Faculty of Technology and Engineering

Department of Artificial Intelligence and Machine Learning.

Date: 29/07/2024

Event Application No in E-governance:

Event Name: Hands-on Workshop on **“**Git and Github”

Detail about the event:

This event was organised for the students of the Artificial Intelligence and Machine Learning department of CSPIT, CHARUSAT on 29/07/2024. We had planned an interactive workshop on Git and Github . A total of 102 students, 1 faculty members, and 3 Volunteers participated in the same.

The session on Git and GitHub was designed to provide participants with a thorough understanding of version control using Git and the collaborative features of GitHub. This session was crucial for participants to gain practical knowledge and hands-on experience with these essential tools, which are widely used in the software development industry.

The event started at 2:20 PM with an introduction to AWS Partyrock Services, providing participants with an overview of how these cloud services can enhance their development workflows. The idea was to familiarize attendees with the integration capabilities of AWS, emphasizing how leveraging cloud infrastructure can streamline project management and collaboration. This introduction set the stage for understanding how Git and GitHub can be used in conjunction with cloud services to optimize software development processes.

Session Outline:

1. Installation and Configuration

- Git Installation: The session began with a step-by-step guide on how to download and install Git on different operating systems, including Windows, macOS, and Linux. Participants learned the importance of having Git installed locally to manage their projects effectively.

- Configuration: After installation, participants were guided on how to configure Git with their personal information, such as username and email address. This configuration is essential as it helps identify the author of the commits in a project.

2. Creating and Initializing a Repository

- Creating a Local Repository: Participants were shown how to create a new directory for their project and initialize it as a Git repository. This step is foundational, as it sets up the project to use Git for version control.

- Checking Status: The importance of checking the status of the repository was emphasized. Participants learned how to use Git commands to view the current state of the repository, including which files are tracked, untracked, and staged for commit.

3. Adding Files to Staging Area and Committing

- Adding Files: The session included a detailed explanation of how to add files to the staging area. This step is critical as it allows users to prepare selected files for commit without affecting the entire repository.

- Committing Files: Participants were taught how to commit their changes with meaningful messages. This practice helps maintain a clear history of changes, making it easier to understand the project's evolution over time.

4. Creating a GitHub Account and Repository

- GitHub Account Creation: Guidance was provided on how to create a GitHub account, which is necessary for accessing the collaborative features of GitHub.

- Creating a Remote Repository: Participants learned how to create a new repository on GitHub, which serves as a remote version of their local repository. This step is crucial for enabling collaboration with others.

5. Connecting Local Repository to GitHub

- Adding Remote Repository: The session covered how to link the local repository to the newly created GitHub repository. This connection allows users to push their local changes to the remote repository and pull updates made by collaborators.

- Pushing to Remote Repository: Participants were shown how to push their commits from the local repository to the remote repository on GitHub. This process is essential for keeping the remote repository up-to-date with local changes.

6. Using the Stash Command

- Stashing Changes: The concept of stashing was introduced, which allows users to temporarily save changes that are not yet ready to be committed. This feature is useful when switching between branches or when needing to work on urgent tasks without losing progress on ongoing work.

- Applying Stashed Changes: Participants learned how to reapply stashed changes to their working directory. This step ensures that previously saved work can be resumed seamlessly.

7. GitHub Desktop

- Introduction to GitHub Desktop: An overview of GitHub Desktop was provided, highlighting its benefits for users who prefer a graphical interface over command-line tools. GitHub Desktop simplifies many Git operations, making it more accessible for beginners.

- Performing Tasks with GitHub Desktop: Participants were shown how to perform similar tasks, such as committing and pushing changes, using GitHub Desktop. This demonstration reinforced the versatility of Git and GitHub across different interfaces.

8. Interactive Quiz

- Quiz on Slido: An interactive quiz was conducted using Slido to reinforce the concepts covered during the session. This quiz helped assess participants' understanding and provided an opportunity for them to clarify any doubts.

9. GitHub Student Developer Pack

- Information Session: The session concluded with information about the GitHub Student Developer Pack. Participants learned about the various tools and resources available to students through this pack, which can enhance their learning and development experience.

The Git and GitHub session was meticulously designed to equip participants with the essential skills needed to manage version control and collaborate effectively on software projects. By covering both command-line and graphical interfaces, the session catered to a diverse range of user preferences. The combination of theoretical knowledge, practical tasks, and interactive quizzes ensured that participants gained a robust understanding of Git and GitHub. This comprehensive approach prepared them to confidently apply these tools in their future projects, fostering better collaboration and project management skills.

Outcomes of the Event:

The session on Git and GitHub yielded several key outcomes:

1. Enhanced Understanding: Participants gained a solid understanding of version control using Git, including essential commands and workflows.

2. Practical Skills: Attendees acquired hands-on experience in setting up and managing repositories, both locally and on GitHub.

3. Collaboration Proficiency: The session equipped participants with the skills to collaborate effectively on projects using GitHub's remote repository features.

4. Stash Command Knowledge: Participants learned how to use the stash command to manage uncommitted changes, enhancing their workflow flexibility.

5. GitHub Desktop Familiarity: Attendees were introduced to GitHub Desktop, providing an alternative to the command-line interface for managing Git operations.

6. Resource Awareness: Information about the GitHub Student Developer Pack broadened participants' awareness of available resources and tools for their development needs.

7. Interactive Learning: The quiz on Slido reinforced key concepts and allowed participants to assess and solidify their understanding.

Attach applicable Annexure

1. CV of experts.
2. Photographs.
3. Evaluation of Feedback.

PHOTOGRAPHS **ANNEXURE II**

Photo-1

Git & Github
(Date: 29/07/2024)

PHOTOGRAPHS **ANNEXURE II**

Photo-2

Dr. Nirav Bhatt, HOD of AIML dept. , Addressing the students on the importance of Git & Github.
(Date: 29/07/2024)