

Flutter Viva Questions & Answers

1. What is Flutter?

Flutter is an open-source UI software development kit created by Google. It allows developers to build natively compiled applications for mobile, web, and desktop from a single codebase. Flutter uses the Dart programming language and provides a rich set of pre-built widgets to create responsive UIs.

2. What is Dart?

Dart is a client-optimized language for fast apps on any platform. It is developed by Google and is used to write Flutter apps. Dart is object-oriented, supports both AOT and JIT compilation, and is easy to learn for JavaScript or Java developers.

3. What are Widgets in Flutter?

Widgets are the core building blocks of a Flutter application. Everything you see on the screen is a widget, including layout models, buttons, text, and animations. There are two main types of widgets: StatelessWidget and StatefulWidget.

4. Difference between Stateless and Stateful Widget?

StatelessWidget: The widget does not store any state. It is static.

StatefulWidget: The widget maintains a state that can change during the app lifecycle.

Example: A Text is Stateless, whereas a Checkbox that can be toggled is Stateful.

5. What is main() and runApp()?

The main() function is the entry point of a Flutter application. The runApp() function inflates the given widget and attaches it to the screen. It tells Flutter what to display on the screen.

6. What is MaterialApp?

MaterialApp is a convenience widget that wraps a number of widgets that are commonly required for applications implementing Material Design. It sets up themes, routes, and more.

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7. What is Scaffold?

Scaffold provides a high-level structure for implementing the visual layout structure of a Material Design app. It includes AppBar, Drawer, BottomNavigationBar, FloatingActionButton, etc.

8. Hot Reload vs Hot Restart?

Hot Reload: Quickly updates the UI without restarting the app. State is preserved.

Hot Restart: Fully restarts the app and loses all previous state.

9. What is setState()?

setState() is used to notify the Flutter framework that something has changed in the state, and it should rebuild the widget tree.

10. What is Navigator and how does routing work?

Navigator is a widget that manages a stack of Route objects. It allows you to move from one screen to another using push and pop methods.

11. Future, async, and await in Dart?

A Future is an object representing a delayed computation. async marks a function that performs asynchronous operations, and await pauses execution until the future completes.

12. ListView.builder?

ListView.builder is a constructor that builds children on demand. It's efficient for long lists because it builds only visible items.

13. pubspec.yaml?

The pubspec.yaml file is used to declare dependencies, fonts, assets, and metadata of the Flutter project.

14. State Management in Flutter?

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State management is the process of managing the state of an application. Options include setState, Provider, Riverpod, Bloc, etc.

15. What is Provider?

Provider is a wrapper around InheritedWidget to make state management easy. It provides a way to access shared data anywhere in the widget tree.