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DevOps

Module 3.2 Assignment

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8 Version Control Best Practices | Perforce

This resource defines and explains some of the best practices for version control. It explains how to apply these practices and why it is important to follow these rules.

-Commit Changes Atomically

- Changes should be completed before committing. If all the files are not finished, they cannot be committed. This practice ensures consistency throughout the project. It also improves the quality of the project and the team's productivity.

-Commit Files with a Single Purpose

- Ensure that changes have one purpose. If a change affects multiple parts of a project, it can become difficult to manage and understand. To ensure his practice is followed, larger tasks should be broken down to better understand the purpose of each change.

-Good Commit Messages

- Commit messages should detail why a change is being made. This allows other people who are reviewing or working on the project to understand the purpose behind the change.

-Don't Break Builds

- Providing test cases can help to ensure changes being committed will not break other team members' builds. This is another reason that commits should be entirely complete. It helps to avoid affecting other people's workspace.

-Review Before Commit

- Getting multiple perspectives and feedback from others before committing can help to catch any errors. This can also produce higher productivity and quality of code.

-Commits should be Traceable

- Details, authors, and other information should be documented. If an issue or bug were to come up, the team should be able to trace where this bug may have first occurred. It also ensures that a project can be returned to its same state before a commit was made.

-Branching

- Ensure branching is simple, descriptive, and well organized. This way changes can easily be tracked and the flow between branches is smooth.

-Security and Protecting Assets

- Keep proper security measures in place. Ensure there are backups and access controls. Version control systems handle, stores, and manage highly sensitive information.

5 Document Version Control Best Practices for 2025

This resource explains 5 best practices for version control. I chose this post because it highlights different best practices than the previous resource. All these recommendations I think are important to successful version control and the safety of data. It also goes on to explain the importance of version controls and popular version control systems.

-Standardize document naming conventions

- Ensure that file naming is consistent throughout the project and that each person working on it follows the same naming system. Name should include information and dates that make it easy to identify and find.

-Implement the right version control software

- Make version control software decisions based on the needs of an application and the business. Do research and understand the benefits of each software, and make informed decisions based on the features needed.

-Set permissions and access controls

- Ensure that necessary documents are secured with access permissions. Analyze which documents need permissions and who is allowed to access and make necessary changes to them.

-Formalize versioning protocols

- Make a plan for what protocols are. These protocols should include documentation, policies, and filing. The protocols should be documented and ensure that everyone is on the same page with the standards.

-Train Staff

- Train staff on version control systems to ensure that everyone is applying it. This will provide consistency and standardization throughout the team.

Version Control Systems - GeeksforGeeks

This resource goes over version control systems uses and benefits. Version control systems are used to track changes made to files by recording modifications made to the code. With so much collaboration in the world of development, version control is necessary to help manage updates and changes, while creating effective ways for team members to communicate.

Key benefits of Version Control:

-Improves team collaboration and communication

-Increases productivity and development speed

-Reduces errors by managing and tracking all changes made

-Allows for collaboration from all areas and locations.

-Helps prepare for recovery if necessary

-Working copies must be validated before merging to the main file

Necessary Parts of a Working Version Control System:

-Repository: Contains all versions of the edited and historical project

-Copy of work: copy of project that can be edited or worked on without affecting the original project. Changes, once finished, can then be committed

-Working in a group: Version control allows you to make and test changes without affecting the users' experience. It allows developing teams to pull requests, make changes, then proceed to merge the changes.

My List:

-Security and Access Controls: Ensures that sensitive information is being handled by the right people.

-Good commit messages: Providing the right information to ensure that files are easy to understand and locate.

-Don't Break Builds: Ensure that changes are tested properly and have test cases. Changes should not affect the next persons work space.

-Committing files with one purpose: To avoid confusion in documentation, tasks and changes should be small enough in size to not disrupt the application or program as a whole.

-Commits should be traceable: Commits should be easy to trace back to and locate. This saves time with finding files, and allows developers to look back on previous versions of the code.

Resources

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