

Mobile Application Development

Android Studio Project

Android Project Files

- Java Files (Source Code)
- Resources
 - XML Files (Layouts, Values, Menus, Colors, etc.)
 - Images & Other Media Files
- Libraries
- Assets (Text & Database Files)

Android Project Folders

- **java/** - Source files for the module.
- **manifests/** - Manifest files for the module.
- **res/** - Resource files for the module.

Android Manifest File

- Every application must have an **AndroidManifest.xml** file.
- The manifest file presents essential information about your app to the Android system, information the system must have before it can run any of the app's code.

Resources

- You should always **externalize** resources such as images and strings from your application code, so that you can maintain them independently. (allows you to provide alternative resources that support specific device configurations such as different languages or screen sizes)
- In order to provide compatibility with different configurations, you must organize resources in your project's “**res**” directory, using various sub-directories that group resources by type and configuration.

Resources

For any type of resource, you can specify default and multiple alternative resources for your application:

- **Default resources** are those that should be used regardless of the device configuration or when there are no alternative resources that match the current configuration.
- **Alternative resources** are those that you've designed for use with a specific configuration. To specify that a group of resources are for a specific configuration, append an appropriate configuration qualifier to the directory name.

Resources

- **For example**, while your default UI layout is saved in the **res/layout/** directory, you might specify a different layout to be used when the screen is in landscape orientation, by saving it in the **res/layout-land/** directory.
- Android automatically applies the appropriate resources by matching the device's current configuration to your resource directory names.

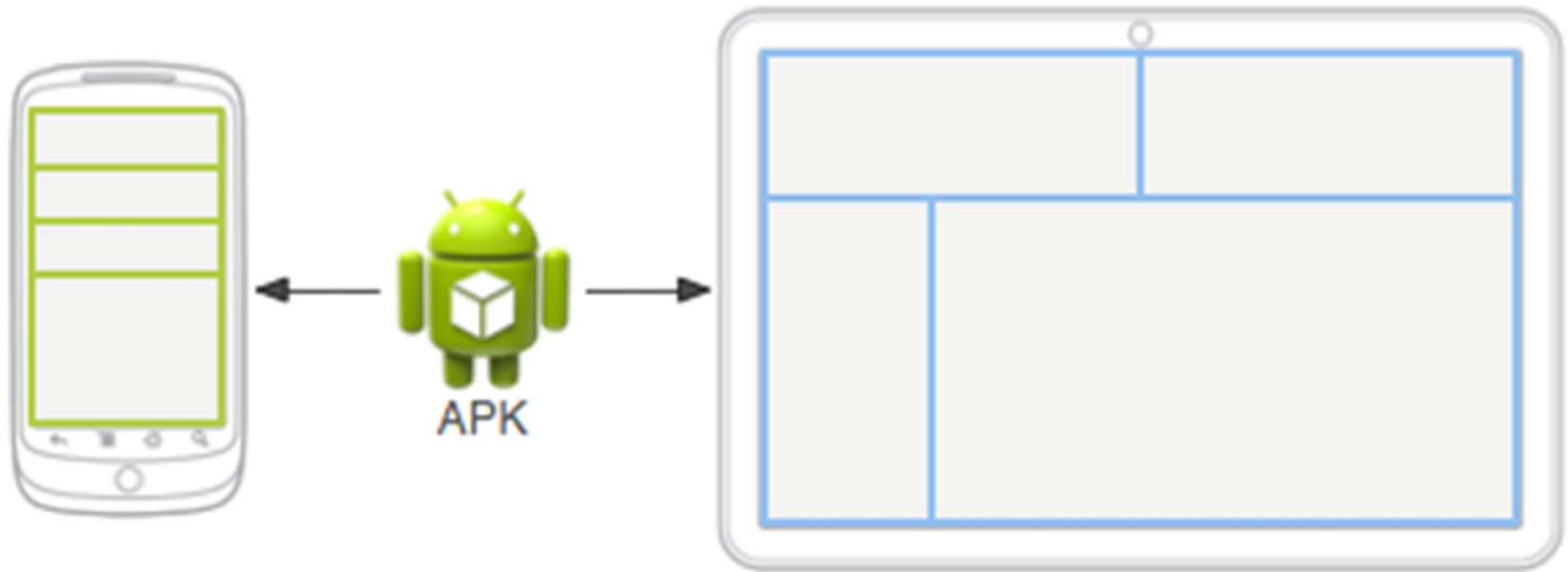
Only Default Resource

- Two different devices, each using the default layout (the app provides no alternative layouts).



Alternate Resource

- Two different devices, each using a different layout provided for different screen sizes.

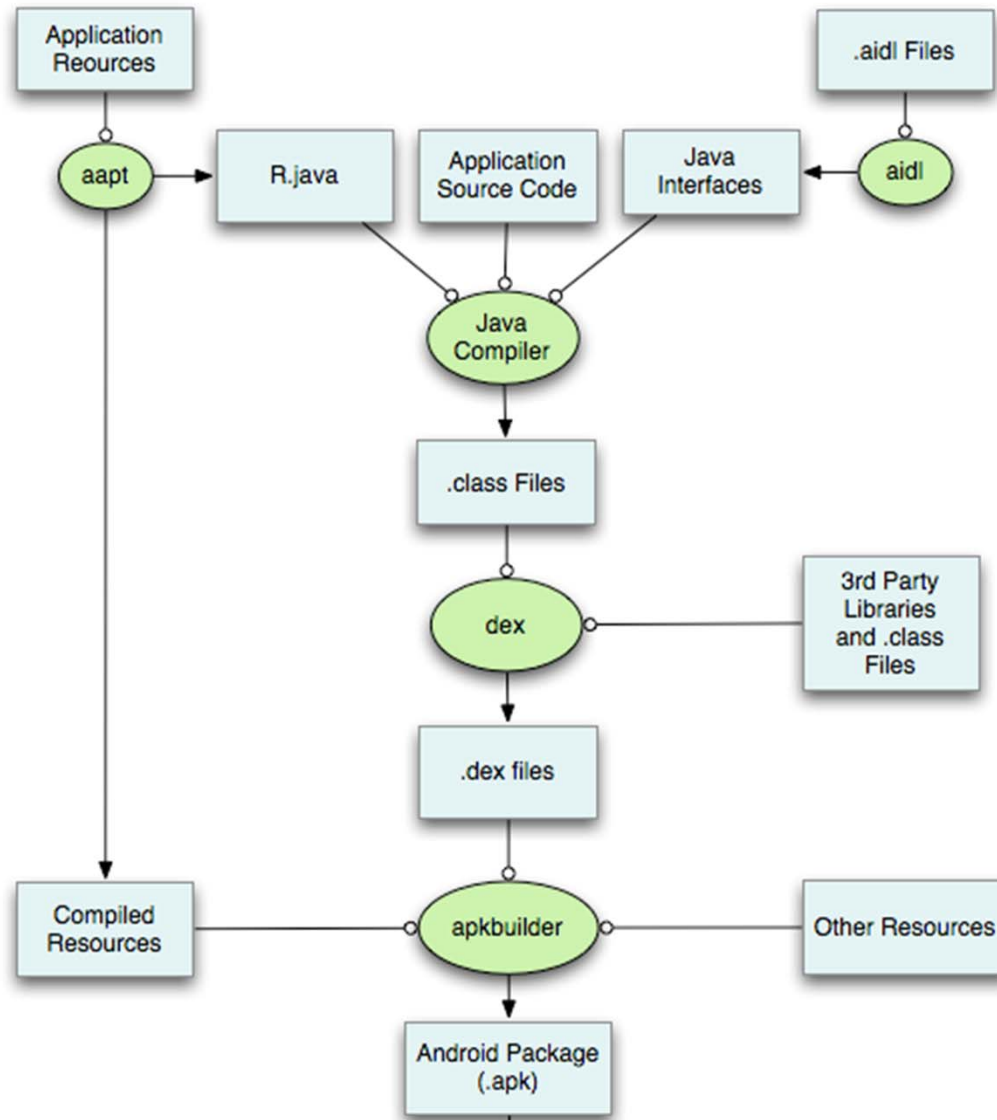


Resources

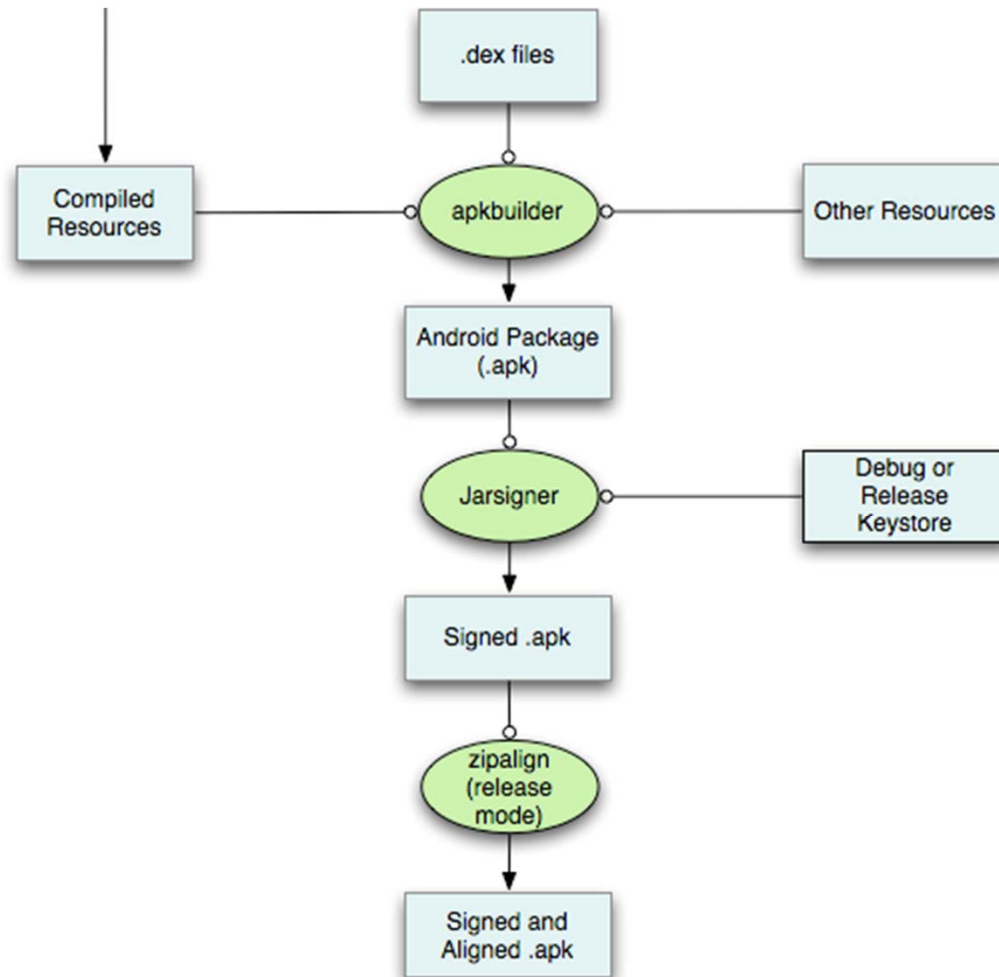
Some important resource types include:

- **drawable:** Bitmap files (.png, .9.png, .jpg, .gif) or XML files that are compiled into drawable resource.
- **layout:** XML files that define a user interface layout.
- **menu:** XML files that define application menus, such as an Options Menu, Context Menu, or Sub Menu.
- **values:** XML files that contain simple values, such as strings, integers, and colors.

Build System Overview



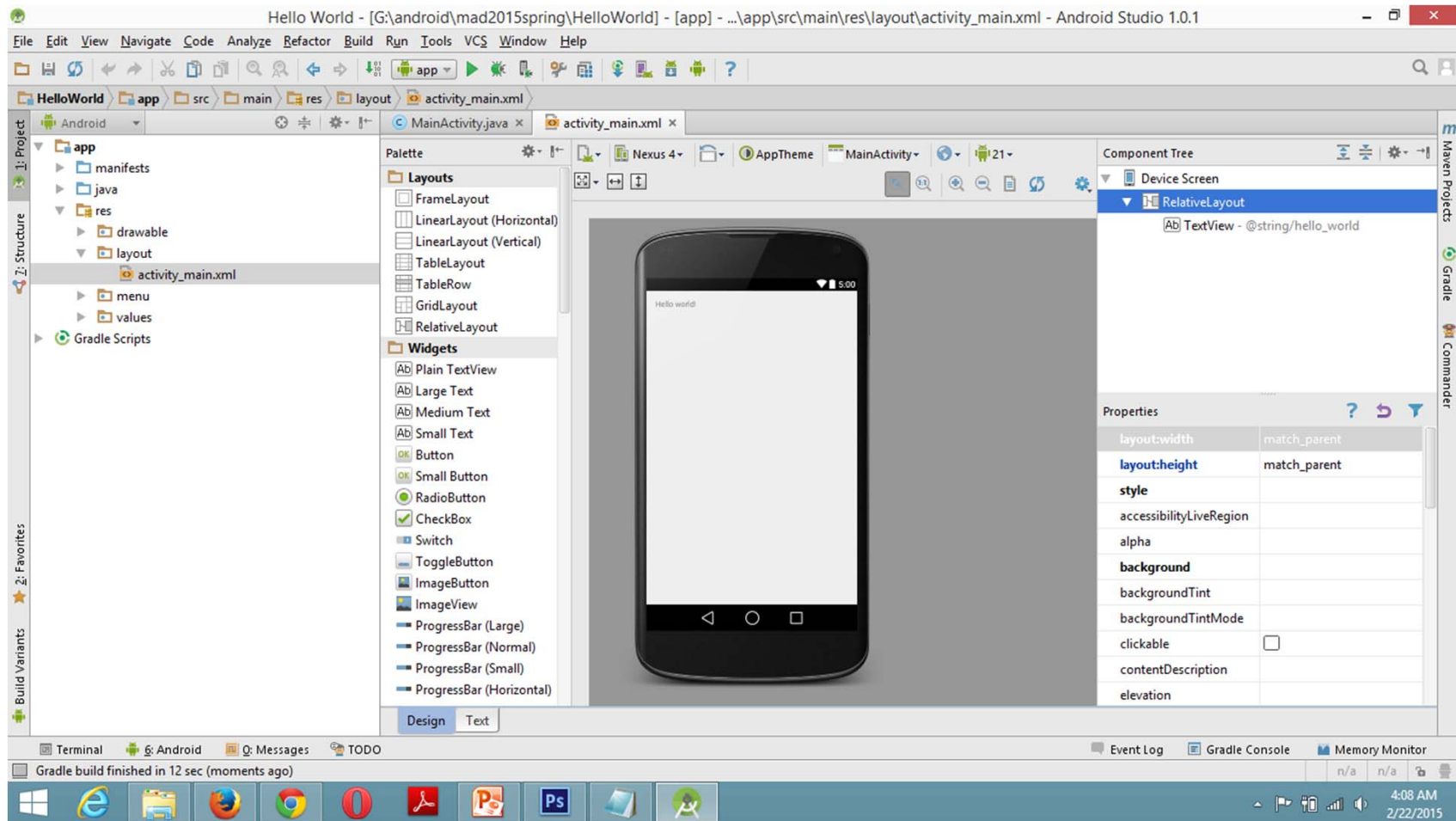
Build System Overview



Gradle

- Android Studio uses **Gradle** to compile and build your app.
- There is a **build.gradle** file for each module of your project, as well as a build.gradle file for the entire project.
- Usually, you're only interested in the build.gradle file for the **module**.
- This is where your app's build **dependencies** are set, including the defaultConfig settings.

Android Studio



Reference: <http://developer.android.com/tools/studio/index.html>

Q & A