

Overview of Android App using Kotlin

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

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29 July 2019



Learning Objectives



Learning Objectives

- Software required to create an app and its features



Learning Objectives

- **Software required to create an app and its features**
- **Content available in various tutorials under this series**



System Requirements



System Requirements

To record this tutorial, I am using



System Requirements

To record this tutorial, I am using

- **Ubuntu Linux 16.04 operating system**



Pre-requisites



Pre-requisites

- **Working knowledge of Java programming language**



Pre-requisites

- Working knowledge of Java programming language
- If not, then go through the relevant **Java** tutorials on <https://spoken-tutorial.org>



Spoken Tutorial Series - Basic level



Spoken Tutorial Series - Basic level

Tools used for Registration Form App

- Text View



Spoken Tutorial Series - Basic level

Tools used for Registration Form App

- Text View
- Radio group



Spoken Tutorial Series - Basic level

Tools used for Registration Form App

- Text View
- Radio group
- Radio button



Spoken Tutorial Series - Basic level

Tools used for Registration Form App

- Text View
- Radio group
- Radio button
- Spinner



Spoken Tutorial Series - Basic level

Tools used for Registration Form App

- Text View
- Radio group
- Radio button
- Spinner
- Image view



Spoken Tutorial Series - Basic level

Tools used for Registration Form App

- Text View
- Radio group
- Radio button
- Spinner
- Image view
- Buttons



Spoken Tutorial Series - Intermediate level



Spoken Tutorial Series - Intermediate level

- In the Intermediate level, we have created a Search app for Spoken Tutorial project



Android Studio



Android Studio

- IDE designed specifically for Android development



Android Studio

- IDE designed specifically for Android development
- Official integrated development environment for Google's Android operating system



Android Studio



Android Studio

- It is built on JetBrains' IntelliJ IDEA software



Android Studio

- It is built on JetBrains' IntelliJ IDEA software
- In this series, an Android app is created using Kotlin programming language



Kotlin



Kotlin

- Kotlin is an open source programming language that runs on JVM (Java Virtual Machine)



Kotlin

- Kotlin is an open source programming language that runs on JVM (Java Virtual Machine)
- Google announced Kotlin as an official programming language for Android OS



Features of Kotlin



Features of Kotlin

- It is easy to learn and the syntax is very similar to Java



Features of Kotlin

- It is easy to learn and the syntax is very similar to Java
- Kotlin is more expressive, which makes the code more readable and understandable



Features of Kotlin

- It is easy to learn and the syntax is very similar to Java
- Kotlin is more expressive, which makes the code more readable and understandable
- It has better performance and small runtime



Installation of Android Studio



Installation of Android Studio

- **Installation of Android Studio in Ubuntu Linux operating system**



Installation of Android Studio

- **Installation of Android Studio in Ubuntu Linux operating system**
- For Windows installation, please refer to the **Installation sheet** of this series



Getting started with Hello world App



Getting started with Hello world App

- **Android Studio interface**



Getting started with Hello world App

- **Android Studio interface**
- **How to create a HelloWorld app**



Getting started with Hello world App

- **Android Studio interface**
- **How to create a HelloWorld app**
- **How to run the Kotlin app**



Getting started with Hello world App

- **Android Studio interface**
- **How to create a HelloWorld app**
- **How to run the Kotlin app**
- **See the output in an Android phone**



Creating a Registration form



Creating a Registration form

- **Add TextView, Plain Text and Buttons**



Creating a Registration form

- **Add TextView, Plain Text and Buttons**
- **Set the constraints and attributes**



Creating a Registration form

- Add TextView, Plain Text and Buttons
- Set the constraints and attributes
- Create a simple form



Creating a Registration form

- Add TextView, Plain Text and Buttons
- Set the constraints and attributes
- Create a simple form
- Write Kotlin code for button click event



Adding Radio Buttons



Adding Radio Buttons

- **Add a Radio Group to group the radio buttons**



Adding Radio Buttons

- **Add a Radio Group to group the radio buttons**
- See the demonstration of adding gender radio buttons



Adding Radio Buttons

- **Add a Radio Group to group the radio buttons**
- **See the demonstration of adding gender radio buttons**
- **Write the source code to decide which radio button is selected**



Adding Spinner and Image



Adding Spinner and Image

- Add a drop-down menu using the **Spinner** to select a department



Adding Spinner and Image

- Add a drop-down menu using the **Spinner** to select a department
- Add an image using **ImageView** to upload a picture



Creating a Search App



Creating a Search App

- The design of the app with Text views, Spinner and Search button



Creating a Search App

- The design of the app with Text views, Spinner and Search button
- Data identification in Spoken Tutorial server



Creating a Search App



Creating a Search App

- Source code for selecting an item from the spinner



Creating a Search App

- Source code for selecting an item from the spinner
- Running the app to see the selected FOSS ID and Language ID as output in the Android phone



URL Request



URL Request

- Pass the Foss and Language IDs to the URL of Spoken Tutorial website



URL Request

- **Pass the Foss and Language IDs to the URL of Spoken Tutorial website**
- **Parse the response JSON data**



Display Search Result



Display Search Result

- Use RecyclerView to display the thumbnail of videos



Display Search Result

- Use RecyclerView to display the thumbnail of videos
- Get the thumbnail from a specific Spoken Tutorial YouTube URL



Display Search Result

- Use RecyclerView to display the thumbnail of videos
- Get the thumbnail from a specific Spoken Tutorial YouTube URL
- Pass the video ID of the selected Spoken Tutorial



Playing video using YouTube API



Playing video using YouTube API

- Create a project in Google cloud



Playing video using YouTube API

- **Create a project in Google cloud**
- **Enable the YouTube API**



Playing video using YouTube API

- Create a project in Google cloud
- Enable the YouTube API
- Initialise the `YouTubePlayerView` in Android studio



Playing video using YouTube API

- Create a project in Google cloud
- Enable the YouTube API
- Initialise the YouTubePlayerView in Android studio
- Run the Kotlin app

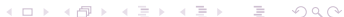


Playing video using YouTube API

- Create a project in Google cloud
- Enable the YouTube API
- Initialise the `YouTubePlayerView` in Android studio
- Run the Kotlin app
- Play the selected video



Playing video using YouTube API



Playing video using YouTube API

- Required links to publish or upload the Android app on Google Play Store



Summary

- **Software required to create an app and its features**
- **Content available in various tutorials under this series**



About the Spoken Tutorial Project

- Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- It summarises the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it



Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- Conducts workshops using spoken tutorials
- Gives certificates on passing online test
- For more details, please write to contact@spoken-tutorial.org



Forum for specific questions

- Do you have questions in **THIS Spoken Tutorial?**
- Please visit <http://forums.spoken-tutorial.org>
- Choose the minute and second where you have the question
- Explain your question briefly
- Someone from our team will answer them



Forum for specific questions

- **The Spoken Tutorial forum is for specific questions on this tutorial**
- **Please do not post unrelated and general questions on them**
- **This will help reduce the clutter**
- **With less clutter, we can use these discussion as instructional material**



Acknowledgements

- Spoken Tutorial Project is a part of the Talk to a Teacher project
- It is supported by the National Mission on Education through ICT, MHRD, Government of India
- More information on this Mission is available at

<http://spoken-tutorial.org/NMEICT-Intro>



Thank you

- The **Android app** was contributed by **Abhishek Shah** (*FOSSEE Fellow 2018*)
- The script has been contributed by **Nirmala Venkat, IIT Bombay**

