

JAVA

Basic and Key Advantages

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# Introduction

- Java is a high-level programming language.
- Developed by Sun Microsystems in 1995.
- It runs in Windows, Mac OS, and LINUX.

# Key Advantages

- Object Oriented
  - In java everything is an Objects. It can be extended.
- Platform Independent
  - It is not compiled into platform specific machine, rather than it is platform independent byte code. This byte code is distributed over web and interpreted by the Java Virtual Machine(JVM) on various platforms.

# Key Advantages

- Simple
  - Easy to learn. If you understand the OOPs concept, you become a master.
- Secure
  - It enable to develop virus-free, tamper free system. It uses public-key encryption.
- Architecture-neutral
  - Java compiler generates an Architectural-neutral object file format, which makes the compiled code executable on many processors in java runtime system.

# Key Advantages

- Portable
  - Compiler in Java is written in ANSI C with the clean portability boundary.
- Robust
  - Java makes an effort to eliminate error prone situations by emphasizing mainly on compile time error checking and runtime checking.

# Key Advantages

- Multithreaded
  - With Java's multithreaded feature it is possible to write programs that can perform many tasks simultaneously.
  - This design feature allows the developers to construct interactive applications that can run smoothly.
- Interpreted
  - Java byte code is translated on the fly to native machine instructions and is not stored anywhere.
  - The development process is more rapid and analytical since the linking is an incremental and light-weight process

# Key Advantages

- High Performance
  - With the use of Just-In-Time compilers, Java enables high performance.
- Distributed
  - Java is designed for the distributed environment of the internet
- Dynamic
  - Java is considered to be more dynamic than C or C++ since it is designed to adapt to an evolving environment. Java programs can carry extensive amount of run-time information that can be used to verify and resolve accesses to objects on run-time.