KOENIG
step forward

KOENIG SOLUTIONS · COURSE OUTLINE

Android Real-Time Chat Application Using Socket IO

Learn to build a real-time Android chat application using Node.js and Socket.IO, from server setup to message persistence.

7	27
MODULES	TOPICS

COURSE OVERVIEW

This course covers building a Node.js server with basic HTTP routing before introducing Socket.IO for real-time communication over WebSocket. It then covers implementing the server side of a chat application, including socket connections, disconnections and message broadcasting. The course continues with Android-side authentication, user interface design and real-time message handling, including timestamps. It closes with user presence, typing indicators, message history and local data persistence.

WHO THIS COURSE IS FOR

- **Android Developers**
- **Backend Developers**
- **Node.js Developers**
- **Mobile App Developers**
- **Full-Stack Developers**

LEARNING OBJECTIVES

- Explain the event-driven, non-blocking I/O model of Node.js
- Build a basic HTTP server with routing in Node.js
- Integrate Socket.IO with Node.js for real-time communication
- Implement server-side handling of socket connections and broadcasting
- Implement user authentication and login for the Android chat app
- Develop real-time message sending, receiving and timestamp display
- Configure user presence status and typing indicators
- Implement message history storage and local data persistence

COURSE SYLLABUS

7 Modules, 27 Topics

01

Introduction to Node.js and Basic Routing

TOPICS

- What is Node.js and its key features?
- Understanding the event-driven, non-blocking I/O model
- Advantages of using Node.js for server-side development
- **Setting Up a Node.js Project:** Installing Node.js and NPM
- Creating a new Node.js project using npm init
- Creating a Basic HTTP Server using the built-in http module
- Handling HTTP requests and responses in Node.js
- Introduction to Routing

02

Introduction to Socket.IO and Real-time Communication

TOPICS

- Overview of Socket.IO and its role in real-time communication
- Understanding WebSocket and its advantages
- Integrating Socket.IO with Node.js

03

Implementing the Server-side for the Chat App

TOPICS

- Setting up a Node.js server for the real-time chat application
- Handling socket connections and disconnections
- Implementing message broadcasting to all connected clients

04

Authentication with Android Application

TOPICS

- Prepare User Interface for Chat Application using Recycler View
- Implementing user authentication
- Handling user login and registration requests
- Securing the chat endpoints with authentication middleware

05

Real-time Message Handling

TOPICS

- Sending and receiving real-time messages using Socket.IO
- Displaying received messages in the chat screen
- Adding timestamps to messages

06

User Presence and Typing Indicators

TOPICS

Displaying online/offline status of users · Implementing typing indicators · Notifying other users when a user is typing

07

Message History and Data Persistence

TOPICS

- Storing and managing message history
- Implementing local data persistence for messages
- Loading message history when entering a chat room

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training | Live Online Classes (ILO) | Fly-Me-A-Trainer (FMAT) | Flexi (Self-Paced) | 1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com | info@koenig-solutions.com