# Day 3 Adapters and Styles

The first half of this session will focus on teaching attendees the basics of Lists and Adapters in Android through simple examples. The second half will focus on styles and themes.

# Session Objectives / Key Learning Points

# By the end of the session students should –

# Understand what are the various selection widgets.

# Understand what are adapters.

# Understand why adapters should be used.

# Understand the different types of adapters.

# Be able to implement assignments using different types of adapters.

# Understand Styles and Themes.

# Apply basic Styles.

# Be able to create custom Style attributes, and apply them.

# Repository

# Repo - https://github.com/androidbootcamp/ShoppingApplication

# Initial Commit - e82470a0bfe95bc9b19cf46d49b3b8f40ed3b601

# Final Commit - 0b3ac943bdd8045eae76490f581a1c6e364abb50

# Session Overview

|  |  |  |
| --- | --- | --- |
| Activity | Time | Elapsed Time (hh:mm) |
| Make sure the recent pull of Kranti app is taken. | 00:05 | 00:05 |
| Introduce the Agenda | 00:02 | 00:07 |
| Introduce Selection Widgets | 00:03 | 00:10 |
| Demonstrate how to get the list of issues using what was learnt in the previous sessions | 00:02 | 00:12 |
| Introduce Adapters | 00:15 | 00:27 |
| Introduce Array Adapters | 00:05 | 00:32 |
| Implement Assignment 1 | 00:15 | 00: 47 |
| Discuss Assignment 1 solution | 00:05 | 00:52 |
| Introduce Custom Adapters | 00:10 | 01:02 |
| Implement Assignment 2 | 00:25 | 01:27 |
| Discuss Assignment 2 Solution | 00:15 | 01:42 |
| Implement Assignment 3 | 00:10 | 01:52 |
| Discuss Assignment 3 Solution | 00:10 | 02:02 |
| Introduce Styles and Themes | 00:10 | 02:12 |
| Implement Assignment 4 | 00:13 | 02:25 |
| Discuss Solution to Assignment 4 | 00:10 | 02:35 |
| Introduce Custom Attributes | 00:10 | 02:45 |
| Implement Assignment 5 | 00:10 | 02:55 |
| Discuss Solution to Assignment 5 | 00:05 | 03:00 |

Session Notes:

What are selection widgets :

* Selection Widgets provide the ability to the user to perform any action on the items available

from the data source.

* Explain how one can get the list of issues using what was learnt in other sessions.

Adapters :

* Adapters provide a common interface to the data model behind a selection-style widget, such as a listbox.
* Android’s adapters are responsible for providing the roster of data for a selection widget plus converting

individual elements of data into specific views to be displayed inside the selection widget.

Array adapters:

* Android provides default adapters.
* The easiest adapter to use is ArrayAdapter — all you need to do is wrap one of these around a

Java array or java.util.List instance, and you have a fully-functioning adapter

* Explain the signature:

*ArrayAdapter<String> adapter = new ArrayAdapter<String>(context,*

*resource ID of a view to use,*

*actual array/list of items);*

Custom Adapters:

* Use Custom Adapters to make the ListView Widgets fancy.
* Explain the signature :

*public abstract*[*View*](http://developer.android.com/reference/android/view/view.html)*getView (int position,*[*View*](http://developer.android.com/reference/android/view/view.html)*convertView,*[*ViewGroup*](http://developer.android.com/reference/android/view/viewgroup.html)*parent)*

Pending Intents:

* A Pending Intent specifies an action to take in the future.
* It is an Intent action that you want to perform, but at a later time.
* Explain the signature:

*public static PendingIntent getActivity(Context context, int requestCode, Intent intent, int flags)*

* Demonstrate a small notification application using pending intents.

Assignments:

# Assignment 1-

# Problem Statement

# Show the grid of products on the UI

# Solution

# Include a Grid View in your layout

# Invoke setAdapter

# Assignment 2-

# Problem Statement

# Show the image, and title in a nice looking grid on the UI

# Solution

# Create a custom adapter extending BaseAdapter

# Override getView and set the image and title using a custom layout

# Set the adapter to the Grid View

# Assignment 3-

# Problem Statement

# On clicking of a product, navigate to the details page

# Solution

# Create a details Activity which accepts the Image and Title as intent parameters

# override onItemClickListener for the Grid View and navigate to the Details Activity

# Assignment 4-

# Problem Statement

# Implement a theme for the app, and set the action bar to your favourite colour

# Solution

# Create a theme in themes.xml overriding Holo Light

# Set the theme as the base theme for the app

# Override the action bar theme and change the background colour

# Assignment 5-

# Problem Statement

# Give the title of the details page a different background color using a custom attribute

# Solution

# Create a Text View by extending the TextView class

# Create a custom attribute in attrs.xml

# Use the custom attribute in Text View to set the background color

# Use the text view in the details page title and give a value to the custom attribute in the details text view