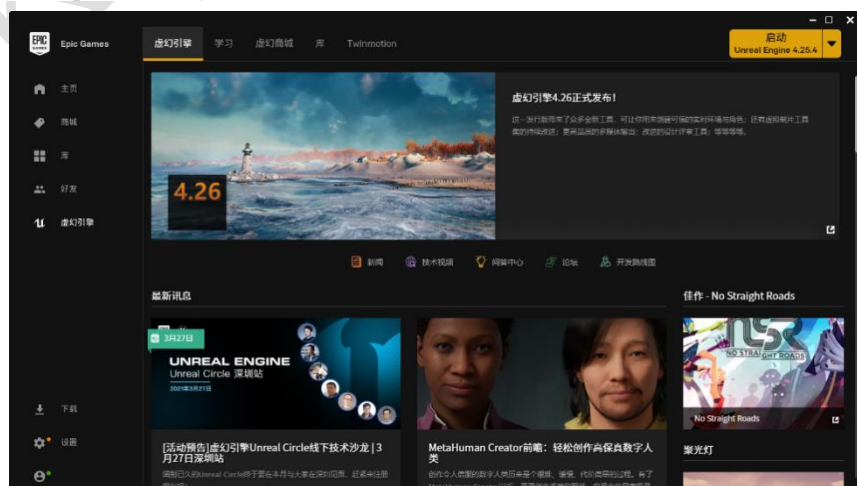
This QuickStart guide shows how to set up the Unreal Engine 4 (UE4) projects to be Skyworth VR compatible.

3.1 Skyworth VR Project Creating

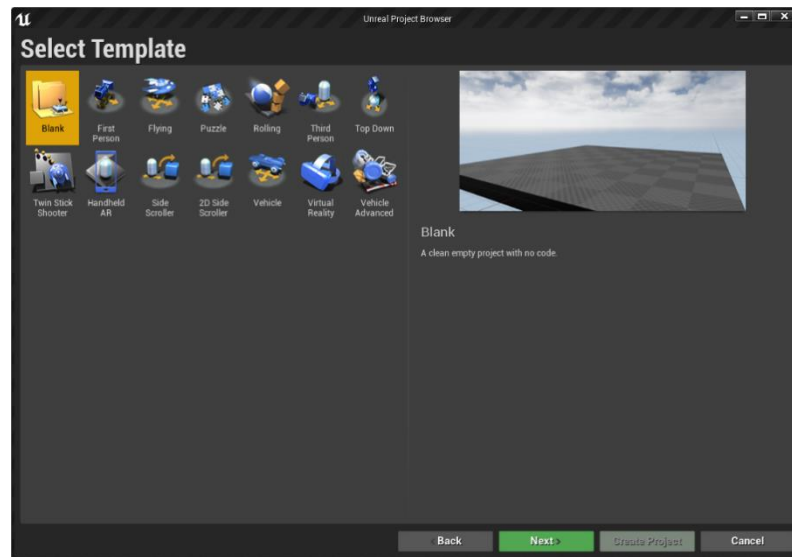
This section describes how to create a new UE4 project with the best Settings for developing Skyworth VR.

Steps

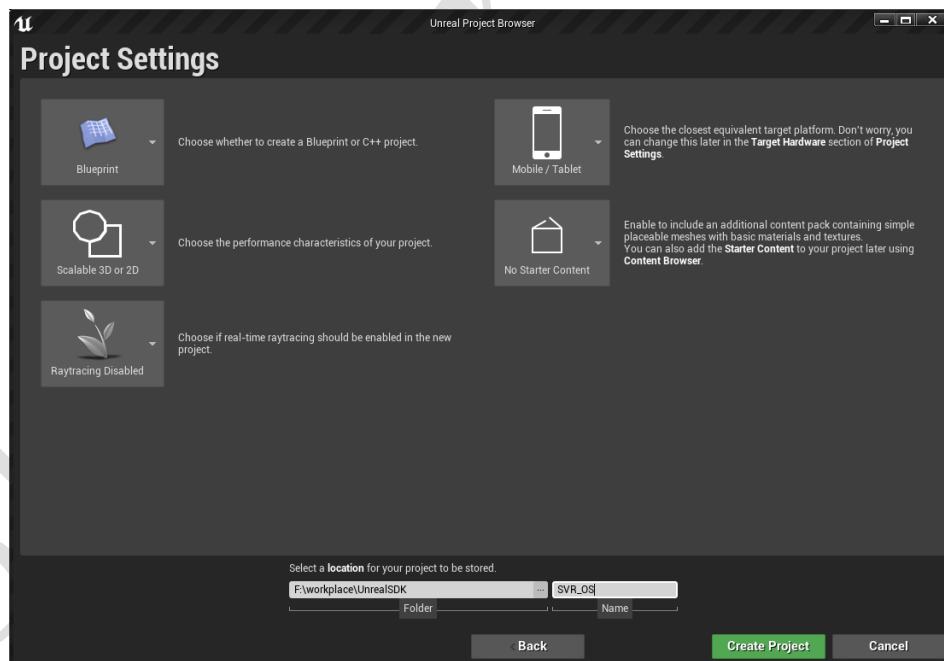
1. Download and install Unreal Engine 4.25.4 or the updated version using the Epic Games Launcher. Then, press the Launch button to open the Project Browser.



- Go to the New Project section and select the Games - Template - Blank in the Project Browser.



- Due to the high requirements of VR overall rendering, it is recommended to start a new UE4 VR project with the following settings to ensure that the project runs at the correct frame rate from the beginning.
 - Enable the Blueprint
 - Enable the Mobile/Tablet
 - Enable the Scalable 3D/2D
 - Enable ****No Starter Content****



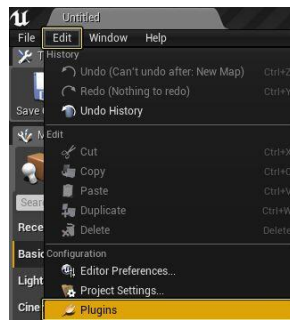
- Press the Create Project button in the lower right corner to create the project, and then close the project.
- Copy the Plugins folder from SDK 4.25 to the project directory, and then double click SVR_OS.uproject.

名称	修改日期	类型	大小
Config	2021-04-01 15:16	文件夹	
Content	2021-04-01 15:17	文件夹	
DerivedDataCache	2021-04-01 15:17	文件夹	
Intermediate	2021-04-01 15:19	文件夹	
Plugins	2021-04-01 15:18	文件夹	
Saved	2021-04-01 15:17	文件夹	
SVR_OS.uproject	2021-04-01 15:16	Unreal Engine Pr...	1 KB

3.2 Skyworth VR Project Settings

This section explains how to set up the Unreal Engine 4 project so that it can be used in Skyworth VR.

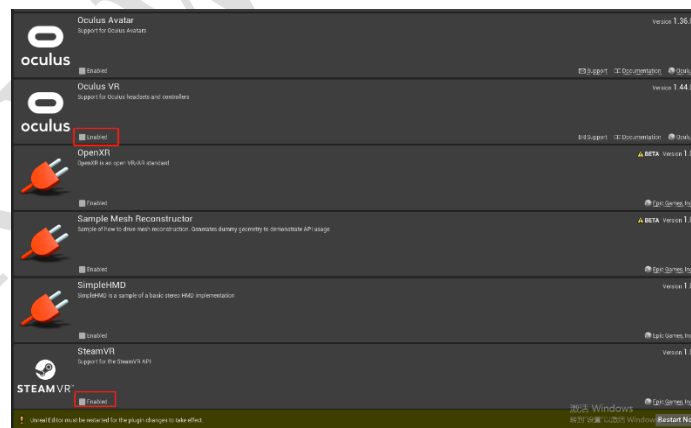
1. Once the Unreal Engine 4 editor has been loaded, open the Edit TAB in the main toolbar and select the Plugins.



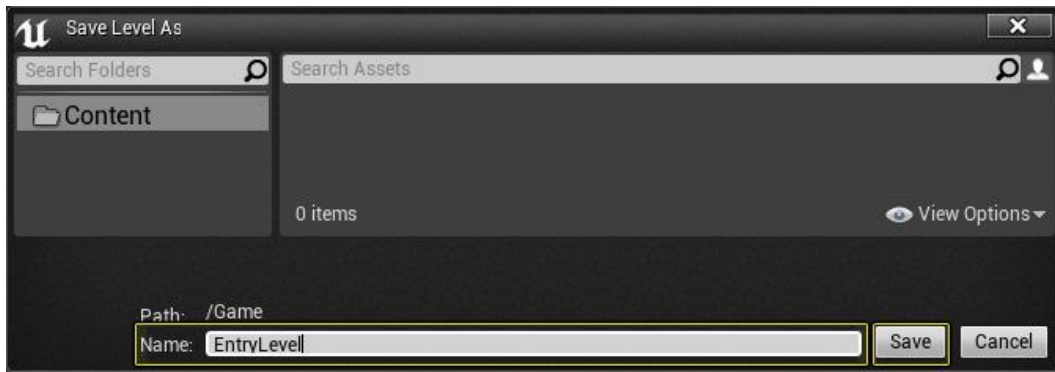
2. Go to the Installed -> Virtual Reality section of the Plugins menu and confirm that Skyworth VR is enabled.



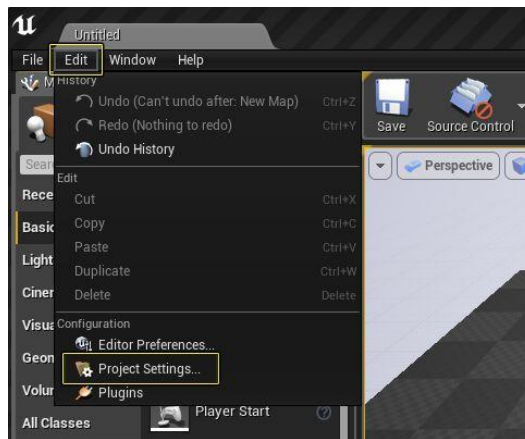
3. Go to the Built-In-> Virtual Reality, undo Oculus VR and SteamVR, then click the Restart Now button to Restart the editor.



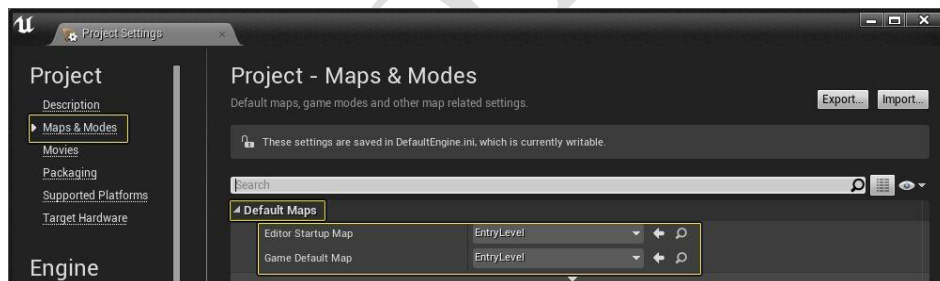
4. Select the File option in the main toolbar, and click the Save option to call out the Save Level As window.



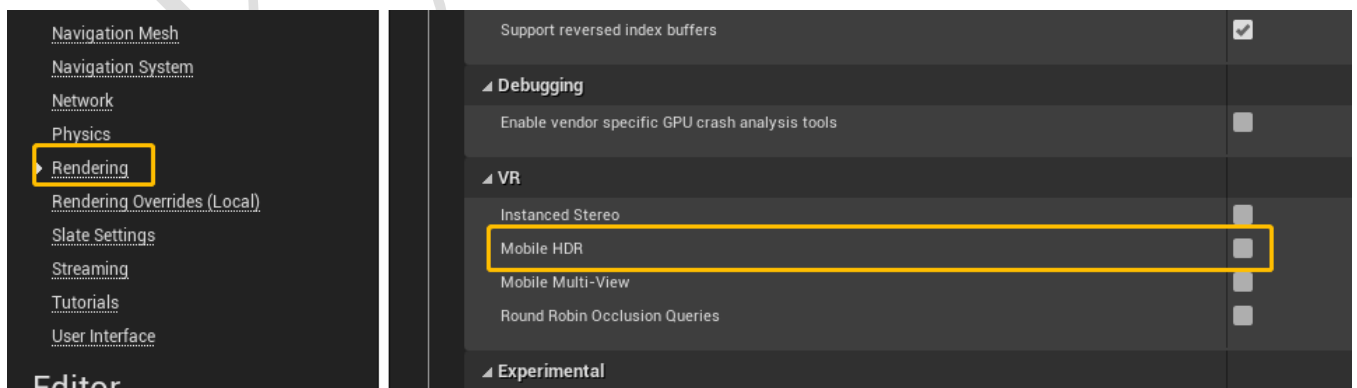
5. Return to the main toolbar and select the Edit, then select Project Settings.



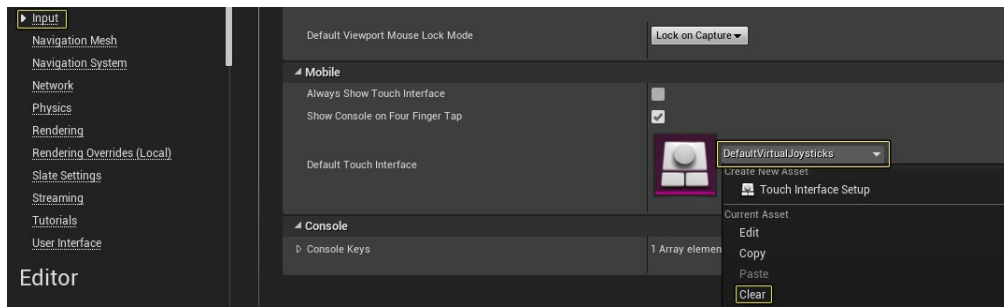
6. Change the Editor Startup Map and Game Default Map to the EntryLevel Map for loading while the project is running under Project Settings -> Maps & Modes -> Default Maps.



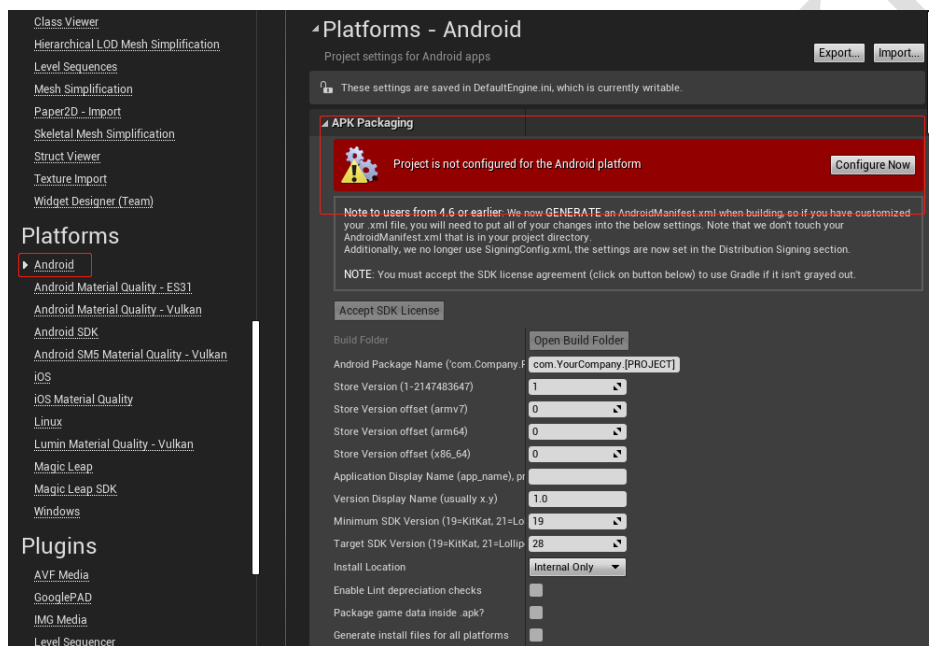
7. Disable Mobile HDR under Rendering, then restart the editor.



8. Remove DefaultVirtualJoysticks from the Default Touch Interface -> Input -> Mobile — Click the small white triangle next to DefaultVirtualJoysticks, and select Clear from the drop-down menu.



9. section (located in the Platforms heading), Press the Configure Now button in APK Packaging to make sure the project is properly packaged under Platforms -> Android.



10. Set the following options in Apk Packaging:

Note to users from 4.6 or earlier: We now GENERATE an AndroidManifest.xml for you. If you have an existing .xml file, you will need to put all of your changes into the below settings. That is in your project directory. Additionally, we no longer use SigningConfig.xml, the settings are now set in the build.gradle file.

NOTE: You must accept the SDK license agreement (click on button below) to build.

Accept SDK License

Build Folder

Android Package Name ('com.Company.Proj') com.YourCompany.[PROJECT]

Store Version (1-2147483647) 1

Store Version offset (armv7) 0

Store Version offset (arm64) 0

Store Version offset (x86_64) 0

Application Display Name (app_name), project com.YourCompany.[PROJECT]

Version Display Name (usually x.y) 1.0

Minimum SDK Version (19=KitKat, 21=Lollipop) 25

Target SDK Version (19=KitKat, 21=Lollipop) 28

Install Location Internal Only

Enable Lint deprecation checks ☐

Package game data inside .apk? ☒

Generate install files for all platforms ☐

Disable verify OBB on first start/update. ☐

Force small OBB files. ☐

Allow large OBB files. ☐

Allow patch OBB file. ☐

Use ExternalFilesDir for UE4Game files? ☐

Make log files always publicly accessible? ☒

Orientation Sensor Landscape

Maximum supported aspect ratio. 2.1

Use display cutout region? ☐

Restore scheduled notifications on reboot ☐

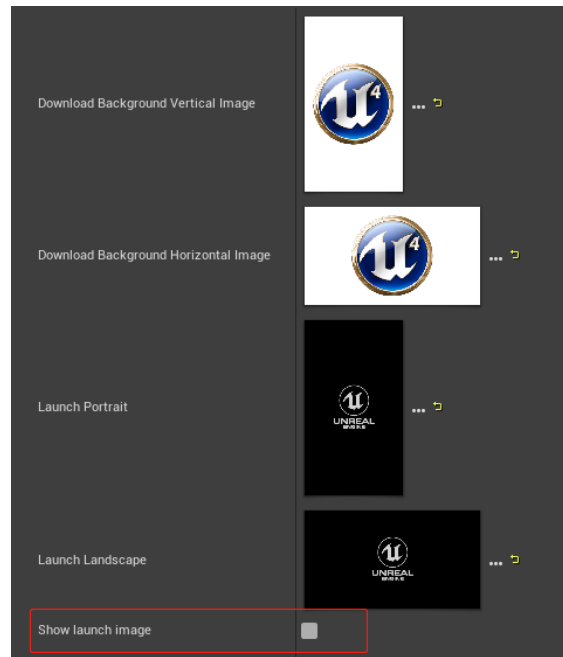
Enable FullScreen Immersive on KitKat and above ☒

Enable improved virtual keyboard ☒

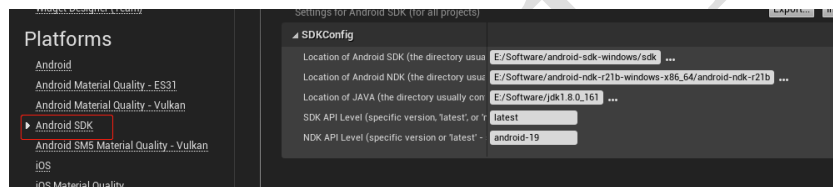
Preferred Depth Buffer format Default

Validate texture formats ☒

11. Close the Show launch image.



- Set the SDK API Level as the latest and the NDK API Level as android-19, and compile the project with the latest Android SDK in Android SDK -> SDKConfig.



To learn how to install more Android SDKs, see [Installing More Android SDKs](#) for details.

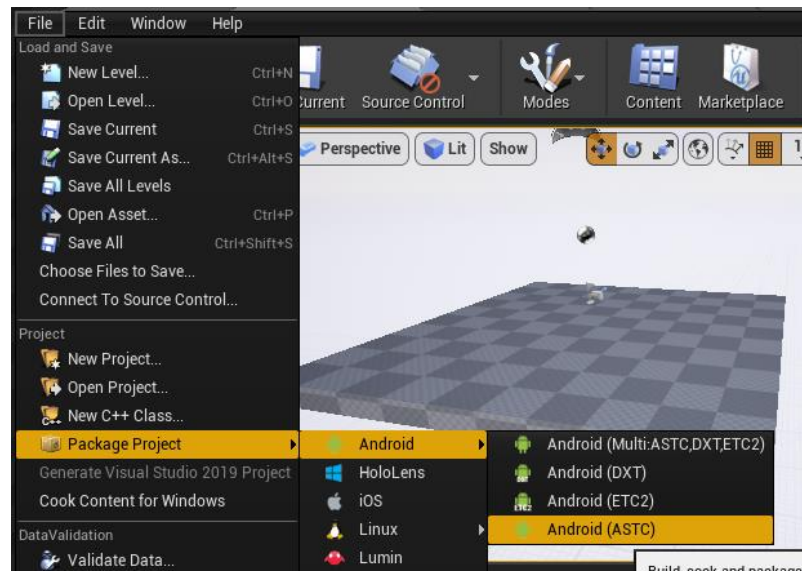
3.2 Skyworth VR Project Packaging and Arranging

This section explains how to package Unreal Engine 4 projects to run them on a Skyworth VR device.

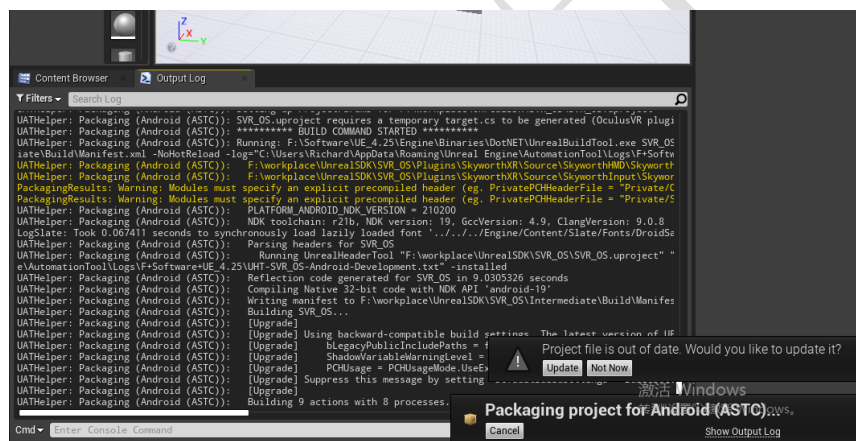
- The first step is to make sure that the VR device is connected to the development computer via USB cable. adb devices can be used to check if it is connected.

```
C:\Users\Richard>adb devices
List of devices attached
1131133702819042900044 device
```

- Go to the File in the main toolbar and select Package Project > Android > Android (ASTC) to start packaging.



3. A Windows dialog box will pop after the Android (ASTC) format is chosen. Click Make New Folder button and name the folder as Android_Builds. After the folder is created, click OK to start the packaging process.
4. During project packaging, the status window appears in the lower right corner of the Unreal editor.



5. After the project is packaged, open the Android_Builds folder and double click the file Install_SVR_OS-armv7.bat to install the project on the device.

名称	修改
Install_sdktest-armv7.bat	2025/10/11 10:00
sdktest-armv7.apk	2025/10/11 10:00
Uninstall_sdktest-armv7.bat	2025/10/11 10:00

6. Running the .bat file to show a command-line window showing the installation process. The command-line window will close automatically upon completion of the installation.

```
Android_ASTC>setlocal
Android_ASTC>if NOT "" == "" (call %HostWin64%\Android\SetupEnvironmentVars.bat )
Android_ASTC>set ANDROIDHOME=E:\Software\android-sdk-windows\sdk
Android_ASTC>if "E:\Software\android-sdk-windows\sdk" == "" set ANDROIDHOME=E:\Software\android-sdk-windows\sdk
Android_ASTC>set ADB=E:\Software\android-sdk-windows\sdk\platform-tools\adb.exe
Android_ASTC>set DEVICE=
Android_ASTC>if not "" == "" set DEVICE=s
Android_ASTC>for /F "delims=" %A in ('E:\Software\android-sdk-windows\sdk\platform-tools\adb.exe shell "echo $EXTERNAL_STORAGE"') do %set STORAGE=%A
Uninstalling existing application. Failures here can almost always be ignored.
Success
Android_ASTC>E:\Software\android-sdk-windows\sdk\platform-tools\adb.exe uninstall com.sdk.test
Installing existing application. Failures here indicate a problem with the device (connection or storage permissions) and are fatal.
Android_ASTC>E:\Software\android-sdk-windows\sdk\platform-tools\adb.exe install sdktest-armv7.apk
Performing Streamed Install
```