

Java ME: Develop Applications for Mobile Phones

Duration: 5 Days

What you will learn

Java is currently running on over 3 billion phones and offers unrivaled potential for mobile developers worldwide. This Java Platform, Micro Edition (Java ME) training provides a rich and robust environment for the development of applications that run on mobile devices.

Learn To:

Create a simple payment application with the Payment API.

Create a simple location application with the Location API.

Create a simple game using the Game API.

Create applications using the Connected Limited Device Configuration (CLDC) and the Mobile Information Device Profile (MIDP).

Create robust user interfaces with the Lightweight User Interface Toolkit (LWUIT).

Use the latest NetBeans IDE and JavaME SDK to develop user interfaces with MIDP.

Develop a game with sounds using sprites and layers.

Build Sophisticated User Interfaces

Investing in this course will also help you build sophisticated user interfaces using LWUIT applications that access a mobile database. Gain experience with applications that leverage location and Payment APIs.

Developing Mobile Applications

This course includes coverage of the development of mobile applications that use the following: Connected Device Limited Configuration (CDLC), the Mobile Interface Device Profile (MIDP) and the Lightweight User Interface Toolkit (LWUIT).

Audience

Developer

Java Developer

Related Training

Required Prerequisites

Java development experience

Java SE 7 Programming

Suggested Prerequisites
Experience with Java Swing

Course Objectives

Render HTML using LWUIT

Write an application that uses location-based services such as GPS

Create a Java ME MIDlet and run it on the emulator

Create a custom LWUIT component

Use the PushRegistry to register events such as alarms and connections

Open and read from I/O connections

Create a MIDP form and add basic components to it

Use the MIDP canvas and write an application to paint on the canvas

Create a game using Sprites and Layers

Create a application to play audio from the mobile phone emulator

Create applications using LWUIT components

Use the LWUIT Resource Editor to apply a theme

Use LWUIT list components

Write a Payment application

Use RMS to read and write files on a mobile device

Course Topics

Course Overview and Introduction

Describing the course objectives

Discussing the schedule

Java ME platform overview

MIDlets

The MIDlet class

MIDlet lifecycle

JAD common descriptors

Over the air (OTA) installation

Using the obfuscator

Permissions

CDLC Basics

Collections: Vector, Hashtable, Stack

Working with Enumerations

InputStream and OutputStream

DataInputStream and DataOutputStream

Basic User Interfaces with Java ME

Forms

Item and its subclasses: StringItem, ImageItem, TextField, Spacer, CustomItem

Low Level UI

Canvas

Key events

Pointer events

Graphics

Drawing methods

Game API

Using GameCanvas to override behavior

Creating and managing Layers

Creating and animating Sprites

Creating TiledLayer

Multimedia API

Manager

Media MIME types

Player and its lifecycle

Control and its implementations (VideoControl, ToneControl, VolumeControl)

LWUIT: Overview and Forms

LWUIT Design goals

LWUIT's component-container model

LWUIT Forms

Commands

LWUIT: Basic Components

Labels, Buttons, CheckBoxes

RadioButtons, ComboBox

TextArea, TextField

LWUIT: Containers and Layouts

Containers

Layout Managers

FlowLayout, BoxLayout, GridLayout, BorderLayout, CoordinateLayout

Scrolling

Right-to-Left

LWUIT: Adding Style

The Style object

Colors

Background types

Padding, margins, borders

Font and Text decorations

Alignment

LWUIT: Resource Editor

Creating themes with the resource editor

Adding images to a resource file

Creating and adding fonts with the resource editor

Creating localization in the resource editor and accessing them from a LWUIT app

Adding data files to a resource file and accessing them from a LWUIT app

UIIDs

LWUIT: List components

Basics of lists

ListRenderer

ListModel

ListEvents

Custom LWUIT components

Animations

Input behavior

HTML in LWUIT

The HTMLComponent

Viewing pages from URLs and files

HTML events with HTMLCallback

Building a basic browser

Parsing XML with the XML package

Location API

Location concepts

Location common sources

LocationProvider class

Location class

LandMarkStore class

Payments API

Payments concepts

Payment providers

Transactions and their lifecycle

Record Management Store

Creating RecordStores

Adding records to a RecordStores

Reading records

Using Data streams to serialize objects

Handling RMS exceptions and size limitations

The MIDP 2.0 Push Registry

Push notifications common use cases

Creating an alarm

Creating a connection based wakeup

Handling the MIDlet lifecycle

Advanced I/O

The Generic Connection Framework (GCF)

Connection class

HttpConnection class

ByteArrayInput and ByteArrayOutputStream classes

Reader and Writer classes