**LAB LESSON PLAN**

**WEEK-1: Introduction to SE lab and Installation of Softwares**

1. Introduction to SE lab.
2. Installation of STAR UML, GITBASH for windows, GITHUB account creation.
3. Upload the Screenshots for STAR UML, GITBASH and GITHUB

**INTRODUCTION TO SE LAB:**

**SOFTWARE REQUIREMENTS SPECIFICATION:**

**SRS (Software Requirements Specification)** is a detailed document that outlines the functional and non-functional requirements of a software system. It serves as a blueprint for developers, stakeholders, and testers by defining how the software should behave, the features it must have, and the constraints under which it must operate.

**Star UML:**

**StarUML** is a software modeling tool used for designing and visualizing software architecture through **UML (Unified Modeling Language)** diagrams. It supports various types of UML diagrams such as class diagrams, sequence diagrams, and use case diagrams, which help in planning, documenting, and communicating system designs.StarUML is popular for its user-friendly interface and open-source nature.

**SOURCE CODE MANAGEMENT:**

**Git**: A version control system used to manage code and track changes.

**GitHub/GitLab/Bitbucket**: Platforms that provide hosting for Git repositories, collaboration features like pull requests, and code reviews.

**BUILD TOOL:**

**Maven**: Maven defines a standardized build lifecycle with predefined phases (e.g., compile, test, package, install, deploy). You can customize or extend this lifecycle to suit specific project needs.

**CONTINUOUS INTEGRATION /CONTINUOUS DEPLOYMENT:**

**Jenkins**: A widely-used open-source automation server for continuous integration/continuous delivery (CI/CD) pipelines

**CONTAINERIZATION:**

**Docker**: A platform for creating, deploying, and managing containers, which package applications and their dependencies in an isolated environment.

**ORCHESTRATION:**

**Kubernetes**: A powerful orchestration platform for managing containers at scale, automating the deployment, scaling, and operation of containerized applications.

**MONITORING TOOL:**

**Nagios**: A monitoring tool that collects metrics from configured targets at given intervals.

**AWS:**

It offers a wide range of services, including computing power, storage, databases, networking, machine learning, security, and more, all delivered over the internet.

**Installation of star UML:**

**Step:-1**

Download and install star UML from <https://staruml.io/>

**Step:-2**

Click on download for windows button based on your system architecture

**Step:-3**

Install the downloaded star UML software

**Step:-4**

Explore with tool bar option

**Note:- Screenshots are must for each and every step and need to be uploaded into tessellator**

**Installation of Git-SCM:**

**Step:-1**

Download and install Git from the <https://git-scm.com/>

**Step:-2**

Select the Git software for the required OS

**Step-3**

Install the downloaded Git software

**Step:-4**

While installing select the option Use Git from Git Bash only option and click Next.

**Step:-5**

You will now find the Git Bash after successful installation

**Note:- Screenshots are must for each and every step and need to be uploaded into tessellator**

**Creation of Git-Hub account:**

**Step:-1**

Browse the website https://github.com and click on Signup

**Step:-2**

Enter your email address with which you want to access github and also create a   
password for the same, select Notifications received through email—’y

**Step:-3**

Complete the verification process by selecting the spiral galaxy in the given set of   
images

**Step:-4**

Skip personalization …and your account is ready

**Note:- Screenshots are must for each and every step and need to be uploaded into tessellator**

**Conclusion:**

By the end of this session, students will learn the complete workflow for handling projects, from project management to deployment. They will also be guided through the installation of Git, StarUML, and the process of signing up for GitHub.