Script Overview

This script defines the baseline configuration for the on-premise Linux server used during the hybrid migration to AWS.
Instead of relying on manual setup, the server configuration is codified so it can be consistently re-applied at any time.

The script ensures that all required dependencies (Apache and Java) are present, that services are enabled and running, and that basic security hardening is enforced. By automating these steps, the on-prem environment remains predictable and aligned with the expected configuration throughout the migration period.

How This Script Is Idempotent

The script is **idempotent**, meaning it can be executed multiple times and the system will always converge to the same final state.

- Package installation commands install missing packages but do nothing if they are already present.

- Service enable/start commands do not create duplicate processes if Apache is already running.

- The configuration change replaces an insecure value only once and leaves the file unchanged on subsequent runs.

Because every step is safe to re-run, the script can be executed repeatedly without causing configuration duplication or instability.

How This Script Reduces Configuration Drift

Configuration drift occurs when manual or inconsistent changes cause a server to diverge from its documented or expected state.

This script reduces drift by **re-applying the baseline configuration** every time it runs:

- If packages are removed manually, they are reinstalled.

- If services are stopped or disabled, they are restored.

- If security hardening is reverted, it is enforced again.

Even if an administrator makes manual changes, the next execution of the script corrects the server automatically, ensuring consistency over time.

Automation Enablement

Because the script is idempotent, it can safely be triggered via automation tools such as:

- **Cron jobs** for periodic compliance enforcement

- **CI/CD pipelines** after OS patching or server rebuilds

This enables self-healing behavior and eliminates reliance on manual verification.