

INFO 5100, Sec 14 – LAB 1

Topics Covered:

- Introduction to JDK and IDE Setup
- Git Installation & GitHub setup
- Lecture Programs

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JDK – Java Development Kit

- A Software to develop programs with Java
- Contains Development tools like Java Compiler, Java Debugger.
- Converts your java code into byte code.
- JDK = Development Tools + JRE

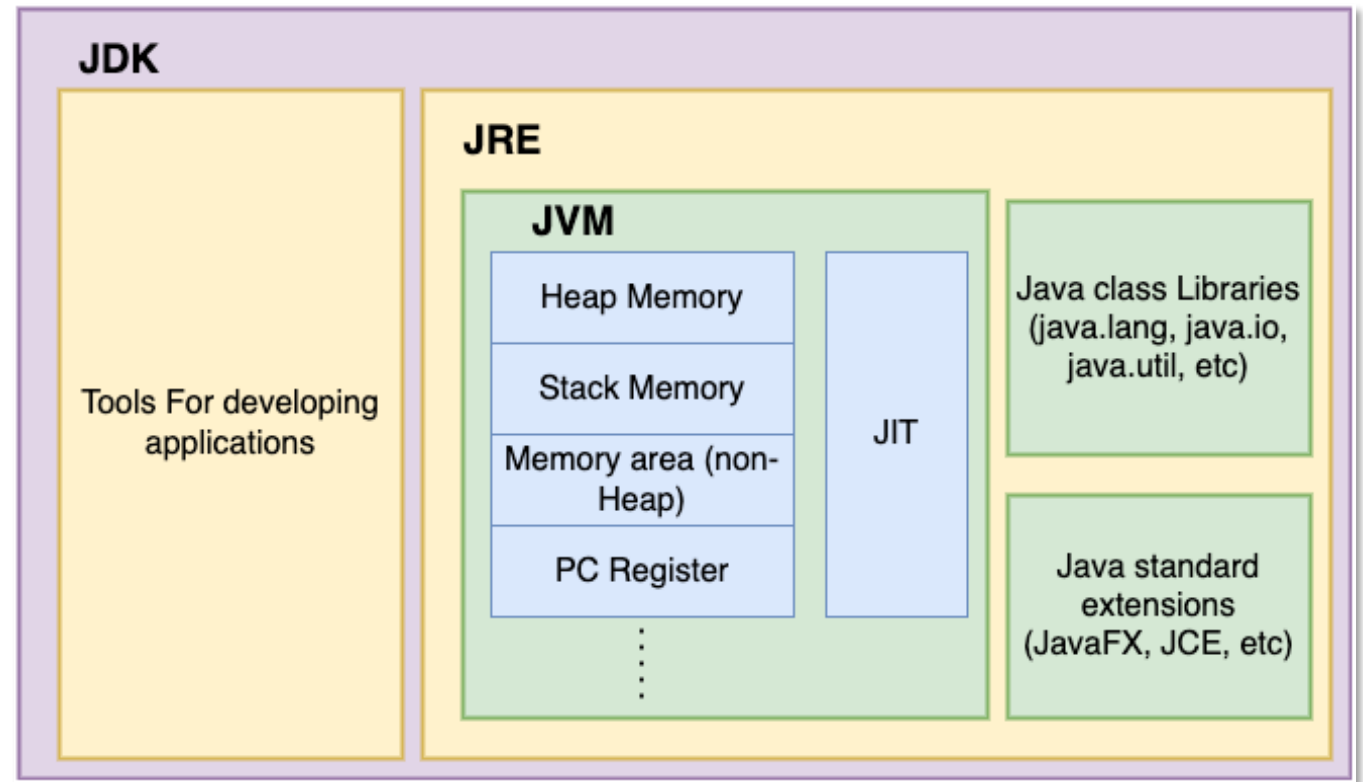


Image Source: [Gopi Gorantala](#)

JRE – Java Runtime Environment

- Like a software package that provides Javaclass libraries.
- Contains all the pre-build classes like String, Integer, etc.
- JRE = Libraries + JVM

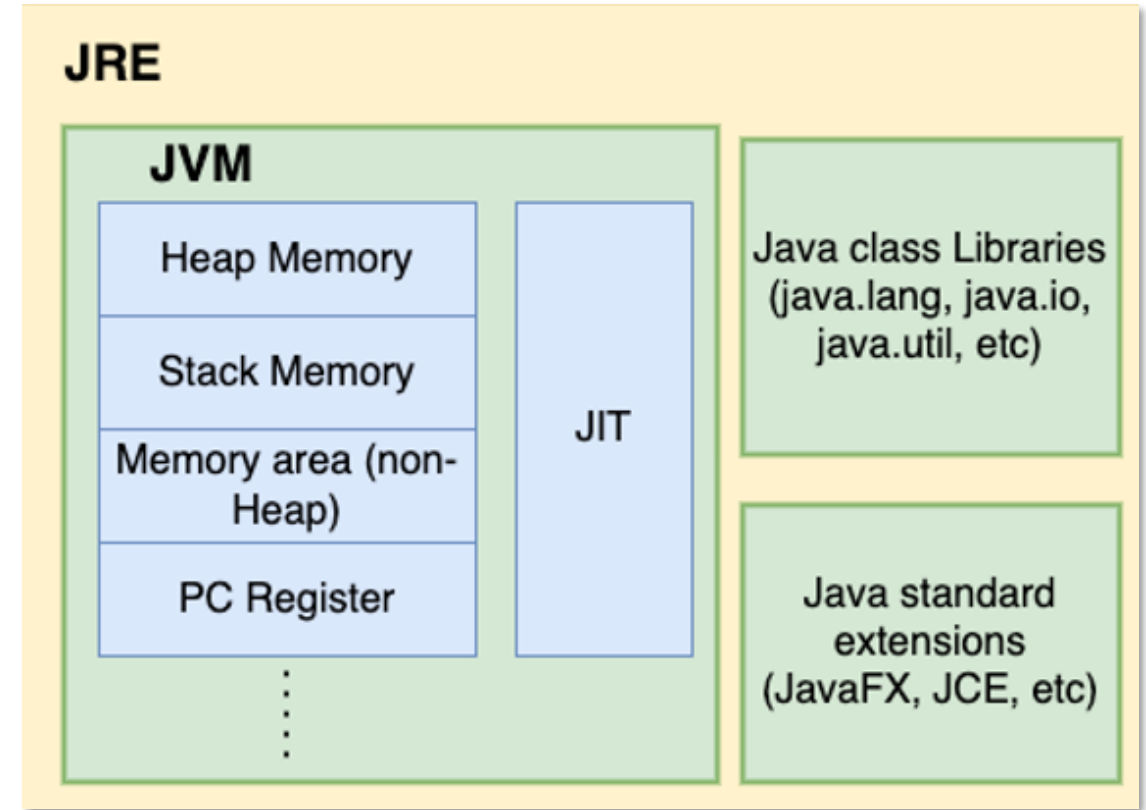


Image Source: [Gopi Gorantala](#)

JVM – Java Virtual Machine

- This is where the code gets executed.
- Java Compiler will convert your java code into byte code.
- JVM Needs to be build for particular OS.
- JVM = Only Runtime Env.

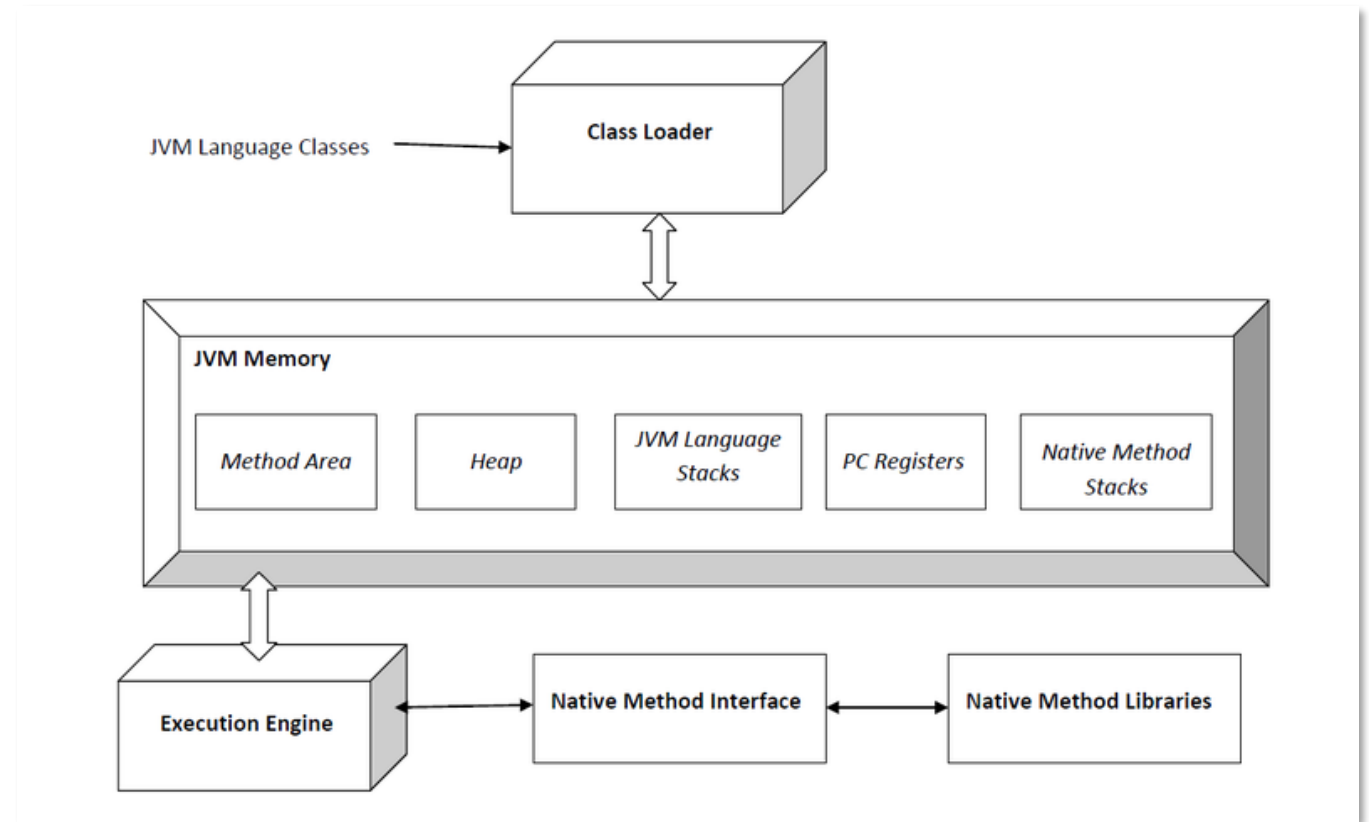


Image Source: [Wikipedia](https://en.wikipedia.org/wiki/Java_virtual_machine#/media/File:JVM_Architecture.png)

JDK Installation & IDE Setup

- JDK: <https://www.oracle.com/java/technologies/downloads/>
- IDE
 - Netbeans: <https://netbeans.apache.org/front/main/download/archive/>
 - Eclipse: <https://www.eclipse.org/downloads/>

GIT & GitHub

- Git
 - Source Code Management System, a distributed version Control System.
 - Records, track and Logs changes of the files.
 - Allows multiple developer to edit files at once.
 - Installed on your system.
- GitHub
 - Web-based Git repository hosting service.
 - Competes with GitLab, Bit Bucket, AWS Code Commit & Azure DevOps.

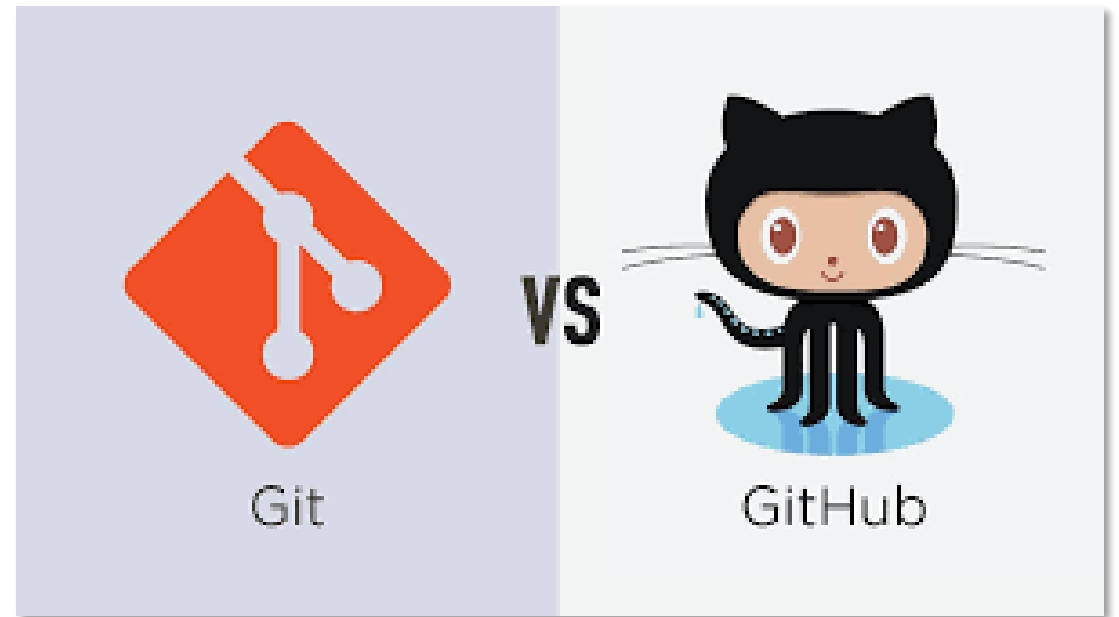
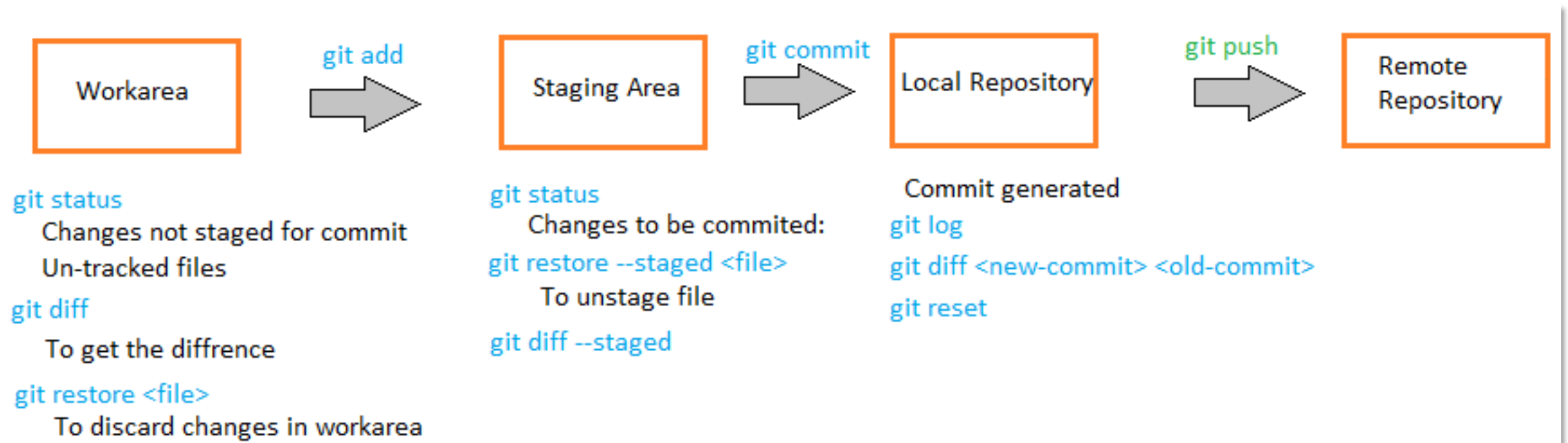


Image Source: [Simplilearn](https://www.simplilearn.com)

Lifecycle of a file in Git



Source: <https://bigdataenthusiast.wordpress.com/2020/08/09/exploring-git-life-cycle/>

Git Installation and GitHub Account

- Download Git: <https://git-scm.com/downloads>
- Signup on GitHub: <https://github.com/signup>
 - Student Developer Pack: <https://education.github.com/pack> (Optional But recommended)
- GitHub Desktop: <https://desktop.github.com/download/>

Working with Git & GitHub

- <https://travisramos.com/blog/the-essential-git-cheat-sheet-master-version-control-like-a-pro>