**About Java:**

**Java** is a general-purpose [computer-programming language](https://en.wikipedia.org/wiki/Programming_language) that is [concurrent](https://en.wikipedia.org/wiki/Concurrent_computing), [class-based](https://en.wikipedia.org/wiki/Class-based_programming), [object-oriented](https://en.wikipedia.org/wiki/Object-oriented_programming), and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "[write once, run anywhere](https://en.wikipedia.org/wiki/Write_once,_run_anywhere)" (WORA), meaning that [compiled](https://en.wikipedia.org/wiki/Compiler) Java code can run on all platforms that support Java without the need for recompilation. Java applications are typically compiled to [bytecode](https://en.wikipedia.org/wiki/Java_bytecode) that can run on any [Java virtual machine](https://en.wikipedia.org/wiki/Java_virtual_machine) (JVM) regardless of [computer architecture](https://en.wikipedia.org/wiki/Computer_architecture). As of 2016, Java is one of the most [popular programming languages in use](https://en.wikipedia.org/wiki/Measuring_programming_language_popularity), particularly for client-server web applications, with a reported 9 million developers. Java was originally developed by [James Gosling](https://en.wikipedia.org/wiki/James_Gosling) at [Sun Microsystems](https://en.wikipedia.org/wiki/Sun_Microsystems)(which has since been [acquired by Oracle Corporation](https://en.wikipedia.org/wiki/Sun_acquisition_by_Oracle)) and released in 1995 as a core component of Sun Microsystems' [Java platform](https://en.wikipedia.org/wiki/Java_(software_platform)). The language derives much of its [syntax](https://en.wikipedia.org/wiki/Syntax_(programming_languages)) from [C](https://en.wikipedia.org/wiki/C_(programming_language)) and [C++](https://en.wikipedia.org/wiki/C%2B%2B), but it has fewer [low-level](https://en.wikipedia.org/wiki/Low-level_programming_language) facilities than either of them.

The original and [reference implementation](https://en.wikipedia.org/wiki/Reference_implementation) Java [compilers](https://en.wikipedia.org/wiki/Compiler), virtual machines, and [class libraries](https://en.wikipedia.org/wiki/Library_(computing)) were originally released by Sun under proprietary licenses. As of May 2007, in compliance with the specifications of the [Java Community Process](https://en.wikipedia.org/wiki/Java_Community_Process), Sun [relicensed](https://en.wikipedia.org/wiki/Software_relicensing) most of its Java technologies under the [GNU General Public License](https://en.wikipedia.org/wiki/GNU_General_Public_License). Others have also developed alternative implementations of these Sun technologies, such as the [GNU Compiler for Java](https://en.wikipedia.org/wiki/GNU_Compiler_for_Java) (bytecode compiler), [GNU Classpath](https://en.wikipedia.org/wiki/GNU_Classpath) (standard libraries), and [IcedTea](https://en.wikipedia.org/wiki/IcedTea)-Web (browser plugin for applets).

The latest version is [Java 10](https://en.wikipedia.org/wiki/Java_version_history), released on March 20, 2018, which follows [Java 9](https://en.wikipedia.org/wiki/Java_version_history) after only six months in line with the new release schedule. Java 8 is still supported but there will be no more security updates for Java 9. Versions earlier than Java 8 are supported by companies on a commercial basis; e.g. by Oracle back to Java 6 as of October 2017 (while they still "highly recommend that you uninstall" pre-Java 8 from at least Windows computers)

**About Oracle:**

Oracle database (Oracle DB) is a relational database management system (RDBMS) from the Oracle Corporation. Originally developed in 1977 by Lawrence Ellison and other developers, Oracle DB is one of the most trusted and widely-used relational database engines.

The system is built around a relational database framework in which data objects may be directly accessed by users (or an application front end) through structured query language (SQL). Oracle is fully scalable relational database architecture and is often used by global enterprises, which manage and process data across wide and local area networks. The Oracle database has its own network component to allow communications across networks.

Oracle DB is also known as Oracle RDBMS and, sometimes, just Oracle.

Oracle DB rivals Microsoft’s SQL Server in the enterprise database market. There are other database offerings, but most of these command a tiny market share compared to Oracle DB and SQL Server. Fortunately, the structures of Oracle DB and SQL Server are quite similar, which is a benefit when learning database administration.

Oracle DB runs on most major platforms, including Windows, UNIX, Linux and Mac OS. Different software versions are available, based on requirements and budget. Oracle DB editions are hierarchically broken down as follows:

* Enterprise Edition: Offers all features, including superior performance and security, and is the most robust
* Standard Edition: Contains base functionality for users that do not require Enterprise Edition’s robust package
* Express Edition (XE): The lightweight, free and limited Windows and Linux edition
* Oracle Lite: For mobile devices

A key feature of Oracle is that its architecture is split between the logical and the physical. This structure means that for large-scale distributed computing, also known as grid computing, the data location is irrelevant and transparent to the user, allowing for a more modular physical structure that can be added to and altered without affecting the activity of the database, its data or users. The sharing of resources in this way allows for very flexible data networks whose capacity can be adjusted up or down to suit demand, without degradation of service. It also allows for a robust system to be devised as there is no single point at which a failure can bring down the database, as the networked schema of the storage resources means that any failure would be local only.