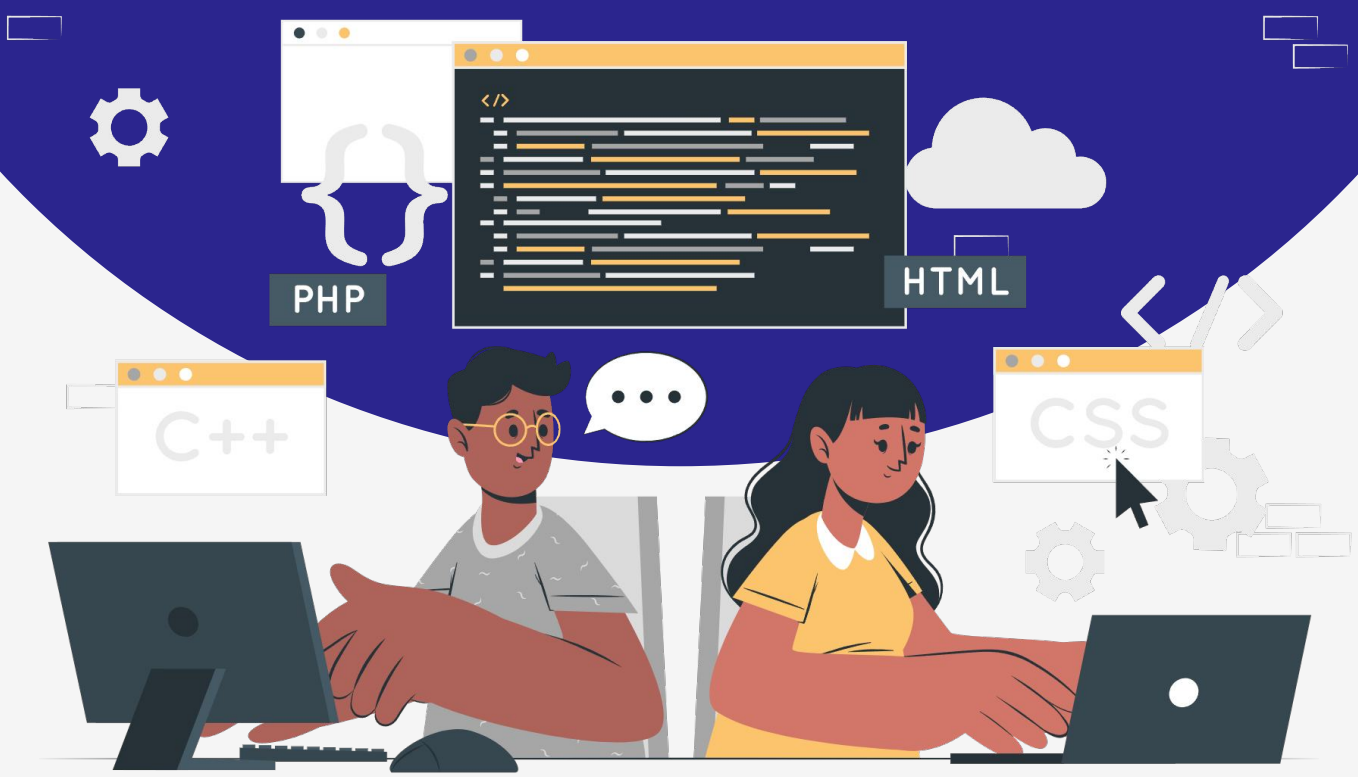
Lesson Plan

What kind of stuff to automate?



PW SKILLS

What kind of stuff to automate?

Automating tasks in Bash scripting can significantly enhance productivity, especially for repetitive tasks. Here's a list of common tasks that are often automated using Bash scripts:

1. File Management

- **Backup files or directories:** Create automated backups of important files or directories at regular intervals.
- **Renaming multiple files:** Use Bash scripts to rename batches of files according to specific patterns.
- **Archiving and compressing files:** Automate the process of compressing files or directories using tar, gzip, or zip.
- **File organization:** Automatically move or copy files to specific directories based on their extensions or content.

2. System Administration

- **System updates and maintenance:** Automate system updates, package installations, and cleanup tasks.
- **Log management:** Rotate, compress, or delete old log files automatically.
- **Monitoring system health:** Create scripts to check system resources like CPU, memory, disk space, and alert if thresholds are crossed.
- **Automated deployment:** Deploy applications or updates automatically across multiple servers.

3. Networking Tasks

- **Automating SSH tasks:** Execute commands on remote servers using SSH without manual login.
- **Network configuration:** Automate network setup tasks, such as configuring IP addresses, firewalls, or VPN connections.
- **Data transfer:** Use scp or sync to automate file transfers between servers or backup systems.

4. Data Processing

- **Text processing:** Automate tasks like searching, replacing, or extracting data from text files using tools like grep, sed, or awk.
- **Database management:** Automate database backups, migrations, or data imports/exports.
- **Data parsing:** Process and transform data from CSV, JSON, or XML files.

5. Task Scheduling

- **Cron jobs:** Schedule scripts to run at specific intervals (e.g., daily backups, report generation).
- **Automated reminders or notifications:** Send automated emails or notifications based on certain triggers.

6. Development Tasks

- **Automated testing:** Run test suites automatically after code changes.
- **Build automation:** Compile code, create builds, and deploy applications.
- **Version control automation:** Automate git tasks, such as pulling the latest code, committing changes, or managing branches.

7. User Management

- **User account management:** Automate the creation, deletion, or modification of user accounts.
- **Permissions management:** Automatically set or change file and directory permissions.

8. Automation of Repetitive Tasks

- **Form filling:** Automate the process of filling out repetitive forms or input fields.
- **Web scraping:** Automate the extraction of data from websites.

9. Custom Alerts

- **System monitoring:** Send alerts when specific conditions are met (e.g., low disk space, high CPU usage).
- **Service monitoring:** Automatically restart services if they go down.

10. Integration with Other Tools

- **API calls:** Automate interactions with APIs (e.g., sending data to a web service).
- **Task orchestration:** Integrate Bash scripts with other automation tools like Ansible, Jenkins, or Docker.

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THANK YOU !