**Ubuntu Server Automation with Vagrant Project**

Summary: Configured a functional Ubuntu 20.04 virtual machine using Vagrant and Bash provisioning scripts. Automated system administration tasks include user creation, service installation, verification (Apache, SSH, SQLite, rsyslog, and UFW firewall), package management, SQLite database creation, and log rotation.

**Steps:**

**Step 1: Wrote Vagrantfile**

I created a Vagrantfile which acted as the blueprint for the VM settings. I chose Ubuntu 20.04 as the base box for my machine. I configured the VM to have 2 CPUs and 2048 bytes of memory. I synced the scripts in my project folder on my computer to the /vagrant file in my VM. I specified 2 Bash provisioning scripts to automate the configuration of the VM. One script (startup\_script.sh) ran only once at VM creation and the second script (health\_check.sh) ran every time the VM started and verified the health of the machine, that packages were installed correctly and the necessary services were running.

**Step 2: Wrote startup\_script**

I wrote a bash script to automate some tasks that need to be done to initially set up a Ubuntu server including:

* Creating a user
* Installing packages and services
* Configuring firewall rules
* Configuring Log Rotation

**Step 3 Wrote health\_check script**

I wrote a script that would run whenever the VM starts up to verify the health and resources of the machine. The script verified that

* The user was created properly
* Packages were installed
* Services were running
* SQLite database and table were created
* UFW firewall rules were created and enabled
* Sufficient CPU and Memory resources were available

**Step 4 Created VM with Vagrant and verified VM functionality**

I installed Vagrant and its utilities on my computer. Then I used the command **vagrant up –provision** to create the VM.

**Output of health\_check.sh script on the VM >>**

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer program

AI-generated content may be incorrect.

A screen shot of a black screen

AI-generated content may be incorrect.