The Dart Programming Language

Lecture 1

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What is Dart?

- Dart is a general-purpose, high-level modern programming language which is originally developed by Google.

- It is the new programming language which is emerged in 2011, but its stable version was released in June 2017.

- Dart is not so popular at that time, but It gains popularity when it is used by the Flutter.

What is Dart?

- Dart is a dynamic, class-based, object-oriented programming language with closure and lexical scope. Syntactically, it is quite similar to Java, C, and JavaScript. If you know any of these programming languages, you can easily learn the Dart programming language.

- Dart is an open-source programming language which is widely used to develop the mobile application, modern web-applications, desktop application, and the Internet of Things

- (IoT) using by Flutter framework. It also supports a few advance concepts such as interfaces, mixins, abstract classes, refield generics, and type interface.

What is Dart?

- It is a compiled language and supports two types of compilation techniques.
  - AOT (Ahead of Time) - It converts the Dart code in the optimized JavaScript code with the help of the dar2js compiler and runs on all modern web-browser. It compiles the code at build time.
  - JIT (Just-In-Time) - It converts the byte code in the machine code (native code), but only code that is necessary.

Dart History

- Dart was revealed for the first time in the GOTO conference in the month of 10th - 12th October 2011 at Aarhus, Denmark. It is initially designed by the Lars bark and Kespar and developed by Google.

- The first version 1.0 of Dart was released on November 14th, 2013, intended as a replacement of JavaScript

- In July 2014, the first edition of Dart language was approved by Ecma International approved at its 107th General Assembly.

- The first version was criticized due to a malfunction on the web and this plan was dropped in 2015 with the 1.9 release of Dart.

- The second version of Dart 2.0 was released in August, including a sound type system.

- The recent version Dart 2.7 is supplemented with the extension method, which enables us to add any type of functionality.
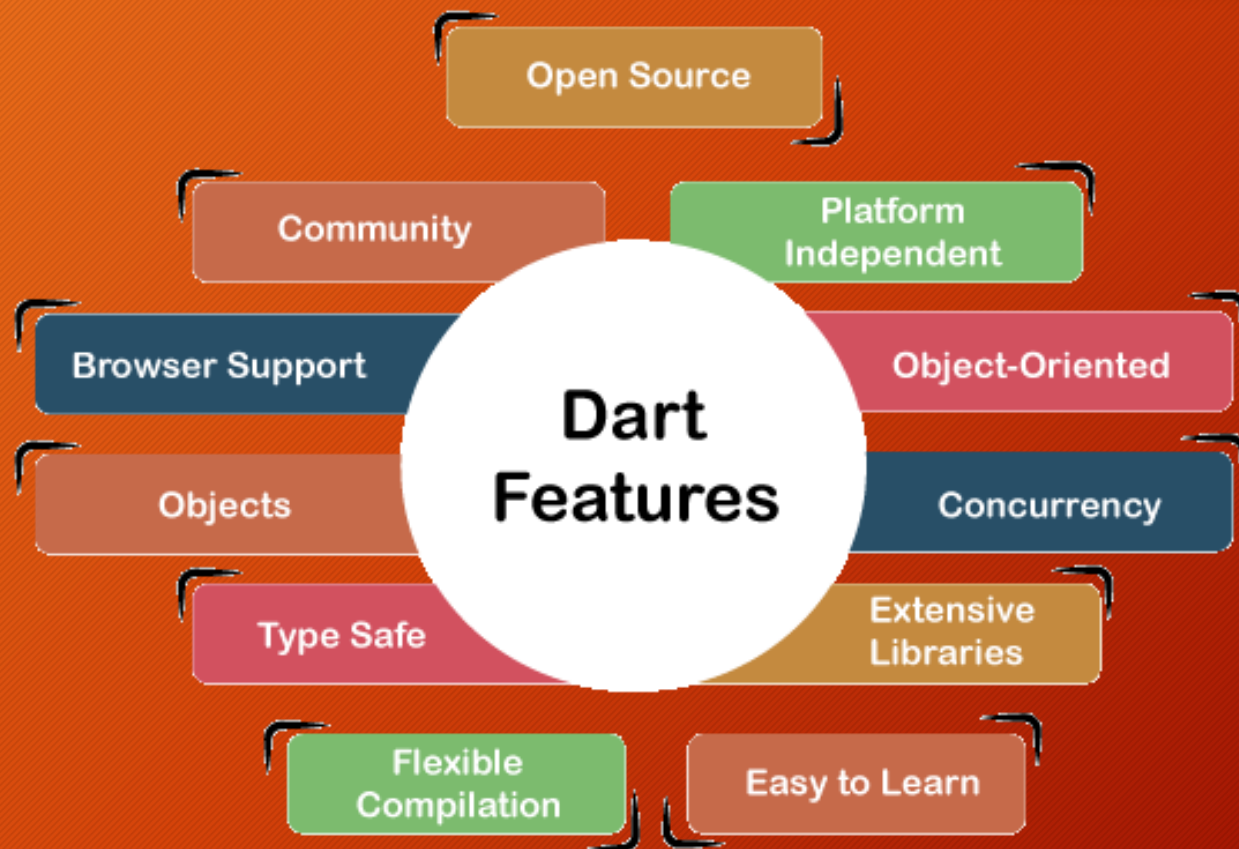
Why Dart?

- Dart is a platform-independent language and supports all operating systems such as Windows, Mac, Linux, etc.

- It is an open-source language, which means it available free for everyone. It comes with a BSD license and recognized by the ECMA standard.

- It is an object-oriented programming language and supports all features of oops such as inheritance, interfaces, and optional type features.

- Dart is very useful in building real-time applications because of its stability.

- Dart comes with the dar2js compiler which transmits the Dart code into JavaScript code that runs on all modern web browser.

- The stand-alone Dart VM permits Dart code to run in a command-line interface environment.

Features

- Everything in Dart is treated as an object including, numbers, Boolean, function, etc. like Python. All objects inherit from the Object class.

- Dart tools can report two types of problems while coding, warnings and errors. Warnings are the indication that your code may have some problem, but it doesn't interrupt the code's execution, whereas error can prevent the execution of code.

- Dart supports sound typing. We will learn about this in the next tutorial.

- Dart supports generic types, like List<int>(a list of integers) or List<dynamic> (a list of objects of any type).

Features

Installation

- https://dart.dev/tools/sdk/archive.

Or

- https://dartpad.dev/

THANK YOU
FOR YOUR
ATTENTION