**ACTIVITY:9.1**

**DIFFERENT DEVOPS TOOL**

1. Version Control tools

**GitHub**: Github is considered as one of the largest and most advanced development platforms in the world. Millions of developers and companies build, ship, and maintain their software on GitHub. Some of its’ salient features are:

* Collaborative Coding
* Automation / CI & CD
* Project Management

**Bitbucket**: Bitbucket is a very popular platform, with over 10 million registered users. Although it is a platform for hosting code, it goes beyond just code management. Teams can plan projects, collaborate on code, test, and deploy from a single platform. Some of its features are:

* Tighter Jira and Trello integration.
* Integrated CI/CD to build, test and deploy.
* Pull requests and approve code review more efficiently.

**GitLab**: It is an all-in-one DevOps Tool for rapid software delivery. It enables teams to perform all tasks right from Planning to SCM to Delivery to Monitoring and Security. Following are a few of its features:

* CI/CD for robust, scalable, and end-to-end automation to work together efficiently – Continuous Everything.
* Built-in functionality for Automated Security, Code Quality and Vulnerability management & with tight governance, your DevOps speed never slows down.

2. Container Management tools

**Docker**:Docker is a light-weight tool that aims to simplify and accelerate various workflows in your SDLC with an integrated approach. A docker container image is a standalone, executable package that includes everything you need to run an application. Some of its primary features are that helped it become indispensable among DevOps tools are:

* Standardized Packaging format for diverse applications.
* Container runtime that runs on various Linux and Windows Server OSs.
* Developers uses Docker for build, test and collaborate.
* Package, Execute and Manage distributed applications with Docker App.

**Kubernetes**: Kubernetes is an open-source DevOps tool used to automate deployment and management of containerized applications & perhaps one of the most popular container orchestration tools. Features that differentiate it from other DevOps Tools include:

* Automatically mount the storage system of your choice.
* Self-healing capability.

**Mesos**: Apache Mesos is a DevOps tool to manage computer clusters. It is a distributed systems kernel for resource management and scheduling across entire datacenter and cloud environments. Its features include:

* Offers native support to launch containers with Docker and AppC images.
* Supports cloud-native and legacy applications to run in the same cluster with pluggable scheduling policies.

3. Application Performance Monitoring tools

**Prometheus**:Prometheus is an open-source and community driven performance monitoring solution. It also supports container monitoring and creates alerts based on time series data. Solution includes the following features:

* Scaling with the help of functional sharding and federation.
* Numerous client libraries allow easy service instrumentation.
* Powerful reporting capabilities through PromQL.

**Dynatrace**: Covers all monitoring needs such as application performance, digital experience, business analytics, AIOps, and infrastructure monitoring. Its features are:

* Automate orchestration with open APIs.
* Provides extensive cloud support and compatible with all major db technologies.
* AI Driven problem detection and resolution.

**AppDynamics**: AppDynamics facilitates real-time insights into application performance. This DevOps tool monitors and reports on the performance of all transactions flowing through your application. Its features are:

* Agents are Intelligent and know when to capture the details of transactions.
* Solves performance problems through an analytics-driven approach.
* Automatically finds out normal performance and stop false alarms.

4. Deployment & Server Monitoring tools

**Splunk**: Splunk is a monitoring and exploring tool that is used on SaaS and on-premises. It has features like:

* Monitor and troubleshoot across your infrastructure, including physical, virtual, or in the cloud.
* Modernize applications for better customer experiences through accelerated innovation.

**Datadog**:Datadog is a SaaS-based DevOps tool for server and app monitoring having hybrid cloud environments. It facilitates monitoring of Docker containers as well. Some of its salient features:

* Offers end-to-end user experience visibility in a single platform.
* Built to give visibility across teams.

Source: datadoghq.com/product

**Sensu**: Sensu is an open-source devops tool for monitoring cloud environments. It is easily deployable through Puppet and Chef. Following are its features:

* Declarative configurations and a service-based approach to monitoring let you define the monitoring insights that matter most, automating your workflows so you can focus on what matters.

Source: sensu.io/features

5. Configuration Management tools

**Chef**: Chef is an open-source DevOps tool for automation and configuration management built by Erlang and Ruby. Its features are:

* “Cookbooks” which facilitates infrastructure coding in languages specific to domains.
* Configuration as code.

**Puppet**:Puppet is responsible for managing and automating your infrastructure and complex workflows in a simplistic manner. Features of this DevOps Tool are:

* Automate and simplify critical manual tasks by extracting configuration details across various operating systems and platforms.

**Ansible**: Ansible delivers simple IT automation that ends repetitive tasks and frees up teams for more strategic work. Focusing on two key use-cases:

* Configuration management – Aim to be the simplest solution and designed to be minimal in nature, consistent, secure and highly reliable, with a focus on getting started quickly for administrators, developers and IT managers.