

What is Dart ?

Dart is a client-optimized, garbage-collected, OOP language for creating fast apps that run on any platform. Dart is used to build highperformance web and mobile apps and server and desktop applications.

Features :

Dart 1.0 was released on November 14, 2013.

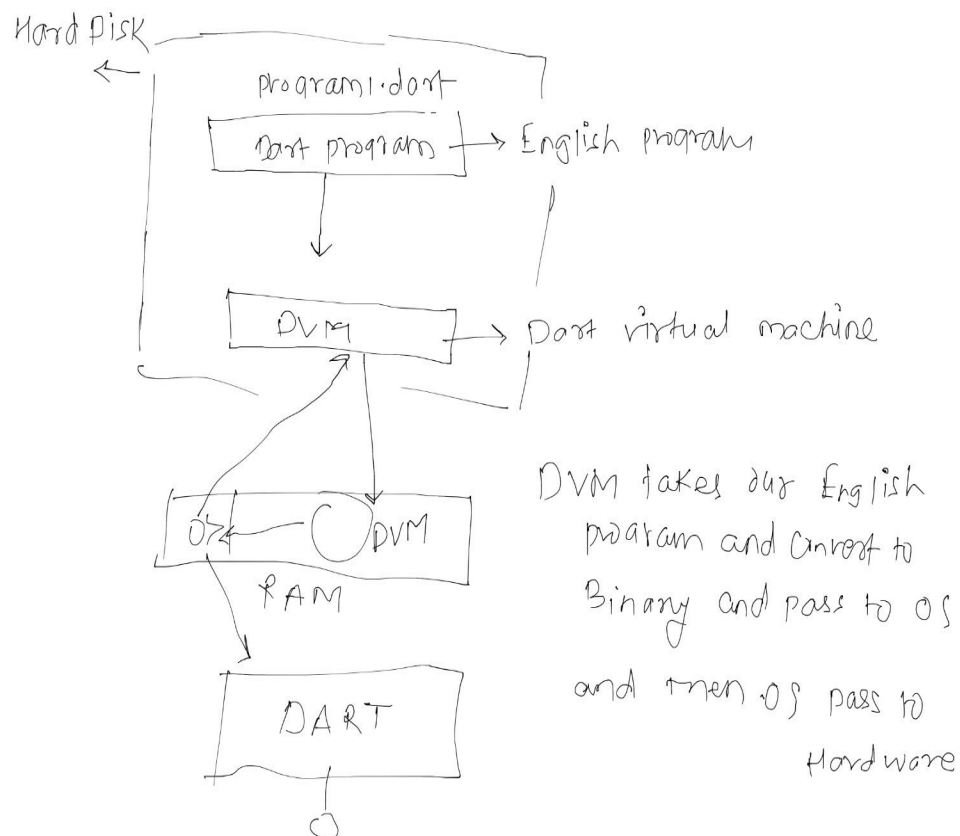
Founded by Lars Bak and Kasper Lund

Developed By Google.

DVM

The Dart Virtual Machine (VM) is an integral component of the Dart programming language ecosystem. It serves as the runtime environment for executing Dart code. The Dart VM plays a crucial role in making the Dart language efficient, versatile, and suitable for a wide range of application domains.

Diagram1 :

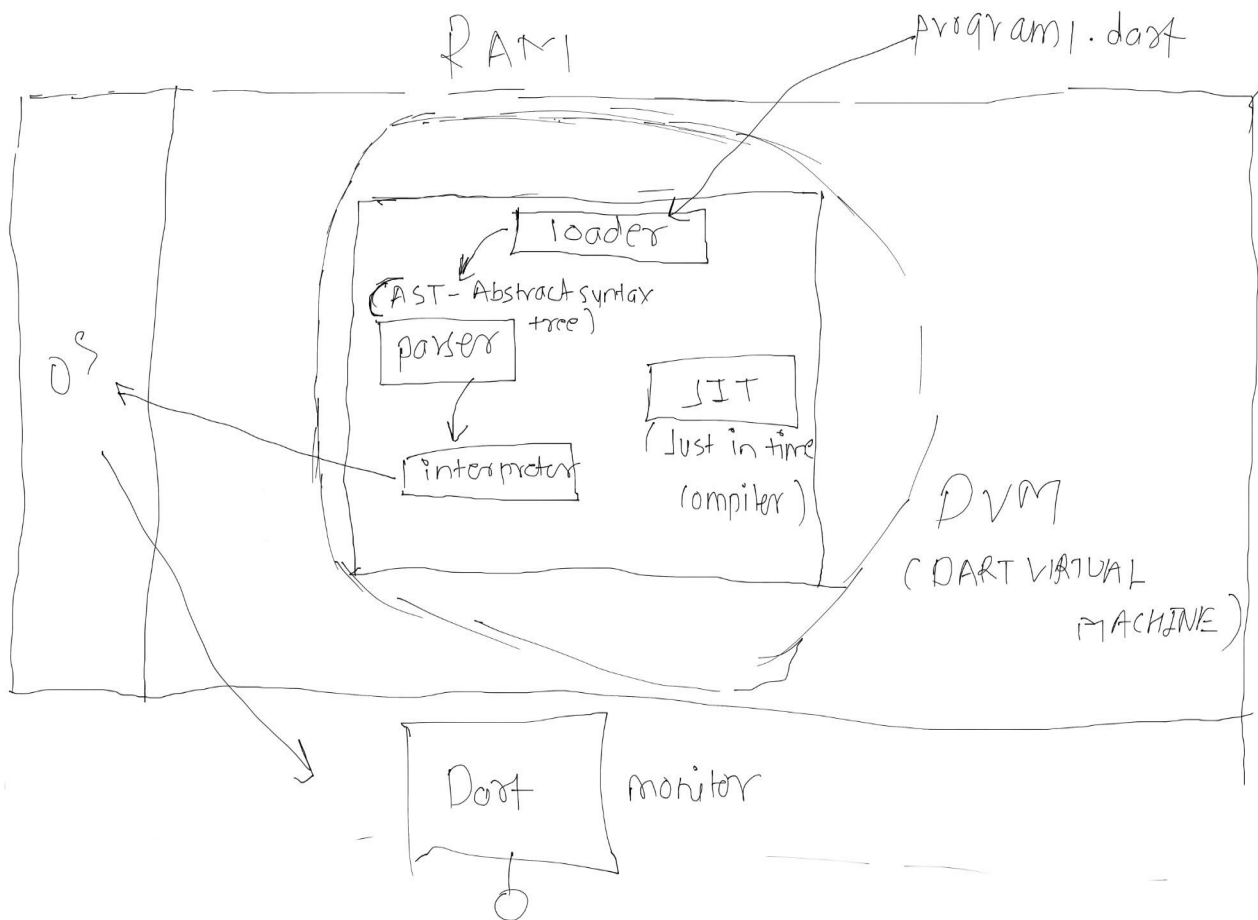


How to Run Dart Program : make a file in notepad with dart extension . Program1.dart and the pass it to DVM . Open command prompt where you have created the dart file and run the following command

`dart program1.dart`

output : hello from dart

Diagram 2 :



Dart Virtual Machine :

Loader: The loader is responsible for loading our dart file (dart source code).

Parser : Syntax Analysis (Parsing): this code pass to create an abstract syntax tree (AST), which represents the grammatical structure of the code. The AST is a hierarchical representation of the code's structure, making it easier to understand and work with.

Interpreter: The interpreter processes the AST and executes the code line by line, statement by statement. It uses the information in the AST to understand the program's logic and performs the associated actions without generating machine code.

JIT Compiler: Dart uses Just-In-Time (JIT) compilation to translate the parsed Dart code into machine code. The JIT compiler optimizes and compiles the code on-the-fly, which can lead to improved runtime performance