



AL-Mustaqbal University

AL-Mustaqbal University
College of science
Department of Smart Medical Systems

Lecture 2: Introduction of Android Studio

Application development
Stage: 3rd

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Introduction to Android Studio Interface

Android Studio is the official Integrated Development Environment (IDE) for Android app development. It provides a comprehensive set of tools and features to help developers build, test, and publish high-quality Android applications.



Understanding the Android Studio Workspace

Project Navigation

Easily access and manage your Android project files and folders.

Code Editor

Write, edit, and refine your app's code with advanced code editing tools.

Debugging Tools

Quickly identify and fix issues in your app with powerful debugging features.

Navigating the Project Structure

1 Manifest File

Defines the app's core configuration settings, such as permissions and activities.

3 Resource Files

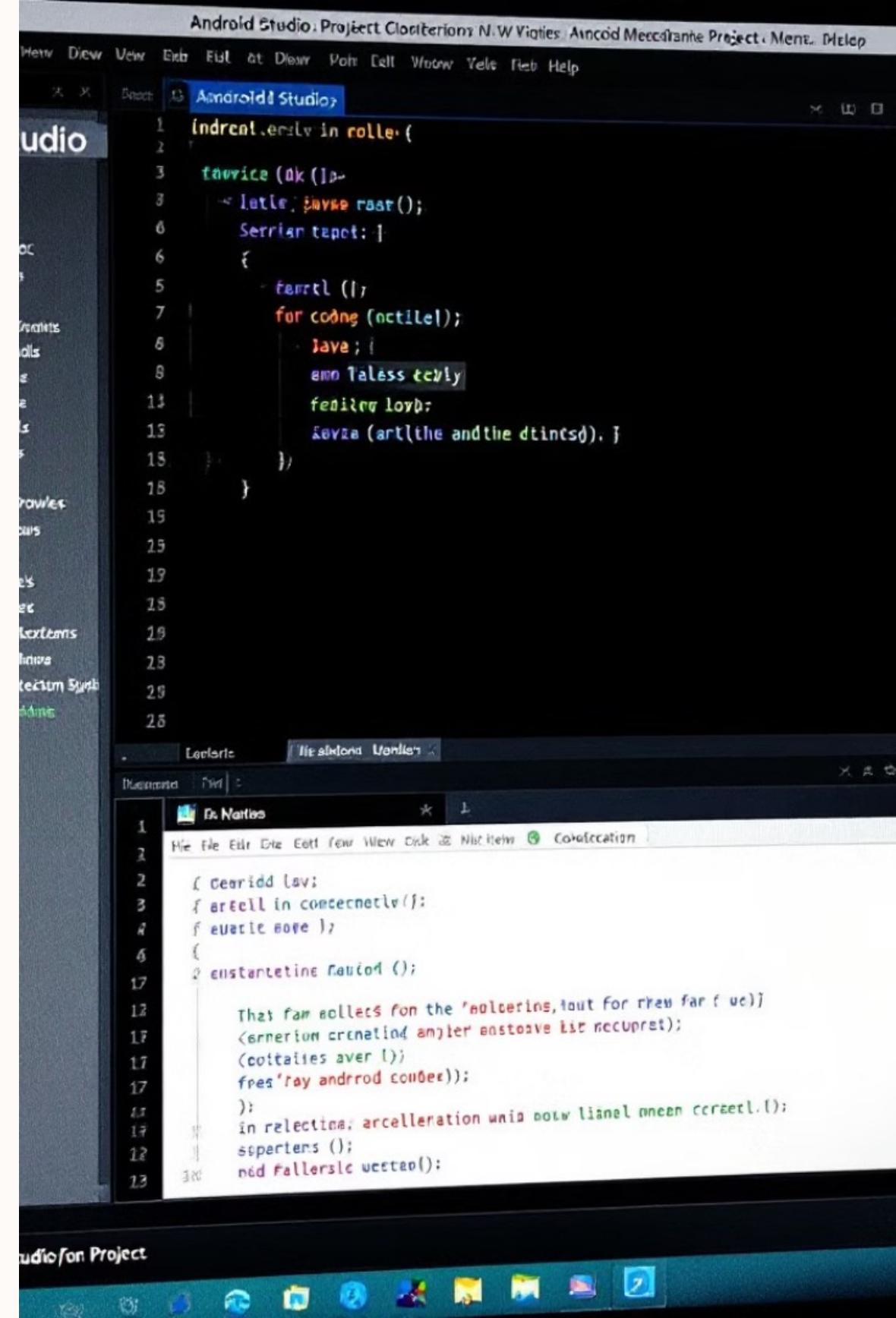
Stores assets like images, strings, and layouts that are used throughout the app.

2 Java/Kotlin Files

Contains the app's logic and functionality, written in Java or Kotlin.

4 Gradle Files

Manages the build process and dependencies for your Android app.



Exploring the Editor Pane



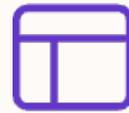
Code Editor

Write and edit your app's source code using advanced coding tools.



Debugger

Inspect your app's behavior and identify issues during development.



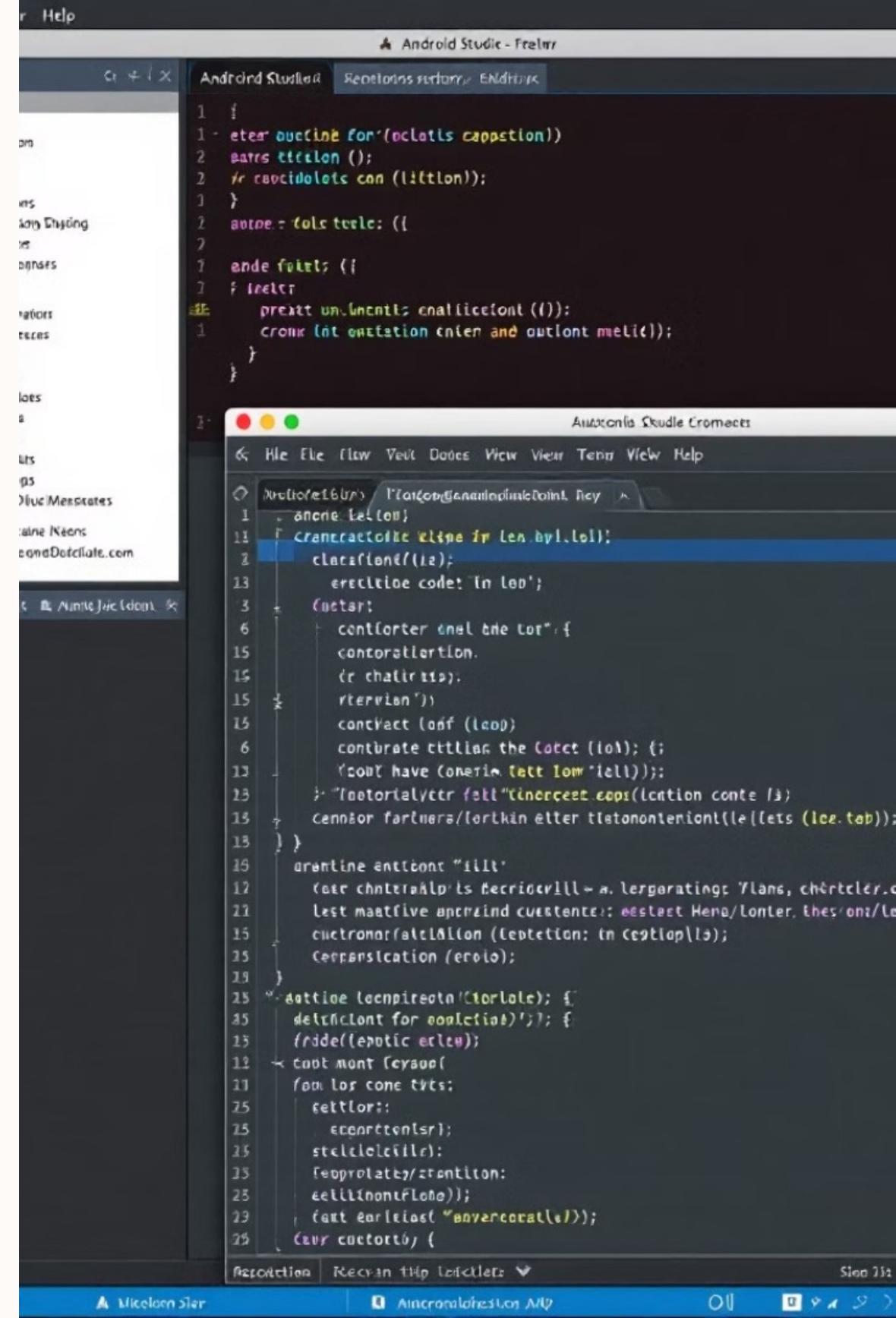
Layout Editor

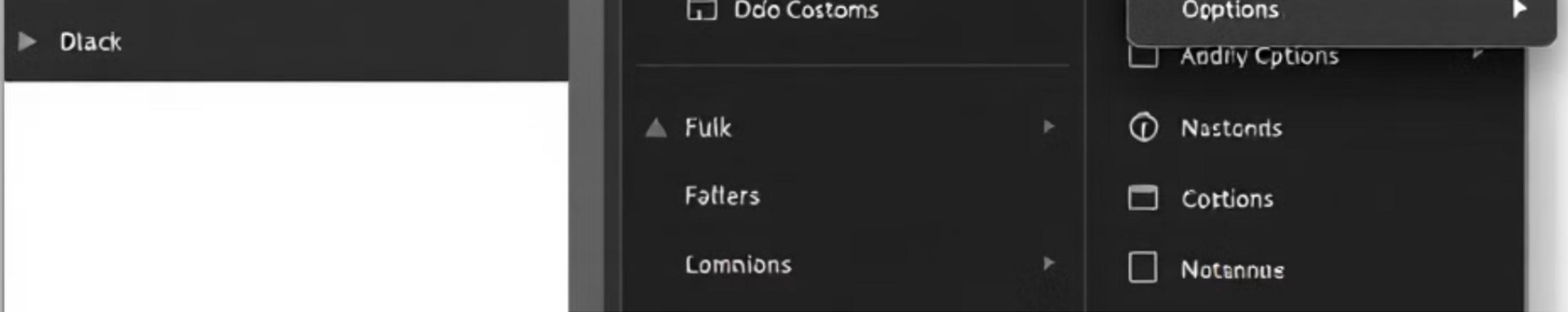
Design your app's user interface with a visual drag-and-drop interface.



Preview

See a real-time preview of your app's UI on different device configurations.





Utilizing the Toolbar and Menus

Build and Run

Quickly compile and deploy your app to a connected device or emulator.

Project Management

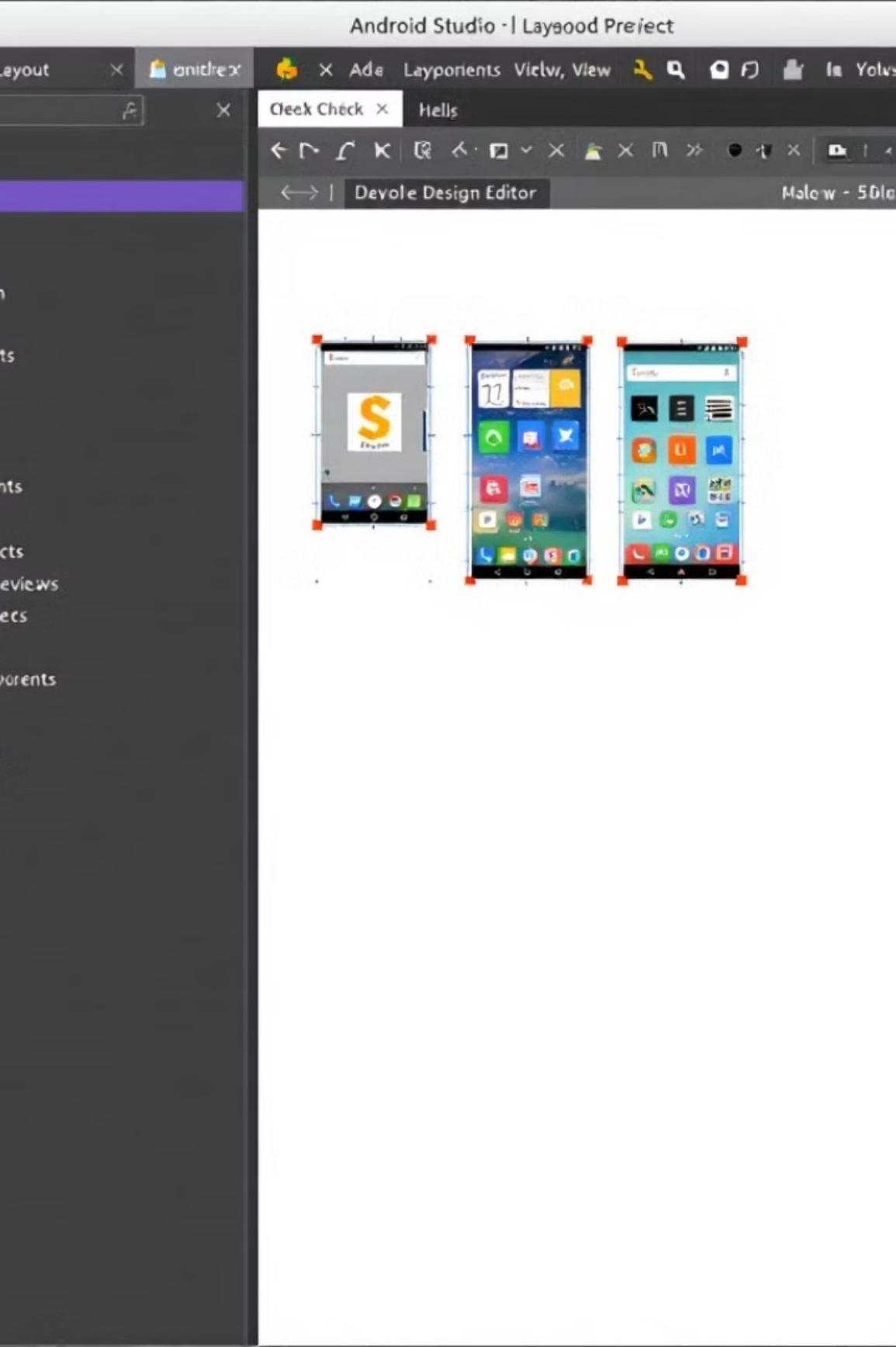
Easily navigate between project files, profiles, and build variants.

Settings and Tools

Customize Android Studio's behavior and access a wide range of development tools.

Version Control

Integrate with popular version control systems like Git to manage your code.



Working with the Layout Editor

1

Design

Visually arrange UI elements like buttons, text, and layouts.

2

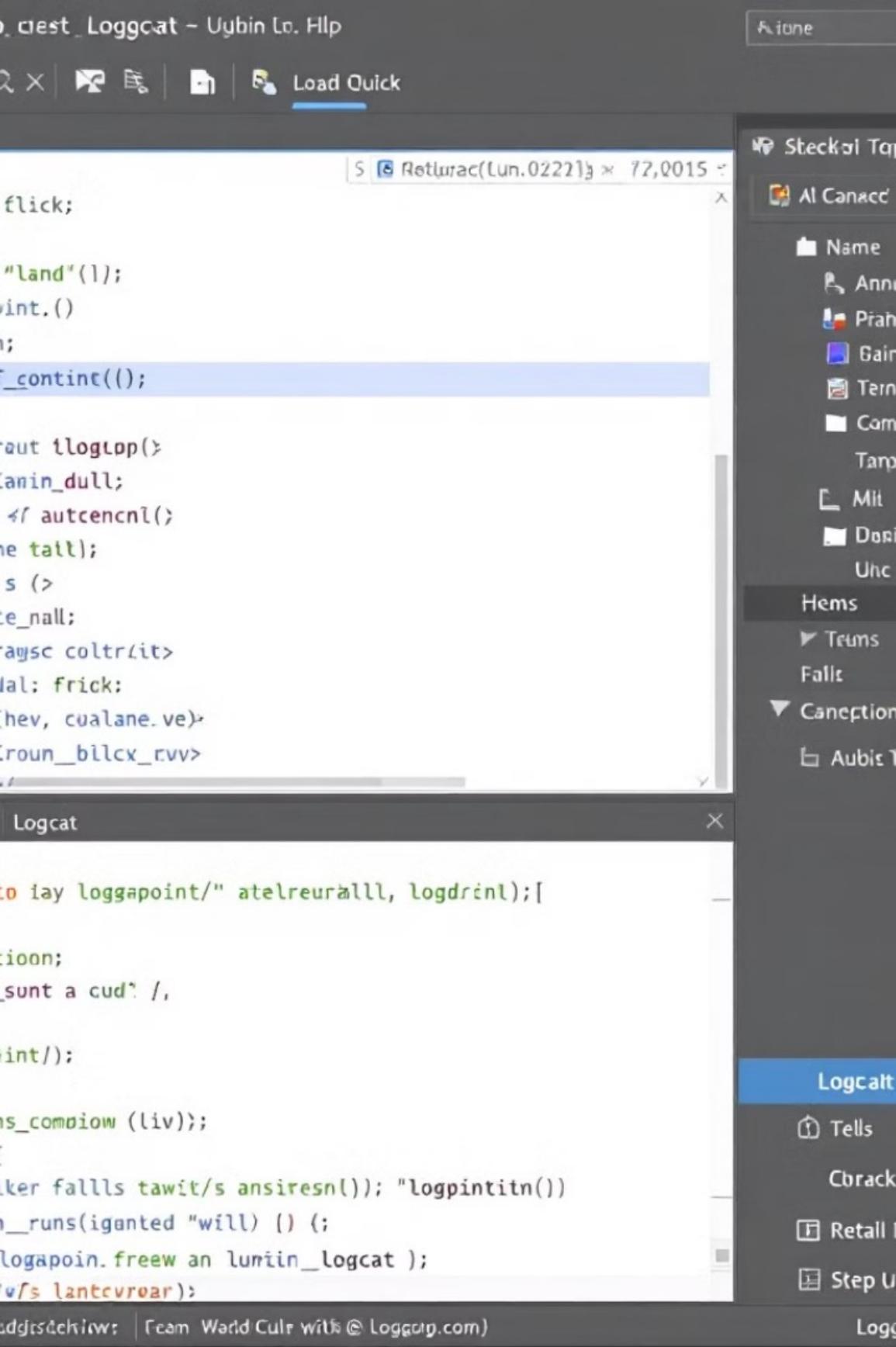
Preview

See how the layout will look on different device configurations.

3

Inspect

Examine the properties and hierarchy of the UI components.



Debugging Tools and Techniques



Logcat

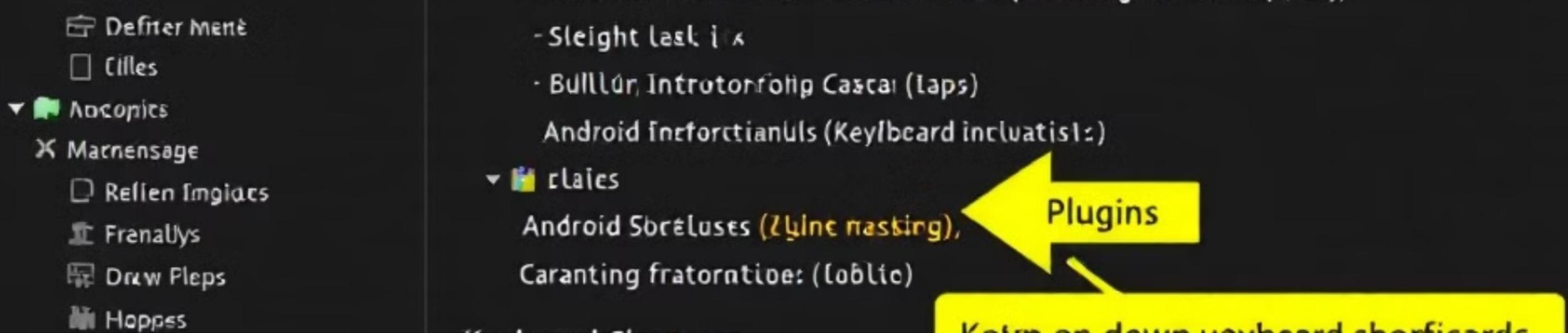
View real-time logs and error messages to diagnose issues.

Breakpoints

Pause app execution to inspect variables and step through code.

Profiler

Identify performance bottlenecks and optimize your app's efficiency.



Optimizing Your Android Studio Experience

Keyboard Shortcuts

Learn common shortcuts to increase productivity.

Plugins

Install additional tools and extensions to enhance your workflow.

Settings

Customize the IDE to match your preferences and development style.