# Notepad Tutorial

This tutorial on writing a notepad application gives you a "hands-on" introduction to the Android framework and the tools you use to build applications on it. Starting from a preconfigured project file, it guides you through the process of developing a simple notepad application and provides concrete examples of how to set up the project, develop the application logic and user interface, and then compile and run the application.

The tutorial presents the application development as a set of exercises (see below), each consisting of several steps. You should follow the steps in each exercise to gradually build and refine your application. The exercises explain each step in detail and provide all the sample code you need to complete the application.

When you are finished with the tutorial, you will have created a functioning Android application and will have learned many of the most important concepts in Android development. If you want to add more complex features to your application, you can examine the code in an alternative implementation of a Note Pad application, in the Sample Code section.

## Who Should Use this Tutorial

This tutorial is designed for experienced developers, especially those with knowledge of the Java programming language. If you haven't written Java applications before, you can still use the tutorial, but you might need to work at a slower pace.

Also note that this tutorial uses the Eclipse development environment, with the Android plugin installed. If you are not using Eclipse, you can follow the exercises and build the application, but you will need to determine how to accomplish the Eclipse-specific steps in your environment.

## Preparing for the Exercises

The tutorial assumes that you have some familiarity with basic Android application concepts and terminology. If you are not, you should read Application Fundamentals before continuing.

This tutorial also builds on the introductory information provided in the Hello World tutorial, which explains how to set up your Eclipse environment for building Android applications. We recommend you complete the Hello World tutorial before starting this one.

To prepare for this lesson:

1. Download the project exercises archive (.zip).
2. Unpack the archive file to a suitable location on your machine.
3. Open the `NotepadCodeLab` folder.

Inside the `NotepadCodeLab` folder, you should see six project files: `Notepadv1`, `Notepadv2`, `Notepadv3`, `Notepadv1Solution`, `Notepadv2Solution` and `Notepadv3Solution`. The `Notepadv#` projects are the starting points for each of the exercises, while the `Notepadv#Solution` projects are the exercise solutions. If you are having trouble with a particular exercise, you can compare your current work against the exercise solution.

## Exercises

The table below lists the tutorial exercises and describes the development areas that each covers. Each exercise assumes that you have completed any previous exercises.

| | |
|---|---|
| **Exercise 1** | Start here. Construct a simple notes list that lets the user add new notes but not edit them. Demonstrates the basics of `ListActivity` and creating and handling menu options. Uses a SQLite database to store the notes. |
| **Exercise 2** | Add a second Activity to the application. Demonstrates constructing a new Activity, adding it to the Android manifest, passing data between the activities, and using more advanced screen layout. Also shows how to invoke another Activity to return a result, using `startActivityForResult()`. |
| **Exercise 3** | Add handling of life-cycle events to the application, to let it maintain application state across the life cycle. |
| **Extra Credit** | Demonstrates how to use the Eclipse debugger and how you can use it to view life-cycle events as they are generated. This section is optional but highly recommended. |

## Other Resources and Further Learning

- For a lighter but broader introduction to concepts not covered in the tutorial, take a look at Common Android Tasks.

- The Android SDK includes a variety of fully functioning sample applications that make excellent opportunities for further learning. You can find the sample applications in the `samples/` directory of your downloaded SDK, or browser them here, in the Sample Code section.

- This tutorial draws from the full Notepad application included in the `samples/` directory of the SDK, though it does not match it exactly. When you are done with the tutorial, it is highly recommended that you take a closer look at this version of the Notepad application, as it demonstrates a variety of interesting additions for your application, such as:

  - Setting up a custom striped list for the list of notes.

  - Creating a custom text edit view that overrides the `draw()` method to make it look like a lined notepad.

  - Implementing a full `ContentProvider` for notes.

  - Reverting and discarding edits instead of just automatically saving them.

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