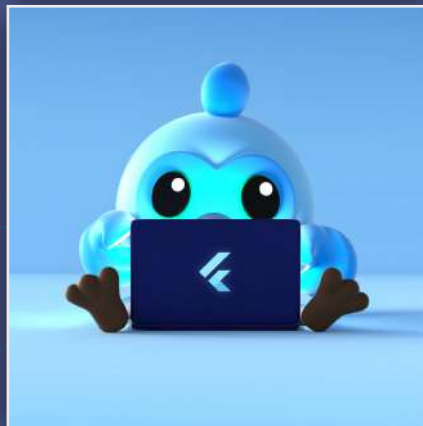
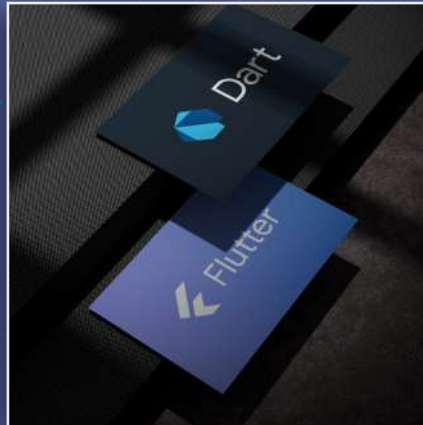


Flutter

Course Outline



About Us

Viper Academy, the training division of Viper Technology, leverages 30+ years of expertise in IT and digital innovation to provide industry-focused, hands-on training. Our programs equip learners with practical skills for jobs, freelancing and career growth

Why Choose Viper Academy?



Backed by
Viper Technology



Experienced
instructors



Hands-on learning



Government recognized
certifications



Internship and job
opportunities



Flexible batches

What We Offer



Comprehensive
Program



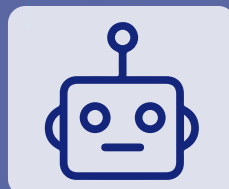
Office Management
& Computer Skills



Industrial Role
Preparation



Modern Tools



AI-Integrated
Learning

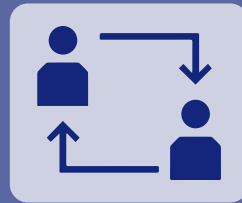


Efficient Workflows

Salient Features



Certified Training



Follow-up Session



Learning Management
System



Export Mentorship



Practical Learning



Physical/Online
Classes



Certification Upon
Completion



Internship &
Job Opportunity

Course Details

Duration: 3 months



2 Classes Week



Each Class: 2 Hours



Total classes: 24 (48 hours)



Format: Online/Hybrid



Project based. Internship ready



Tools & Technologies Covered

Flutter



Dart



Material UI



State Management



Firebase Authentication



Cloud Firestore Database



Firebase Cloud Messaging



REST APIs Integration



Node.js



Express.js



Git & GitHub



Android Studio



MongoDB



VS Code



App Deployment



Course Overview

This program teaches learners to build modern mobile apps using Flutter from UI design to API integration. Students will work with Firebase for authentication, storage and notifications along with essential backend and version control skills. Through hands-on projects, they'll learn to turn real ideas into functional apps. By the end, participants will be ready to develop production-ready Android apps and take on freelance or entry-level projects with confidence.

Course Outcomes

Build modern mobile apps with Flutter & Dart



Master UI design & State Management



Develop Backend Systems



Integrate REST APIs & manage app data



Implement secure user authentication & chat features



Add AI-powered features with OpenAI or Firebase ML



Deploy apps confidently



Target Audience

Beginners and junior developers



Web developers transitioning to mobile



App entrepreneurs and freelancers



Students aiming for app development careers



Career Outcomes

Flutter Developer



Full Stack Mobile App Developer



Firebase Backend Developer



Mobile App Freelancer



AI App Innovator



Duration: 3 Months

2 Classes/Week | Each Class: 2 Hours (1h Lecture + 1h Practice)

Total Classes:

24(48 Hours) | Format: Online/Hybrid | Project-Based | Internship-Ready

Course Outline

Module 1: Introduction to Flutter & Dart

- Install Flutter SDK and Android Studio
- Learn basic Flutter widgets: MaterialApp, Scaffold, Column, Row, Stack, Container
- Dart programming fundamentals: Variables, Functions, Classes, Control Structures, Lists, Maps
- Styling, themes, padding, and responsive layouts
- Hands-on Activities: Build a basic welcome app, BMI calculator and a responsive profile card



Module 2: Navigation & UI/UX Essentials

- Routes and navigation in Flutter (named routes, Navigator.push)
- Forms, user input, and validation (TextField, TextEditingController)
- Create custom and reusable widgets (Stateless and Stateful widgets)
- UI best practices for design consistency and reusability
- Hands-on Activities: Multi-page app, login form UI with validation, reusable card/tile components



Course Outline

Module 3: State Management & Flutter Tools

- Manage app state using `setState` and `Provider` (`ChangeNotifier`)
- Local storage using `Shared Preferences` to save user settings
- Organize app structure, assets, & fonts efficiently
- Hands-on Activities: To-do list with state, save theme toggle state, app branding & theme integration



Module 4: Firebase Backend Integration

- Connect Flutter apps with `Firebase` and `Firestore`
- Implement user authentication (Email & Google sign-in/sign-up)
- Perform `CRUD` operations on `Cloud Firestore`
- Upload and manage images with `Firebase Storage`
- Build real-time chat apps using `StreamBuilder` and chat rooms
- Apply `Firebase` security rules and deploy apps securely
- Hands-on Activities: Notes app, profile picture uploader, chat app with messages, secure & host apps



Course Outline

Module 5: Node.js & MongoDB Full Stack

- Setup Node.js & Express for backend development
- Work with MongoDB and Mongoose for database management
- Integrate Flutter frontend with REST APIs (GET/POST)
- Secure APIs using JWT authentication
- Build full-stack apps connecting Flutter frontend with Node backend
- Use Git and GitHub for project workflow and version control
- Hands-on Activities: Product API, blog API, user authentication system, full CRUD app, GitHub project setup



Module 6: AI Integration & Modern Features

- Integrate OpenAI API for chat-based features
- Generate images using DALL·E / Firebase ML
- Implement speech-to-text and text-to-speech functionality
- Add push notifications using Firebase Cloud Messaging
- Enhance UX with animations and transition
- Deploy apps to Firebase Hosting and Play Store
- Hands-on Activities: AI chat assistant, image generator app, voice note app, notification-enabled app, animated app, test app deployment



Course Outline

Module 7: Final Project & Internship Preparation

- Plan and wireframe capstone project (UI/UX design using Figma)
- Develop core features, integrate backend, and polish UI
- Test, debug, and optimize app for release
- Present final project and explore career pathways: freelancing, jobs, internships
- Receive feedback and course completion certificates
- Hands-on Activities: Project mockup, developments print, peer reviews, app deployment, project presentation



Capstone Project Ideas

- Job Portal App
- Expense Tracker + AI Insights
- E-commerce App with Admin Panel
- Learning App with AI Q&A Bot
- Voice Notes & Chat App



Optional Internship Program

- Work on real apps (client/internal)
- GitHub & Trello-based team workflow
- Code reviews, weekly progress meetings
- Internship letter + LinkedIn recommendation





Build Your Future with Viper Academy

Our Locations

DHA Karachi

Innovista Indus IT Park
1st Floor,
DHA Phase II Ext.

PECHS Karachi

155L, Khushal Road,
P.E.C.H.S Block 2,
Near Imtiaz Supermarket

Lahore

IT Tower Shopping Mall,
Floor # 2, Office # 18,
Halli Road,
Gulberg 3

Join Viper Academy Today!



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0321-2433949



academy@viper.pk