# Section 1:

# Task 1.1: Bare-Metal Server Setup and Configuration

1. Install the latest stable version of Ubuntu Server:

* Download the Ubuntu Server ISO from the official website:

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* Create a bootable USB drive using tools like Rufus

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2. Configure SSH access with public key authentication:

* Generate an SSH key pair on your local machine using ssh-keygen.

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* Copy the public key to the server using ssh-copy-id or manually by adding

it to the ~/.ssh/authorized\_keys file.

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* Disable password-based SSH login by editing the /etc/ssh/sshd\_config

file (PasswordAuthentication no).



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3. Set up basic firewall rules using ufw to allow SSH and web traffic:

* Enable ufw (Uncomplicated Firewall)

Update system

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Install ufw:

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Check process status:

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Enable process:



Allow SSH traffic:

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Allow HTTP/HTTPS traffic for web server:

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Check the status.

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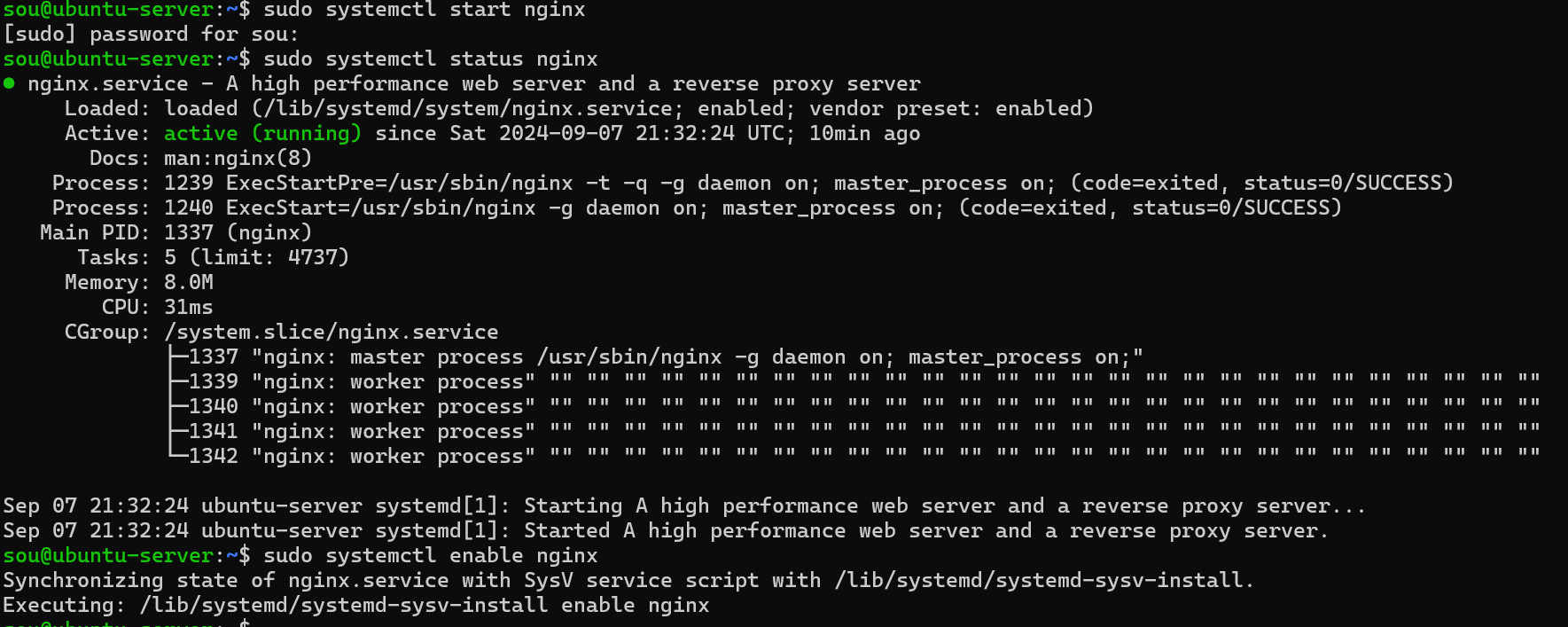
Description automatically generated

# 4. Install and configure a web server (e.g., Nginx or Apache):

* Install Nginx:

sudo apt install nginx -y

* Start and enable Nginx



* Create a basic HTML page and place it in /var/www/html/index.html to

test the web server





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* Test the configuration by accessing the server’s IP address in a browser:

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# Task 1.2: Managed Server Upgrade

Since we don’t have a Laravel application, I will put here the command that we use in case we had one.

* Connect to the managed server

ssh@ipaddress

* Update Docker Image

Created a nodejs app that has this old nodemon dependency



Install docker



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Clone project



Create Dockerfile

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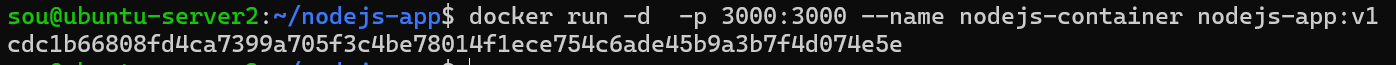
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Build docker image

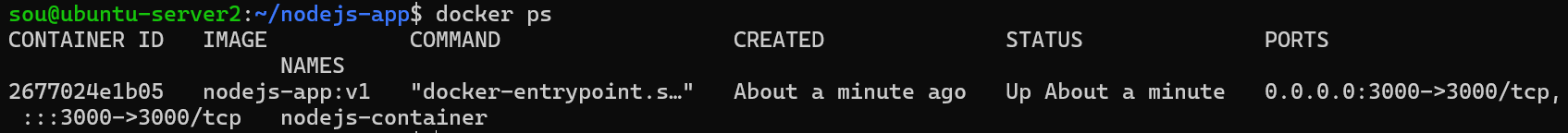
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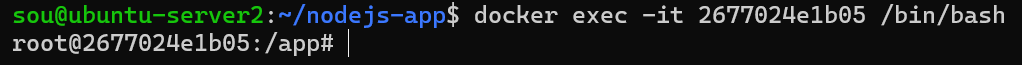
Run container



Check running container



Access the running container



Upgrade nodemon version to latest

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Verify upgrade

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# Section 2: Security of Servers

Update Packages:

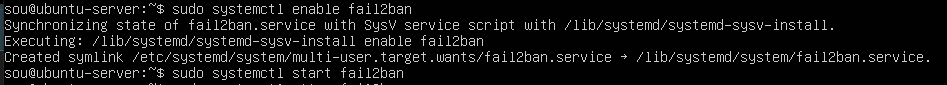
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Install and Configure Fail2ban:

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The process wasn’t running, according the to the logs, it’s not finding the log file for ssh. I tracked the log file for ssh which is /var/log/fail2ban.log, and modified it in the config file

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Now it runs properly

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* Verify the Upgrade

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* Set Up Automatic Security Updates

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Configuriting it

Verify config file



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Enable automatic updates



Update packages everyday and remove unsued packages automaticall

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Dry run to try config

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Apply changes

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* Configure SELinux or AppArmor

Install packages

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Enable selinux

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Reboot to apply changes



Check status

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Description automatically generated

Set enforcing mode to override other rules



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List selinux Booleans

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