Introduction to Dart

Dart

Dart is a client-optimized, object-oriented, modern programming language to build apps fast for many platforms like android, iOS, web, desktop, etc. Client optimized means optimized for crafting a beautiful user interface and high-quality experiences. Google developed Dart as a programming language.

Dart Features

1. Free and open-source.
2. Object-oriented programming language.
3. Used to develop android, iOS, web, and desktop apps fast.
4. Can compile to either native code or javascript.
5. Offers modern programming features like null safety and asynchronous programming.
6. You can even use Dart for servers and backend.

Difference Between Dart & Flutter

Dart is a client optimized, object-oriented programming language. It is popular nowadays because of flutter. It is difficult to build complete apps only using Dart because you have to manage many things yourself.

Flutter is a framework that uses dart programming language. With the help of flutter, you can build apps for android, iOS, web, desktop, etc. The framework contains ready-made tools to make apps faster.

Dart History

Google developed Dart in 2011 as an alternative to javascript.

Dart 1.0 was released on November 14, 2013.

Dart 2.0 was released in August 2018.

Dart 3.0 was released in May 2023.

Dart gained popularity in recent days because of flutter.

Basic Programming Terms

Statements: A statement is a command that tells a computer to do something. In Dart, you can end most statements with a semicolon ;.

Expressions: An Expression is a value or something that can be calculated as a value. The expression can be numbers, text, or some other type.

a. 52
b. 5+5
c. 'Hello World.'
d. num

Keywords: Keywords are reserved words that give special meaning to the dart compiler. For E.g. int, if, var, String, const, etc.

Identifiers: Identifiers are names created by the programmer to define variables, functions, classes, etc. Identifiers shouldn't be keywords and must have a unique name. For E.g. int age =19;, here age is an identifier. You will learn more about identifiers later in this course.

High-Level Programming Language: High-Level Programming Language is easy to learn, user-friendly, and uses English-like-sentence. For E.g. dart,c,java,etc.

Low-Level Programming Language: Low-level programming language is hard to learn, non-user friendly, and deals with computer hardware components, e.g., machine and assembly language.

Note: Low-level languages are faster than high-level but hard to understand and debug.

Compiler: A compiler is a computer program that translates the high-level programming language into machine-level language.

Syntax: The Syntax is a programming language's pattern or rules that give the concept to code.

Key Points Around Dart

Dart is a free and open-source programming language. You don't need to pay any money to run dart programs.

Dart is a platform-independent language and supports almost every operating system such as windows, mac, and Linux.

Dart is an object-oriented programming language and supports all oops features such as encapsulation, inheritance, polymorphism, interface, etc.

Dart comes with a dart2js compiler which translates dart code to javascript code that runs on all modern browsers.

Dart is a programming language used by flutter, the world's most popular framework for building apps.