LINUX KURIOSITY

Gradle
[Practical Book]

Learn in a Simple & Smart way

1. Introduction

a. Build tools are programs that automate the process of turning up source code into executable applications.

b. Build tools are responsible for compiling code resources, managing dependencies, generating documentation, running test scenarios and publishing the application.

c. Some of the examples are as follows :

1. Ant,Maven,Gradle and nant

d. Gradle is a declarative build tool for java projects.It combines the best features of other build tools.

e. Gradle help to automate compiling , testing, packaging and deployment of software or projects.

f. Android studio, Eclipse IDE,IntelliJ IDEA and Netbeans use gradle build systems.

After going through the above facts you are able to answer the below questions :

1. What are build tools ?
2. What are the responsibility of the build tools ?
3. What are the examples of the build tools ?
4. What is gradle ?
5. Where gradle can help you ?

2. Features

a. Gradle utilizes a DSL (domain specific language) based on groovy or kotlin to declare builds.

b. manages dependencies and structure the build.

c. Support ant tasks and projects

d. Support Mult-project builds

e. The gradle wrapper allows to execute gradle builds on machines where gradle is not installed.

After going through the above facts you are able to answer the below questions :

1. What are the features of the gradle ?
2. What is gradle wrapper ?

3. Advantages of Gradle

a. Gradle build files are less verbose as they are written in groovy while others are in XML.

b. Support incremental builds

c. provides compiler daemon which compiling faster

d. provides version conflict resolution.

After going through the above facts you are able to answer the below question :

1. What are the advantages of the gradle ?

4. Groovy

a. Gradle's build scripts are written in groovy, not xml

b. provides greater transparency for java people.

c. overcomes all java limitations

d. reduced line of code implies a reduction in time.

After going through the above facts you are able to answer the below question :

1. What are the benefits of the gradle ?

5. Installation verification

a. To check if gradle is correctly installed or not , type gradle -v

6. Gradle projects and tasks

a. Each gradle build consists of one or more projects.

b. Each project comprises one or more tasks.

c. The gradle build has the following three configuration files:

1. The gradle build script (specifies a project and its task)
2. The gradle properties file (is used to configure the properties of the build.)
3. The gradle settings file (is optional in a build which has only one project.)

After going through the above facts you are able to answer the below question :

1. How to check whether gradle installed or not ?
2. What are the three configuration files of the gradle build ?

7. Build.gradle

a. build.gradle is the file located in the root folder of the project.
b. It defines a project and its tasks
c. It can be written in groovy or kotlin.

After going through the above facts you are able to answer the below question :

1. What is the use of build.gradle ?

8.Default tasks

a To set the default tasks, use the method defaultTasks.

9. Gradle Plugin

a. A gradle plugin works as an extension to gradle. It extends the project capabilities when applied to a project.

After going through the above facts you are able to answer the below question :

1. What is default tasks?
2. What is gradle plugin ?

10. Types of plugins

a. Script plugins: follow a declarative approach to manipulate the build. They are applied from a script on the local filesystem or at a remote location.

b. Binary plugins : are classes that implement the plugin interface.

c. Java plugins: offers tasks to create a JAR file, create Javadoc , run unit tests and compile java source code.

After going through the above facts you are able to answer the below question :

1. What are the different types of plugins ?

11. Source set

a. A source set is considered as a group of source files that can be compiled and executed together.

b. The java plugin defines two standards source sets :

1. main
2. test

c. src/main/java contains the java production source code.

d. src/test/java contains the java test source code.

After going through the above facts you are able to answer the below question :

1. What is source set ?
2. What are the two standard source sets of java plugin ?

e. . The build task compiles the code, run tests and assembles the JAR file , in the correct order.

12. Build Init Plugin

a. The gradle build init plugin is used to create brand new projects of different types

b. convert existing builds to gradle builds.

c. It is an automatically applied plugin.

13. Java Application build uses the application plugin to produce a command-line application implemented using java.

14. Gradle eclipse command is executed to generate eclipse project files.

15. Jobs are the unit of execution in jenkins. A build job can perform compilation , run automated tests, package and deployment related tasks.

After going through the above facts you are able to answer the below question :

1. What is build init plugin ?
2. What is Java application build ?
3. What is gradle eclipse command ?
4. What are jobs ?

16. Building android apps with gradle

a. Android studio assigns the entire process of building android apps to gradle.

b. The build.gradle file of the app folder is used to build the android application.

c. The buildtypes configuration is used to define types or environments of build, such as debug, release, QA.

After going through the above facts you are able to answer the below question :

1. What is the role of android studio ?
2. What is buildtypes configuration ?
3. What is the use of buildtypes configuration ?