

Sprint 1 – Development Environment and DevOps Basics

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1 Development Environment

1.1 Terminal and Shell

- iTerm2 (macOS) / Windows Terminal (Windows): modern terminal for productivity.
- Zsh + Oh My Zsh:
 - Configured with auto-completion, aliases, and themes.
 - Fast directory navigation and command execution.
- Tmux:
 - Manage multiple sessions in the same terminal.
 - Split screen to run multiple commands simultaneously.
- Result: ready-to-code environment with command history and project management.

1.2 Code Editors

- VS Code: optimized with extensions for PHP, Python, Laravel, and Git.
- Keybindings, themes, and integrated terminal configured.
- Goal: lightweight, powerful IDE ready for all projects.

2 Linux Basics

2.1 Filesystem Structure

- Main directories: /home, /etc, /usr, /var, /tmp.
- Understanding permissions and users.

2.2 Essential Commands

- Navigation and file management: ls, cd, mv, cp, rm.
- Permissions: chmod, chown.
- Searching and filtering: grep, find.
- Viewing files: cat, less, head, tail.
- Automation: bash scripts and task scheduling with cron.

2.3 Command-line Editors

- nano: simple editor for quick file changes.
- vim: powerful editor with insert and command modes.

3 Git and Version Control

3.1 Fundamental Concepts

- Repositories, commits, branches, merges, rebases.
- History tracking and collaboration.

3.2 Practice

- Usage via terminal.
- Exercises on Learn Git Branching.
- Creating and merging branches to simulate real workflows.

4 Web and DevOps Culture

4.1 Web Servers

- Roles of Apache and Nginx servers.
- Interaction with clients over HTTP/HTTPS.
- Managing ports and network services.

4.2 Web Architecture

- Frontend vs backend.
- Database, application server, and web server.

4.3 Security and Hosting

- SSL/TLS certificates to secure connections.
- SSH connections for secure remote administration.
- Best practices: permissions, SSH keys, firewalls.

5 Conclusion

- The development environment is ready for efficient coding.
- Linux and Git fundamentals enable effective project management and collaboration.
- Web and DevOps concepts provide a clear understanding of infrastructure.
- Next steps: practical application with Laravel, Docker, and CI/CD pipelines.