

Introduction To Android

Course 201 – 16 Hours

Overview

Android provides a rich application framework that allows you to build innovative apps and games for mobile devices in a Java and native languages. We can also find the Android OS on many embedded systems as a good replacement to Embedded Linux.

This course covers android from top to bottom, you'll learn how data flows from the java application down to the kernel driver and the hardware with many demos from all android layers.

Course Objectives

- Learn the layers on the Android stack
- Learn how to build android application
- Understand android application framework
- Understand android services
- Understand android native layer
- Understand android interaction with the kernel

Who Should Attend

The course is designed for developers who want to make their first steps in android development

Prerequisites

Participants should have a working knowledge with at least one of the following programming languages : C/C++/Java/C#

Course Contents

Android Overview

- Course Prerequisites
- Overview
- Android stack
- Development Tools
- Writing Applications
- components
 - Activities
 - Intents
 - Broadcast receivers
 - Content Providers
- GUI basics, resources
- manifest file
- Processes and threads

Android Kernel new features

- Binder
- Ashmem
- Pmem/ION
- Wakelock
- Early Suspend
- Alarm
- Low Memory Killer
- Logger
- Alarm
- Paranoid Network Security
- Other Kernel Changes

Android Native Layer

- Bionic
- Native libraries
- Native daemons
- Demo - Adding user libraries and daemons

Android Framework layer

- Android Binder IPC
- System services
- System server
- Service manager
- Demo - Adding a new system service
- Android security