

nProtect AppGuard for CLI

AppGuard Command Line Interface User Guide

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For Contract Delivery

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Document Outline

This document is a programming guide that explains how to use nProtect AppGuard CLI.

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3 - 3 - 2 AppGuard CLI user registration and authentication key generation오류!
 책갈피가 정의되어 있지 않습니다.

1 AppGuard CLI Introduction

AppGuard CLI (CLI) is the tool to be used for AppGuard auto-build and script-build. It's possible to apply AppGuard in AppGuard Manager Server and also able to use AppGuard CLI in case you want to include AppGuard application step in development's build process.

1 - 1 AppGuard CLI Function

AppGuard CLI is the function to be able to apply AppGuard by Command Line just same as One-Click application of AppGuard in AppGuard Manager server.

1 - 2 AppGuard CLI Construction

AppGuard CLI is constructed with 2 files as below.

And following 2 files has to be located in the same path.

- It needs to check which AppGuard security option is supported for the application before using AppGuard CLI.
- The error can occur in case the settings of appguard.properties is not valid.

File name	Information
appguard-cli-builder.jar	AppGuard CLI execution file
appguard.properties	AppGuard Build option settings file

1 - 3 AppGuard CLI Instruction

The factors used in AppGuard CLI are as below.

1 - 3 - 1 AppGuard Factors

옵션	정보	필수여부
-i <arg>	Indicate APK file to apply AppGuard or androidmanifest.xml file to edit.	Y

-h	Hide the progress bar displayed when applying AppGuard.	N
-o <arg>	Indicate the location to save APK file applied AppGuard. If not indicated, the file is created in the CLI execute location.	N
-p <arg>	Indicate properties file to be loaded when AppGuard is applied.	N
-l	Outputs the applicable version of AppGuard.	N
-v	Outputs the current version of AppGuard Command-Line Builder.	N

1 - 3 - 2 AppGuard application cases

- If you want to save apk file in the specific path. (If -o option is not used, the file added '_appguarded' on the name is saved in the location where the original apk exists.)

```
java -jar appguard-cli-builder.jar -i <in_apk> -o <out_apk>
```

- If you want to load properties located in specific path.
(If -p option is not used, Properties is loaded from where the .jar file is located in.)

```
java -jar appguard-cli-builder.jar -i <in_apk> -p <properties>
```

- Command + Original APK
Wjava -jar appguard-cli-builder.jar -i Application.apk
- Command + Original APK (path)
Wjava -jar appguard-cli-builder.jar -i D:WMobileW Application.apk
- Command + Original APK + AppGuarded APK (path)
Wjava -jar appguard-cli-builder.jar -i Application.apk -o D:WMobileWGame_appguarded.apk
- Command + Original APK (path) + AppGuarded APK (path)
Wjava -jar appguard-cli-builder.jar
-i D:WMobileWApplication.apk -o D:WMobileWoutputWApp_appguarded.apk
- Command + Original APK + Settings file(Random Selection)

- `Wjava -jar appguard-cli-builder.jar -i Application.apk -p appguard_App.properties`

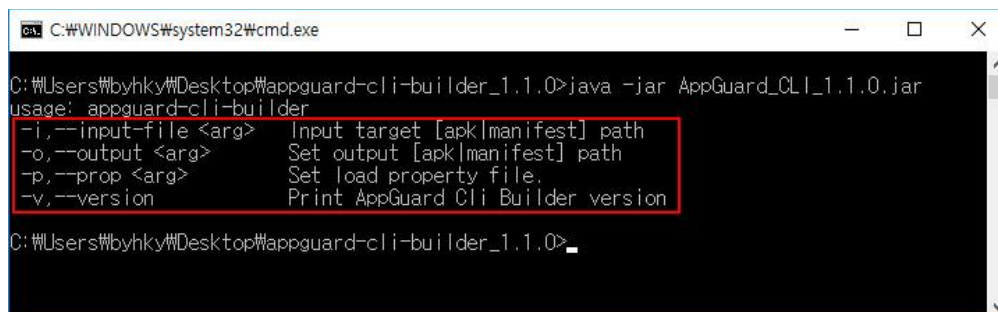
In case of using AppGuard CLI Builder command and entering the path of APK file manually, it has to indicate the folder and put the name of file to be created. Otherwise, the error can occur during applying AppGuard.

`Wjava -jar appguard-cli-builder.jar -i Application.apk -o D:WMobileW (Error)`

1 - 3 - 3 AppGuard Log Message

- It's possible to check following information when the AppGuard CLI is executed.

C:W Java -jar AppGuard_CLI.jar



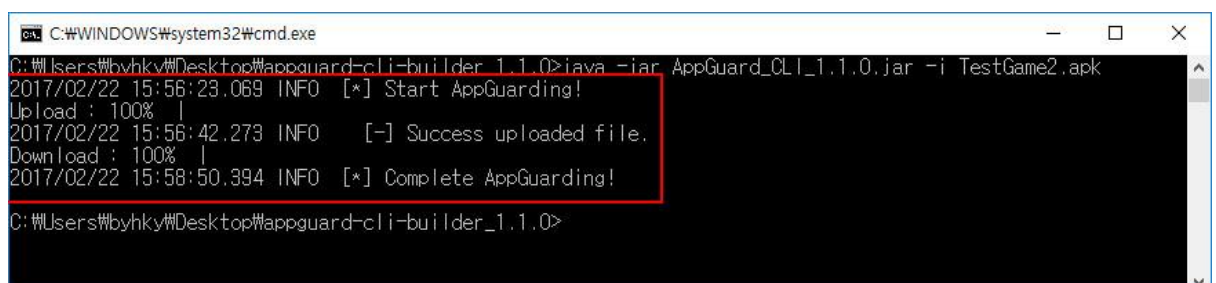
```
C:\WINDOWS\system32\cmd.exe
C:\Users\byhky\Desktop\appguard-cli-builder_1.1.0>java -jar AppGuard_CLI_1.1.0.jar
usage: appguard-cli-builder
-i,--input-file <arg>    Input target [apk|manifest] path
-o,--output <arg>        Set output [apk|manifest] path
-p,--prop <arg>          Set load property file.
-v,--version             Print AppGuard Cli Builder version
C:\Users\byhky\Desktop\appguard-cli-builder_1.1.0>
```

- Following messages are displayed once AppGuard is applied properly.

INFO - [*] Start AppGuarding

INFO - [-] Success uploaded file.

INFO - [*] Complete AppGuarding!



```
C:\WINDOWS\system32\cmd.exe
C:\Users\byhky\Desktop\appguard-cli-builder_1.1.0>java -jar AppGuard_CLI_1.1.0.jar -i TestGame2.apk
2017/02/22 15:56:23.069 INFO  [*] Start AppGuarding!
Upload : 100% |
2017/02/22 15:56:42.273 INFO  [-] Success uploaded file.
Download : 100% |
2017/02/22 15:58:50.394 INFO  [*] Complete AppGuarding!
C:\Users\byhky\Desktop\appguard-cli-builder_1.1.0>
```

- It's possible to check AppGuard version as below.

C:W Java -jar AppGuard_CLI.jar -v

```
C:\WINDOWS\system32\cmd.exe
C:\Users\byhky\Desktop\appguard-cli-builder_1.1.0>java -jar AppGuard_CLI_1.1.0.jar -v
AppGuard Command-line Builder 1.1.0
Please Contact INCA Internet. appguard@inca.co.kr
Copyright © 2000-2017 INCA Internet Corporation and others All rights reserved.
C:\Users\byhky\Desktop\appguard-cli-builder_1.1.0>
```

- Following error message is displayed in case AppGuard CLI command is not valid.
Please refer to below chart to check detail of error message.
ex) In case the password of appguard.properties setting files is incorrect.

```
C:\WINDOWS\system32\cmd.exe
Upload : 100% |
2017/02/22 16:01:33.866 ERROR [*] Fail to AppGuarding! Please contact INCA Internet.
2017/02/22 16:01:33.866 ERROR [*]
com.inca.builder.Exception.AppGuardBuilderException: Invalid id or password! Check propertis.
    at sender.Sender.run(Sender.java:243)
    at sender.Sender.uploadApk(Sender.java:208)
    at com.inca.builder.AppGuardCommandBuilder.execute(AppGuardCommandBuilder.java:87)
    at com.inca.builder.Main.main(Main.java:64)
C:\Users\byhky\Desktop\appguard-cli-builder_1.1.0>
```

1 - 4 AppGuard CLI Error Log Message

In case there's problem using AppGuard CLI, the error message can be displayed. Then you should check the appguard.properties. file.

로그	정보
Please check build_type in appguard.properties.	build_type is not indicated or it's not 1.
Please check id or pw in appguard.properties.	ID or PW does not exist.
Please check LicenseKey in appguard.properties.	LicenseKey does not exist
Invalid .APK file! please input .APK file.	Not valid APK, or file extension is not APK.
Please check manager_country in appguard.properties.	Information of 'manager_country' is not indicated or not 'korea', 'japan', or 'china'.
Invalid file contents.	Indicated file is not valid.
Unknown error.	Error from Server. Request to INCA Internet.
Invalid params size	Error from Server. Request to INCA Internet.

2 AppGuard CLI Setting File

To use AppGuard CLI, AppGuard security option information has to be set by using appguard.properties file. Please refer to below information and set AppGuard security options for your application.

(Each option separated value means OFF for "0" and ON for "1" except string and defined value of number.)

2 - 1 AppGuard Manager info

옵션	정보	구분
certKey=	Enter AppGuard CLI Certification Key	string
manager_country=	Enter Region information of AppGuard Manager Server	string
licenseKey=	Enter License key of AppGuard Manager Server	string
Module=	Enter AppGuard module (ex : 20170102 or 20170315)	string

2 - 2 AppGuard Build Type

옵션	정보	구분
build_type=	AppGuard Build Type Select Build build_type=1 APK Edit build_type=2 AndroidManifest.xml and Apply Single Encryption to Unity3D Assembly File	Number : 1, 2

2 - 3 AppGuard Manager Build Option

옵션	정보	구분
jarsign=	Jar-sign with Sample certification Key	Number : 0, 1
unity_encryption= unity_anti_dump=	Unity Assembly Encryption (unity_encryption) Loaded Assembly Dumping Protection (unity_anti_dump)	Number : 0, 1

dex_encryption=	DEX Encryption	Number : 0, 1
so_enc_list=	SO Library Encryption ex) libtest.so ex) libtest.so, libtest1.so	String
anti_debuging=	Sensitive Anti-Debugging Support	Number : 0, 1

2 - 4 AppGuard Manager Build Option (Customize)

옵션	정보	구분
target_class=	Select main activity class for Appguard Injection ex) com.unity3d.player.UnityPlayerNativeActivity	string
custom_app_id=	Change package name for License Certification	string
dex_launcher_style=	Select Launcher Activity Style 0 : Normal (Display DEX Encryption loading page) 1 : Non-FullScreen (Display Loading page/keep status bar) 2 : None (Do not display DEX Encryption loading page)	Number : 0, 1, 2
dex_split=	Enable DEX Splitting	Number : 0, 1
enable_identify_info=	Enable reporting device identification upon detection	Number : 0, 1
disable_violation_message=	Disable displaying security violation message	Number : 0, 1
specified_appstore=	Assigning to the specified AppStore-Only ex) google、amazon	string

'DEX Shrinking with removing unused classes' option is not supported in AppGuard CLI.

3 Reference

3-1 Modify AndroidManifest.xml file by using AppGuard CLI

There is a case which only Package name is modified in APK file to register several markets with one application build.

If the Package Name of application applied AppGuard is changed, the application is possibly not executed properly or APK Integrity security option cannot be used due to AppGuard's security function. In this case, you can resolve the issue by applying AppGuard on

AndroidManifest.xml file only.

- If build_type option included in appguard.properties settings file is changed to build_type =2, it's possible to change AndroidManifest.xml file only.
- Keep the other options in appguard.properties file.
- In case of modifying AndroidManifest.xml, only -i, -p options are valid.
- Once the command is executed, AndroidManifest.xml is changed to AndroidManifest.xml.bak and new AndroidManifest.xml file is created.

```
java -jar AppGuard_CLI.jar -i <in_xml>
```

3-2 Unity3D Assembly file exclusive encryption method using AppGuard CLI.

The AppGuard CLI supports encryption of Unity3D Assembly files exclusively. Used to encrypt assembly file built and created by Mono-Developer, not the assembly file that exists inside the APK.

- If build_type option included in appguard.properties settings file is changed to build_type =2, The assembly file will be encrypted.
- Keep the other options in appguard.properties file.
- Once the command is executed, AndroidManifest.xml is changed to (Original file name).xml.bak and new Assembly file is created.

```
java -jar AppGuard_CLI.jar -i <in_dll>
```

3 - 3 Method of generate Certification Key for using AppGuard CLI.

An authentication key is required to apply AppGuard through the AppGuard CLI , and an authentication key is available when you register a user from the CLI management page provided by the AppGuard Manager server.

If you do not have the CLI administration page in AppGuard Manager Server, please contact Inca Internet Technical Support representative.

3-3-1 Configuring the AppGuard CLI administration page

- CLI Certification Key Management

Registering an app guard user generates an authentication key, and the authentication key can be renewed and deleted.

CLI Certification Key Management

You can create, renew or delete CLI Certification Key for AppGuard.

AppGuard CLI Download

	Name	Allow IP	Certification Key	Key-Refresh Time	View
List is Empty.					

Register

Key-Refresh

Delete

- AppGuard CLI Build List

If you apply AppGuard with the AppGuard CLI, the history of applied to the following items will remain.

AppGuard CLI Build List

AppGuard CLI를 통해 앱가드가 적용된 게임 리스트에 대한 확인 및 관리가 가능합니다.

Name 전체 ▼

No	Name	File Name	IP	Date	Module	AppGuarding Options						Down	Delete
						US	DE	SE	JS	AD	More		
List is empty.													

3 - 3 - 2 AppGuard CLI user registration and authentication key generation

- Registering User through following process (CLI Certification Key Management -> Register).
- The authentication key is automatically generated after you enter the user name and the allowed IP on the user registration screen.
- Please enter the authentication key in the certKey entry in the CLI configuration file.
- One use can only use the CLI in one IP band.

CLI-KEY Register

Name	<input type="text"/>
Allow IP	<input type="text"/>

Submit

< User registration >

Certification Key

9f04ee660b6c43da83c11151cf427100

830993633a3e4cb39dccd5e8f27f539d

< Automatically generate an authentication key >



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