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Roll No: 242466

Practical No: 13

Date Of Performance: 10/10/2025

Aim: To understand continuous monitoring by installing and configuring Nagios Core and Nagios Plugins on a Linux machine and exploring the monitoring dashboard services.

1) What is Nagios? Comment on why we need Nagios tool?
2) Perform an experiment, to Understand Continuous monitoring and Installation and configuration of Nagios Core, Nagios Plugins on Linux Machine.
3) Login to Nagios dashboard and just list any 5 services available of dashboard

[Terminate the resources after performing the practical-terminate Ec2]

ANS.1:

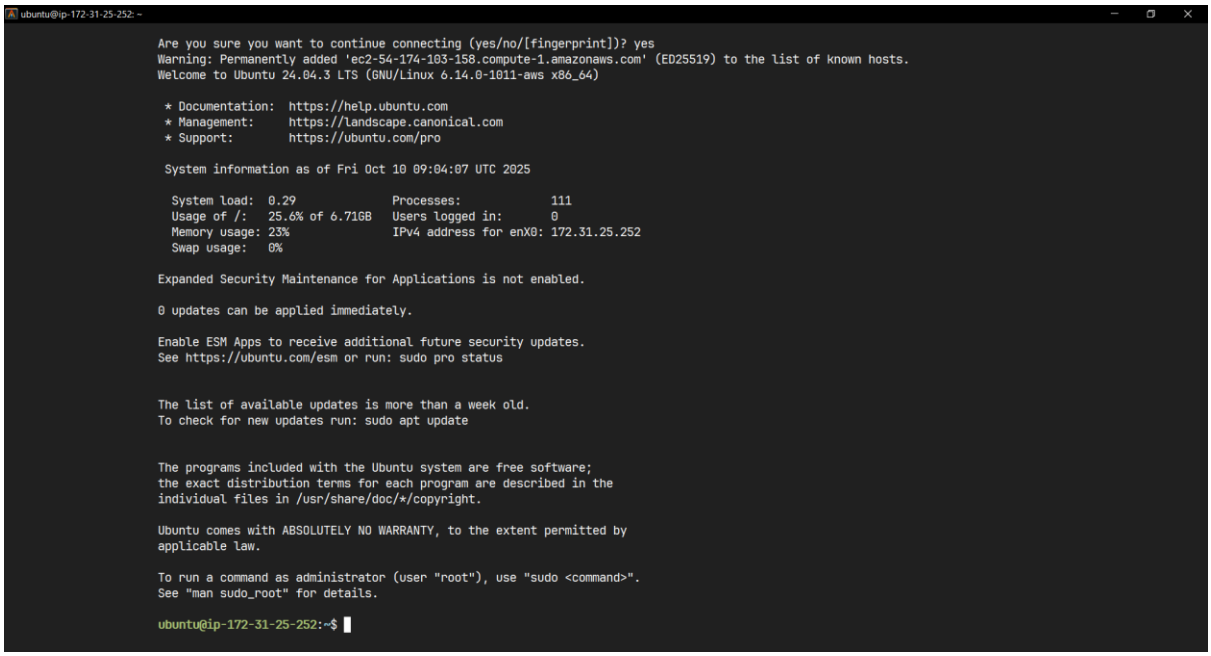
Nagios is an open-source continuous monitoring system that monitors network services, host resources, and server components.
We need Nagios tool because:

- It provides proactive problem detection before infrastructure issues affect business operations
- Enables automated alerting and notifications when services fail
- Offers comprehensive infrastructure monitoring of networks, servers, applications, and services
- Supports performance tracking and capacity planning through historical data
- Ensures high availability of critical IT infrastructure components
- Provides centralized monitoring dashboard for entire IT environment

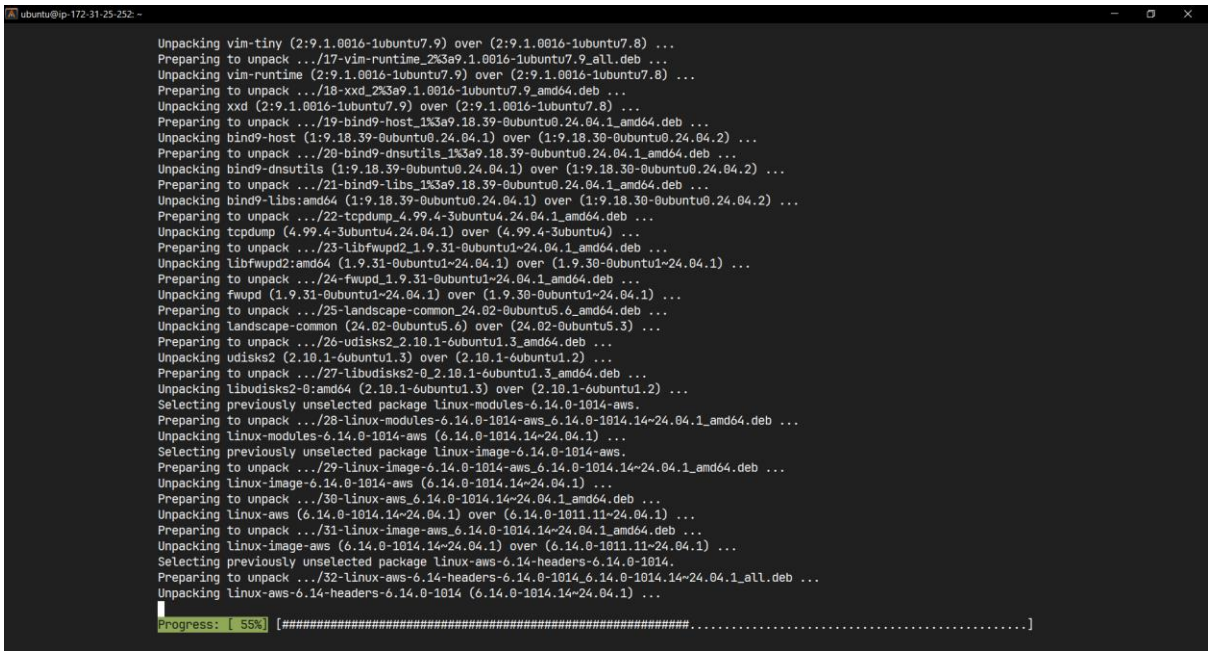
ANS.3:

- Current Load - Monitors CPU load average and processor utilization
- Current Users - Tracks number of users currently logged into the system
- HTTP - Monitors web server availability and response time
- PING - Checks host reachability using ICMP ping protocol
- Root Partition - Monitors disk space usage on the root filesystem

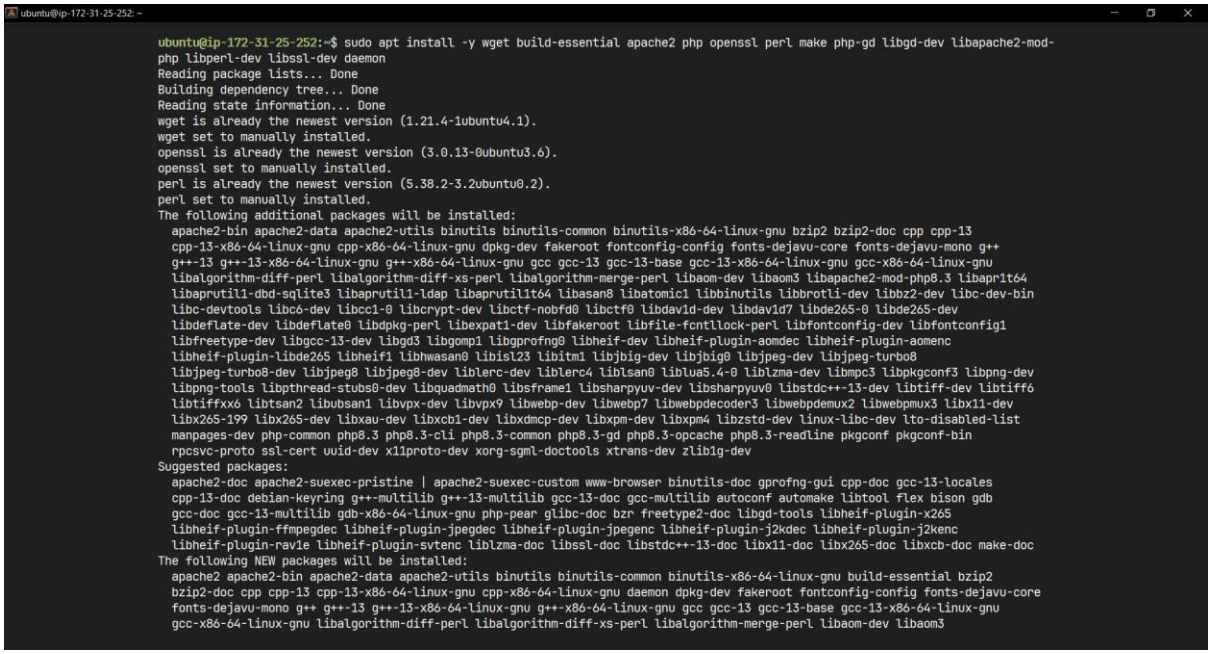
ANS.2:



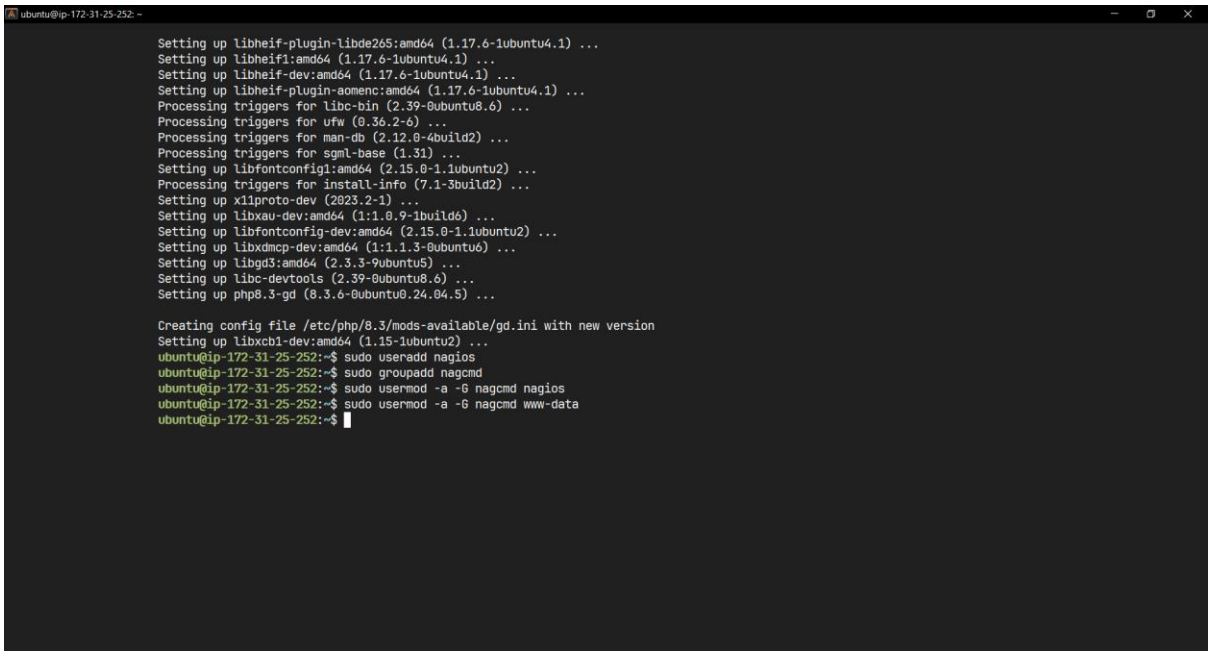
Connected to an Ubuntu EC2 Instance successfully



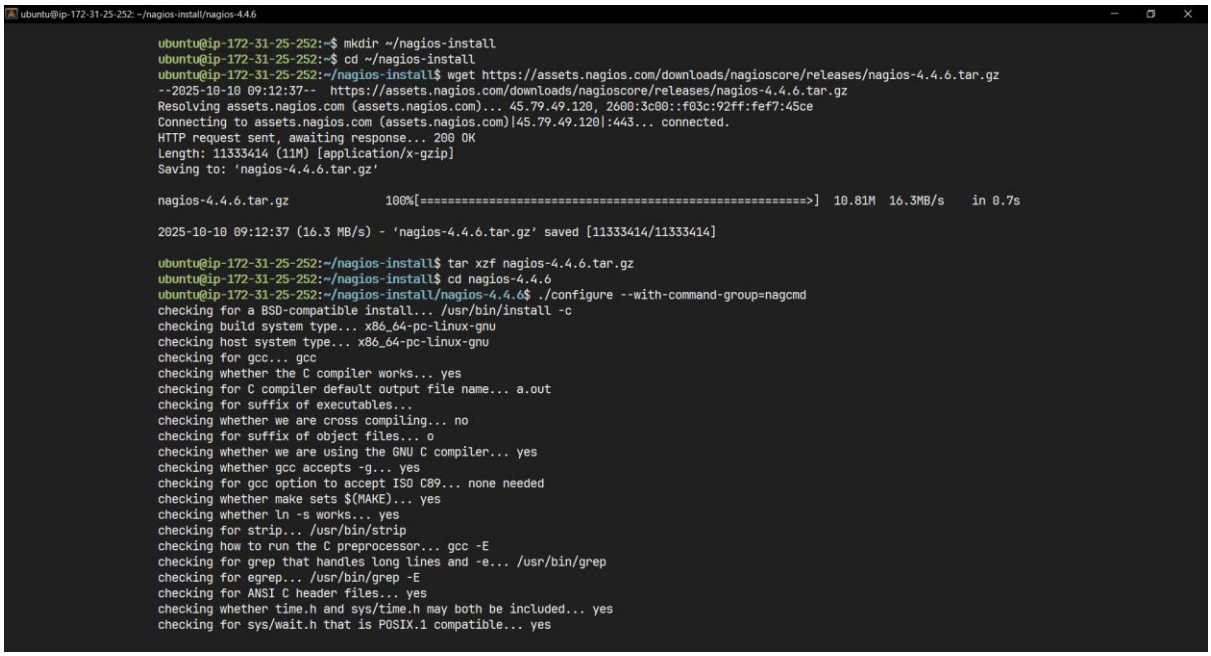
Updating and Upgrading Ubuntu System



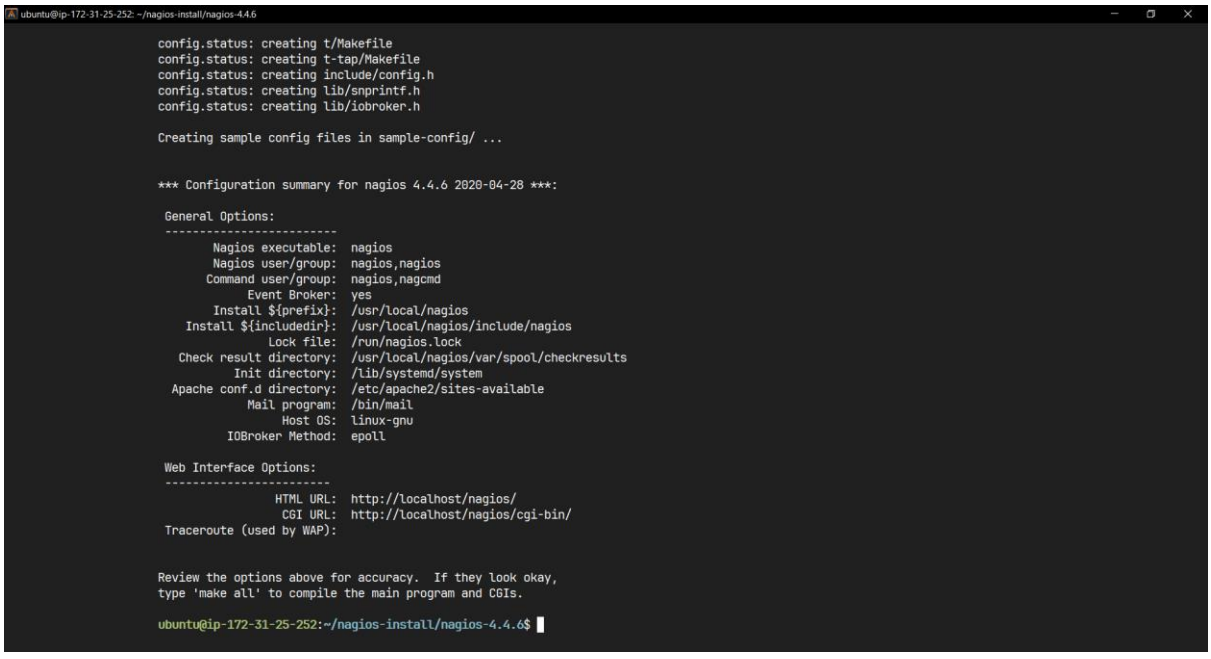
Installing required dependencies



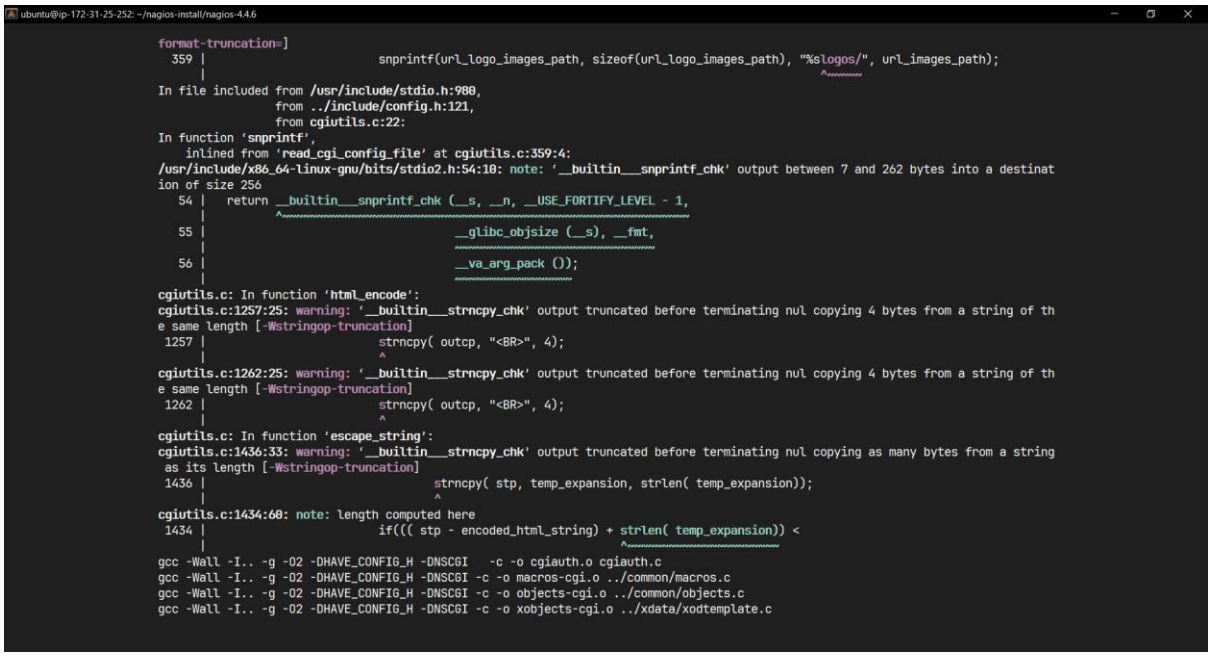
Create Nagios User and Group

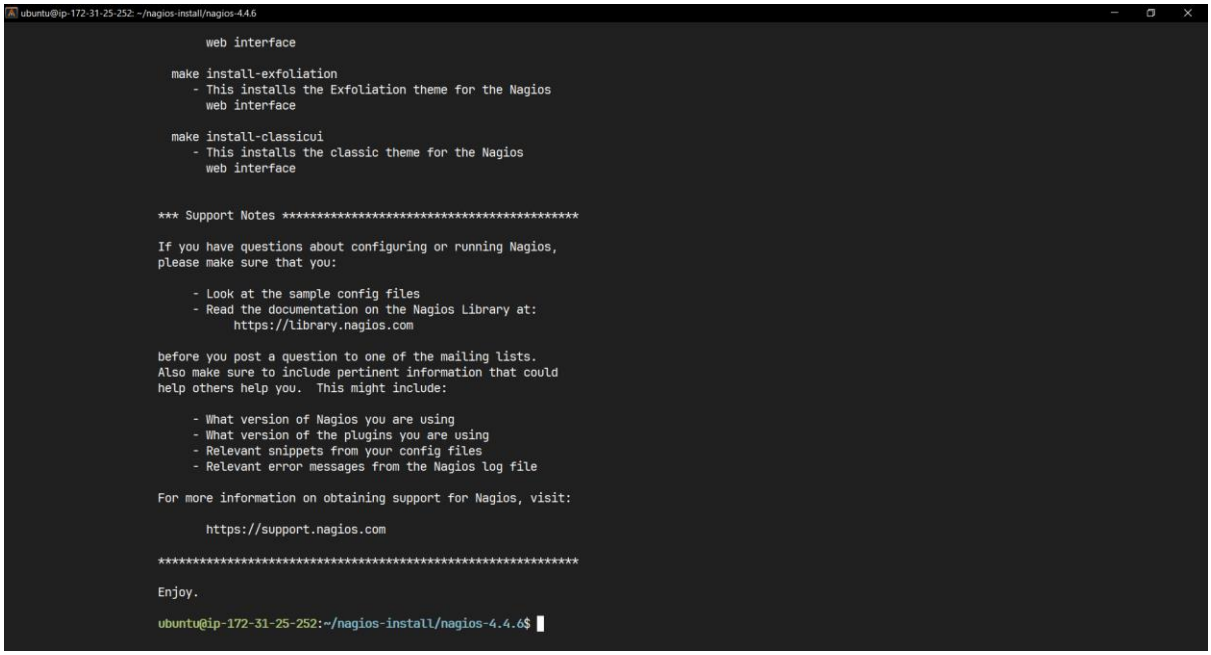


Download and Install Nagios Core

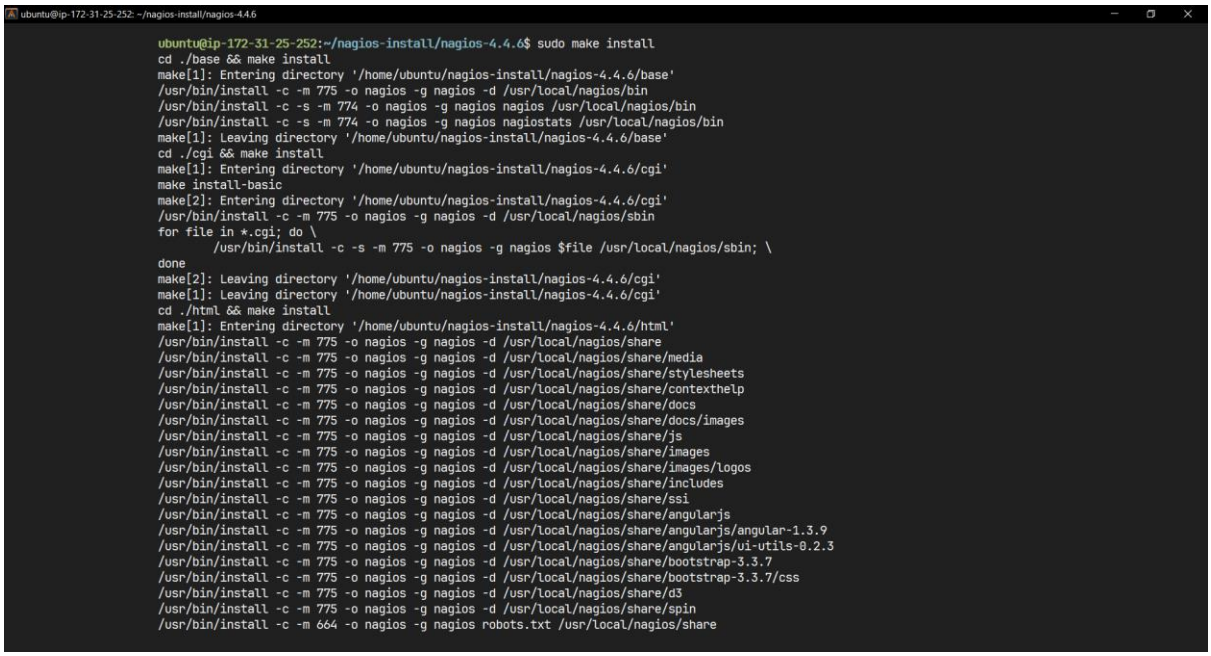


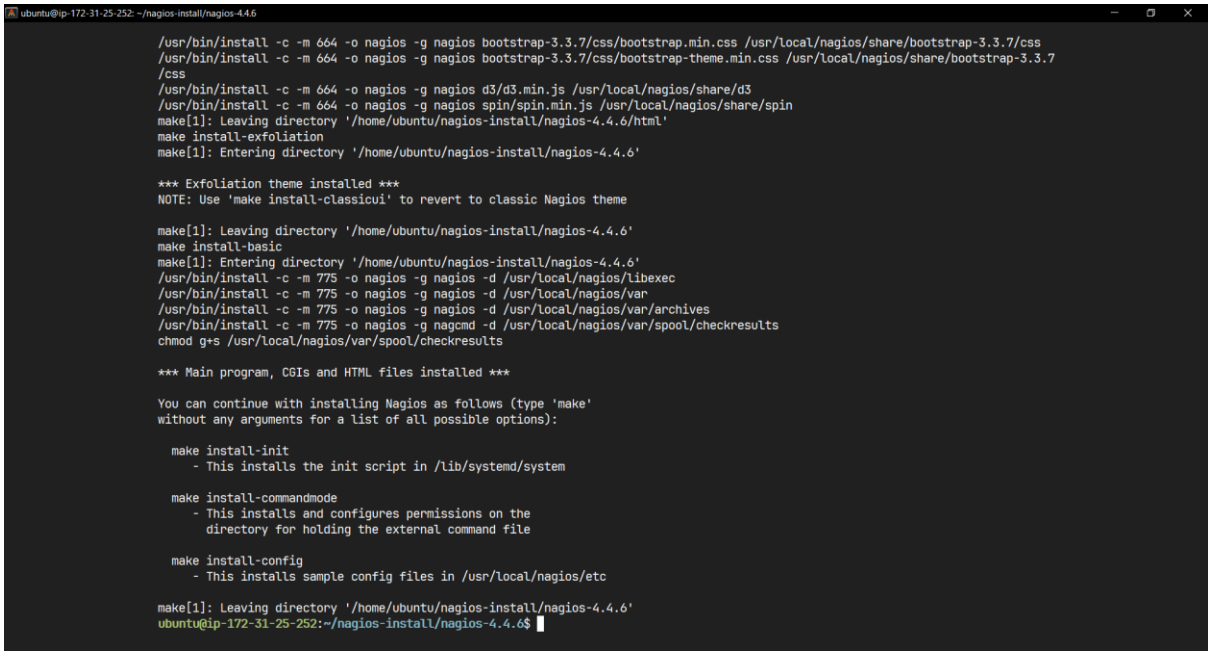
Compile and install Nagios
(./configure --with-command-group=nagcmd)



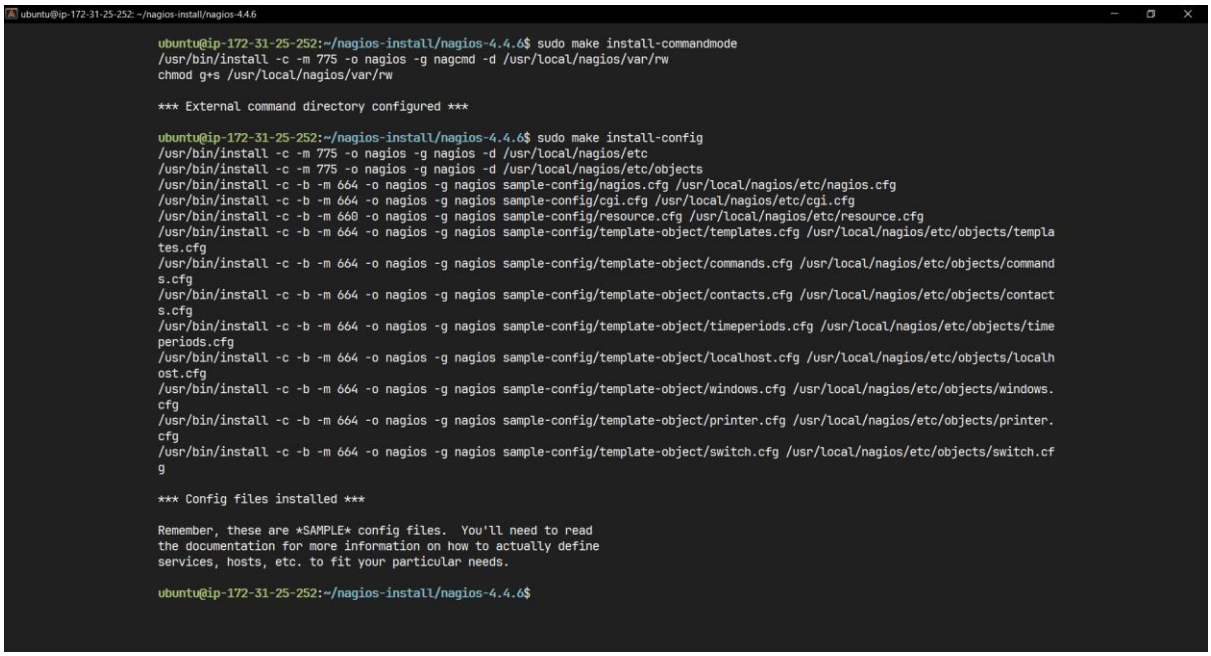


(make all) Command execution Completed

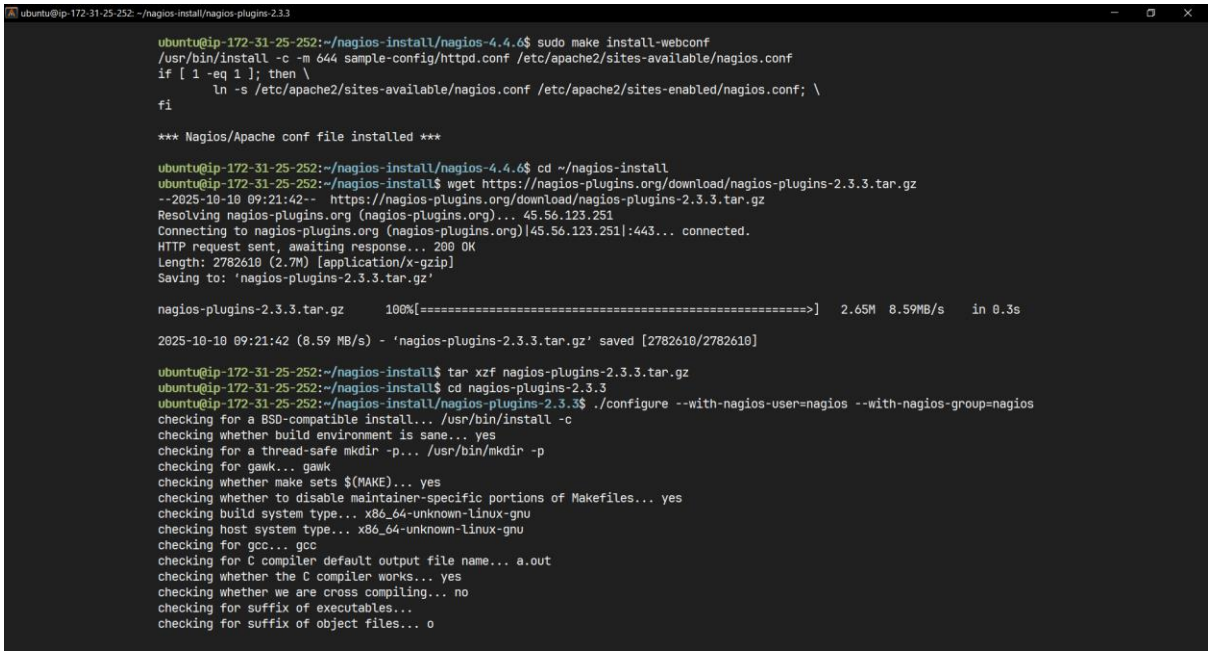




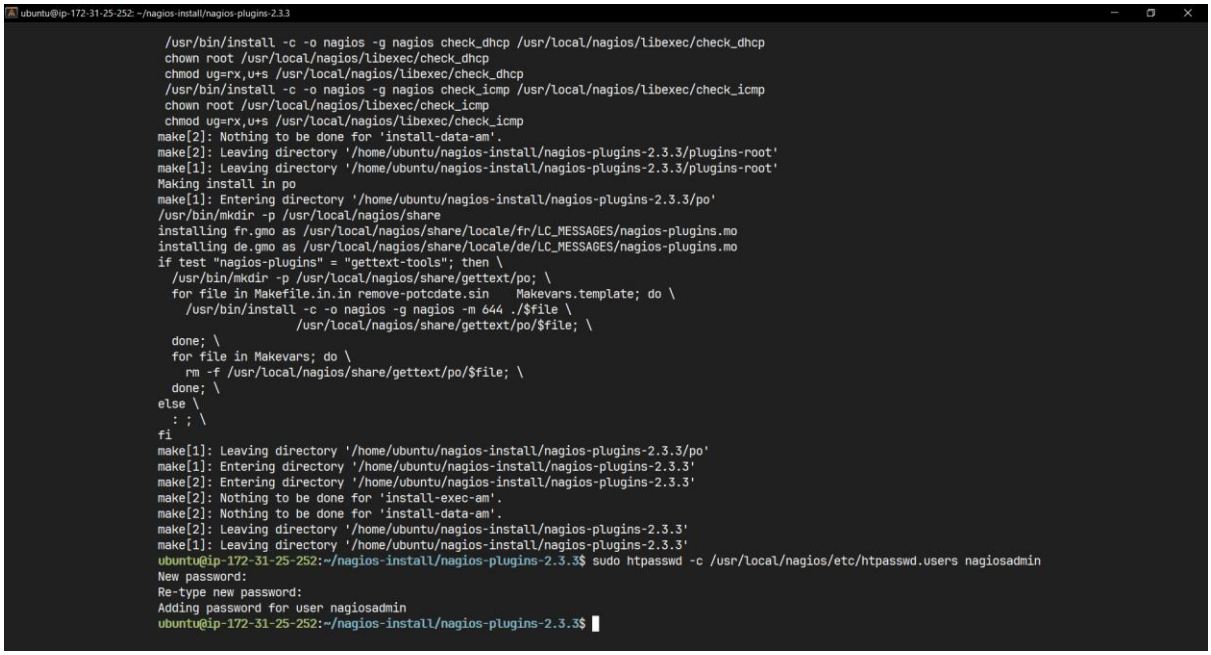
(sudo make install) Command Execution Successful



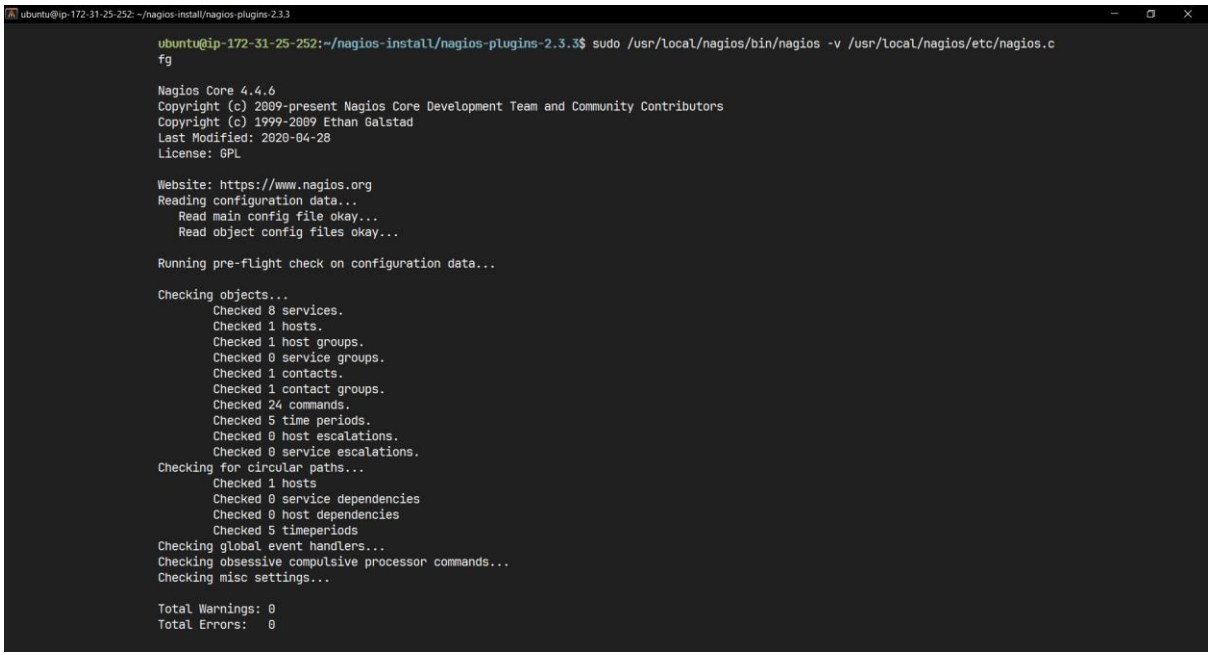
Installing Command Mode and configuration files



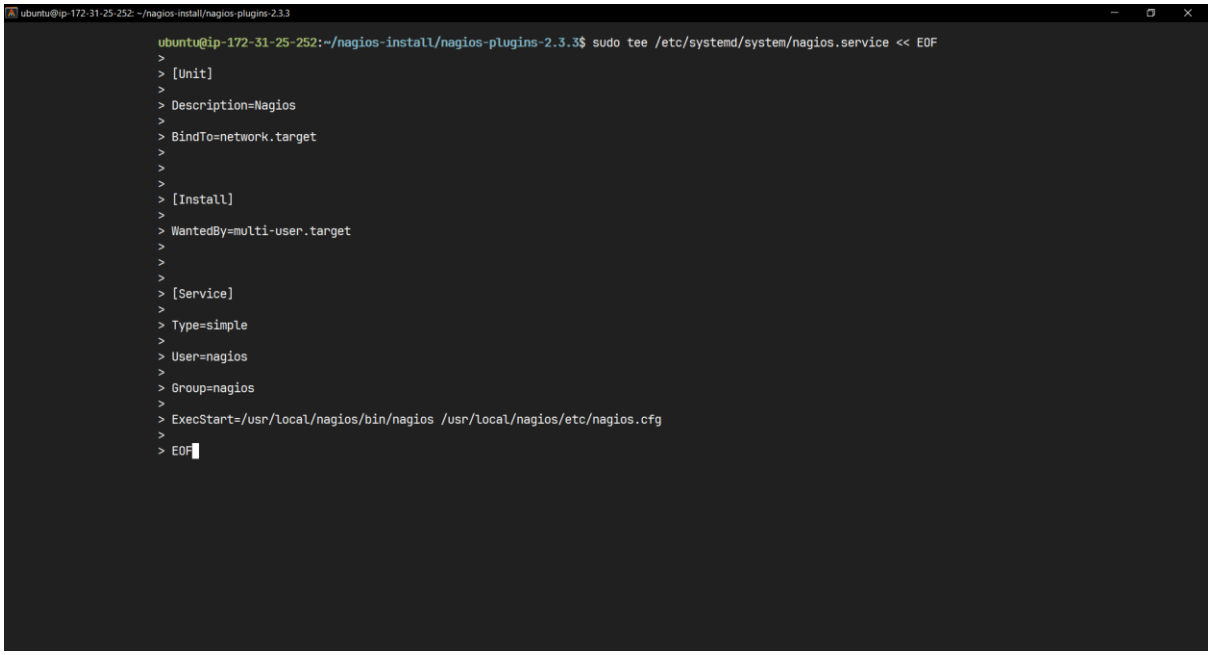
Install Web Configuration and Nagios Plugins



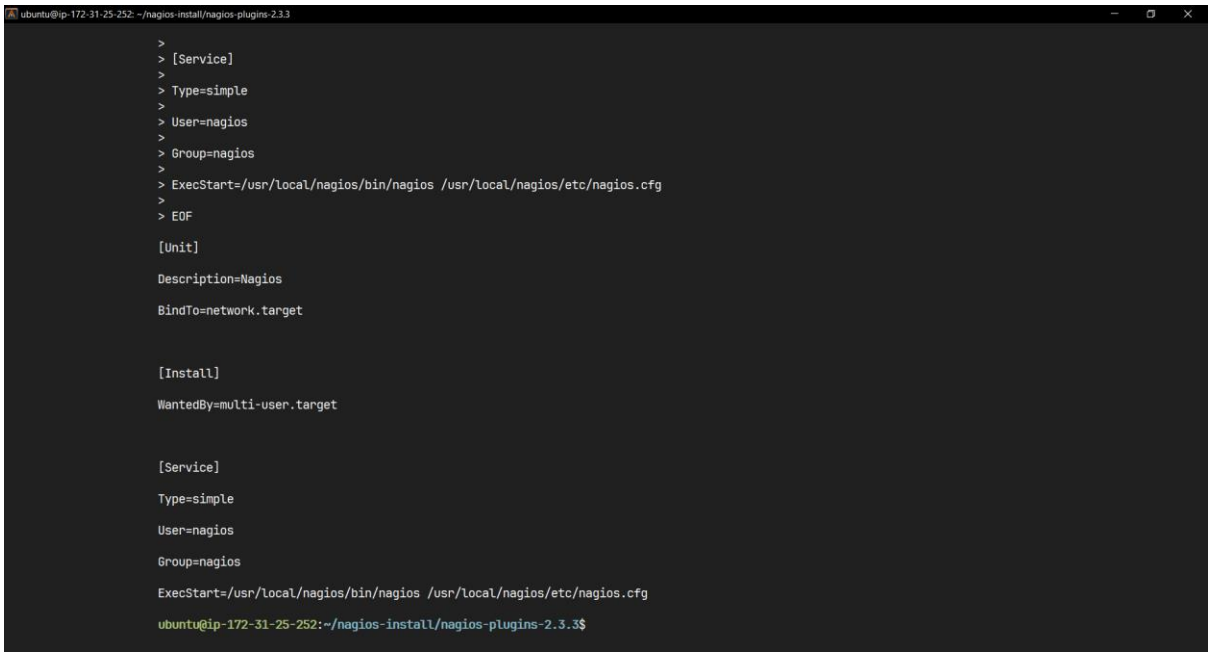
`make`, `sudo make install` and setting password



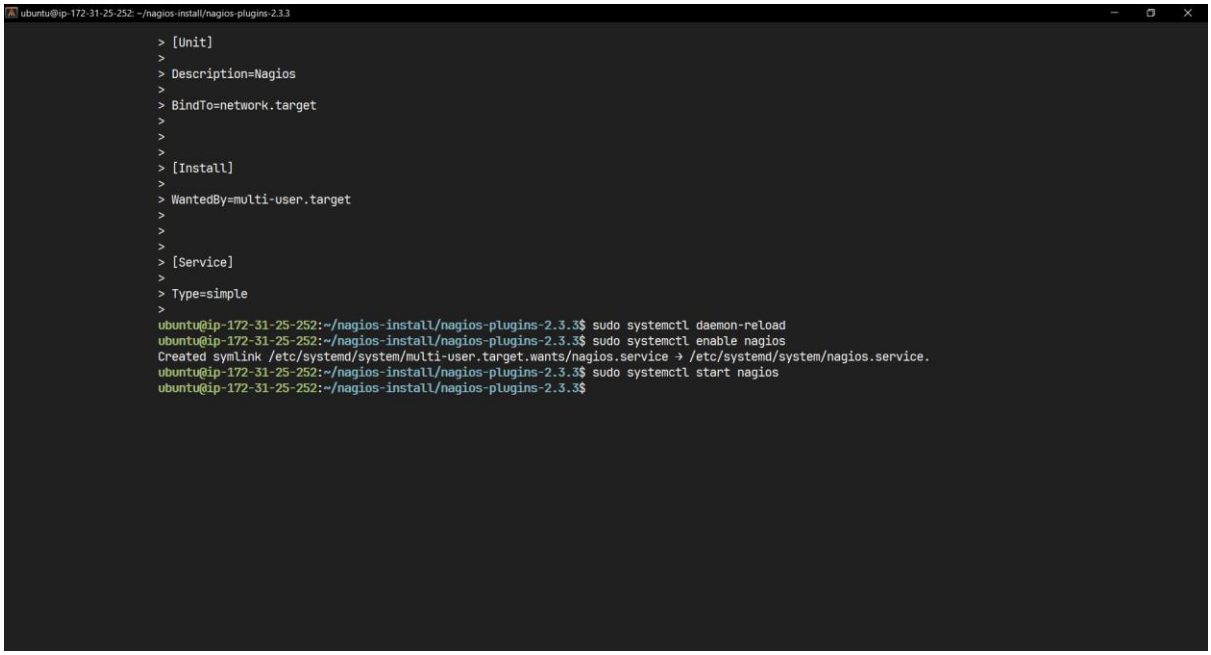
Verifying configuration



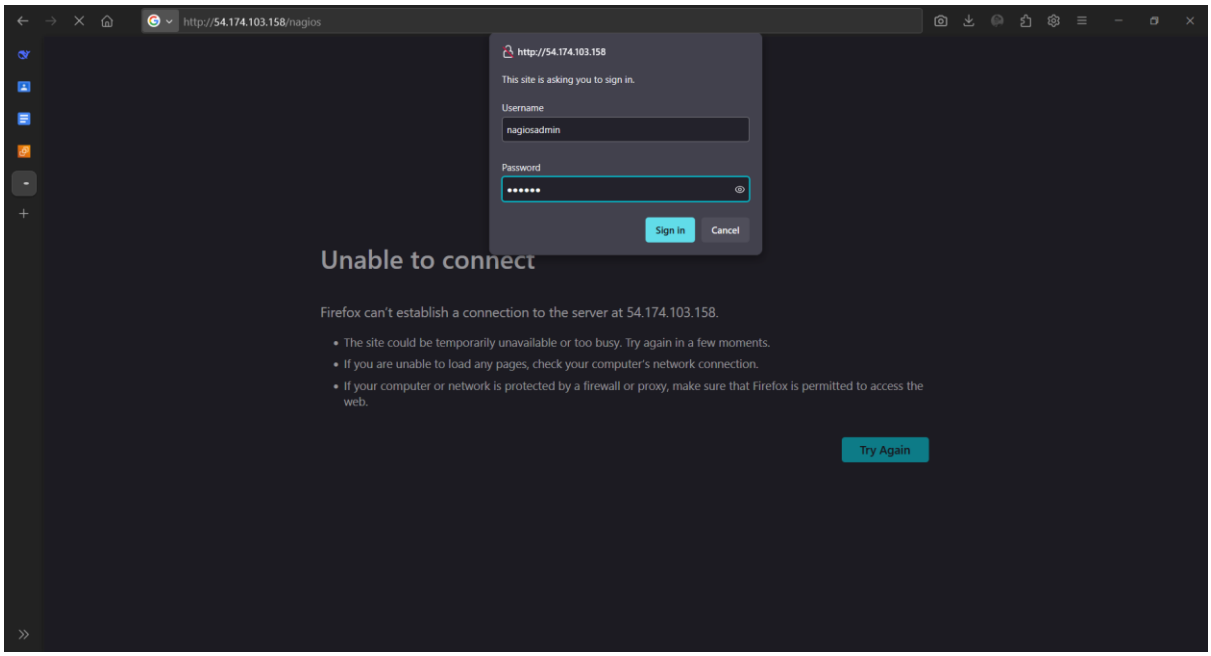
Creating systemd service file



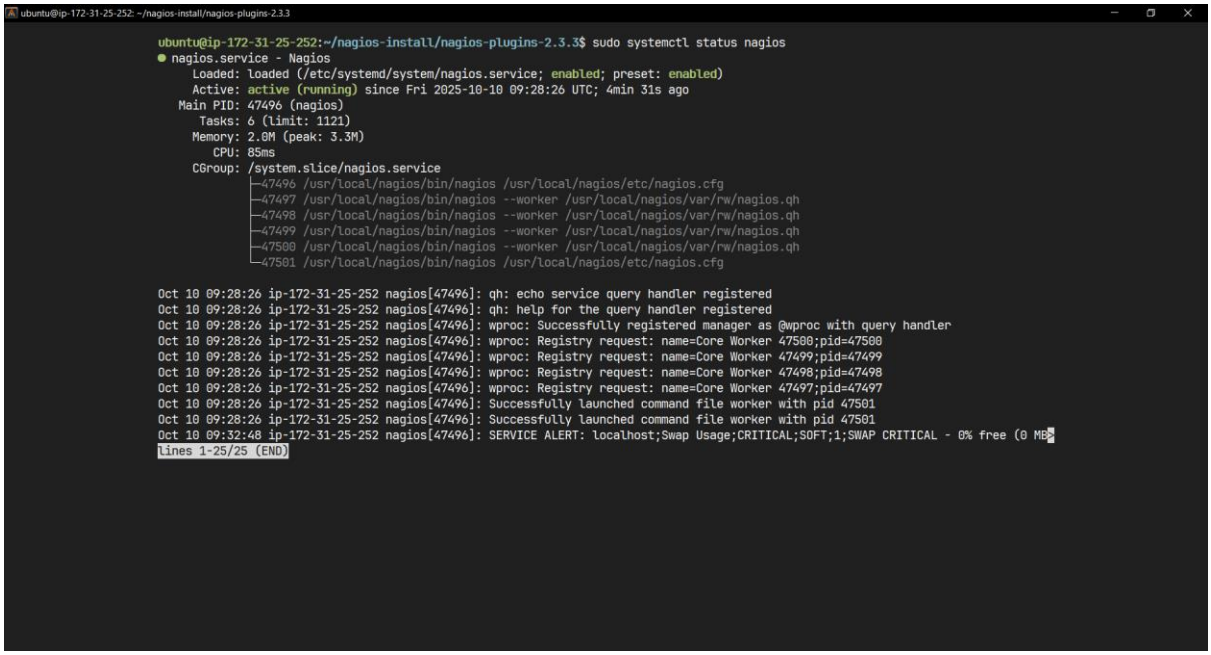
Output of the command



Enabling and start Nagios

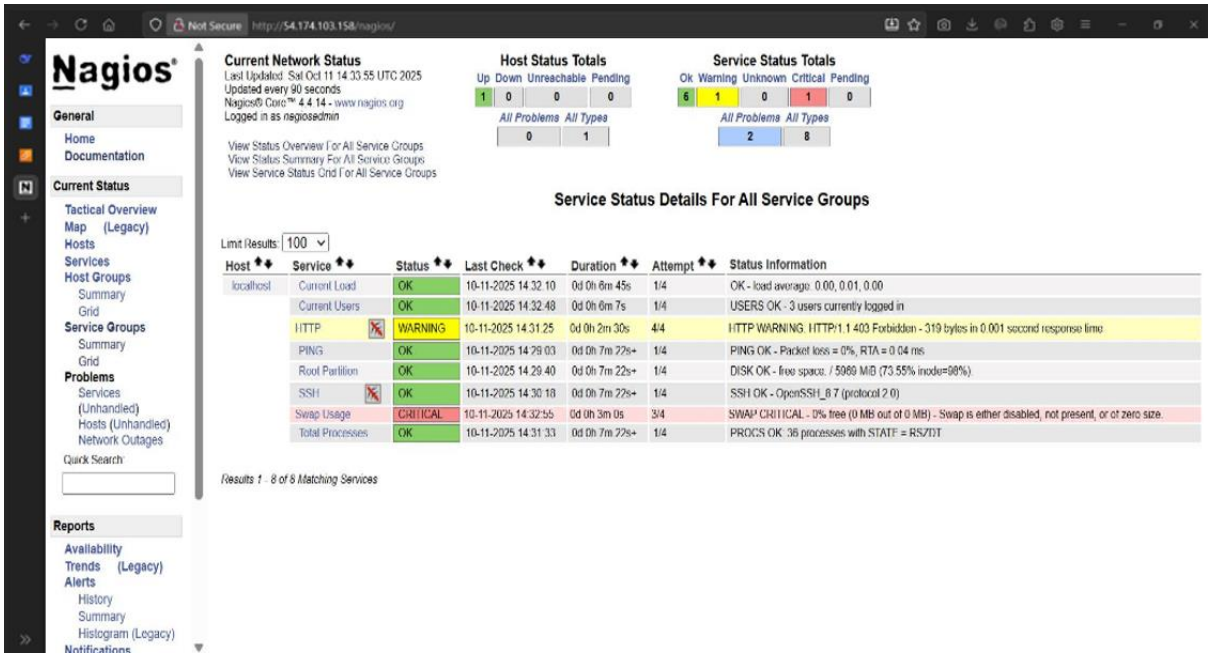


Logging to Nagios



Checking Nagios Service Status

Final Output Nagios Dashboard



Services Available of Dashboard on Nagios

Complete Nagios Installation Script:

```
#!/bin/bash

# Nagios Complete Installation Script
# Save this as install_nagios.sh and run: bash install_nagios.sh

echo "Starting Nagios Installation..."

# Step 1: Update system and install dependencies
echo "Step 1: Installing dependencies..."
sudo apt update && sudo apt upgrade -y
sudo apt install -y wget build-essential apache2 php openssl perl make \
php-gd libgd-dev libapache2-mod-php libperl-dev libssl-dev daemon unzip

# Step 2: Create Nagios user and group
echo "Step 2: Creating Nagios user and group..."
sudo useradd nagios
sudo groupadd nagcmd
sudo usermod -a -G nagcmd nagios
sudo usermod -a -G nagcmd www-data

# Step 3: Create installation directory and download Nagios
```

```
echo "Step 3: Downloading Nagios Core..."
mkdir ~/nagios-install
cd ~/nagios-install
wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.6.tar.gz
tar xzf nagios-4.4.6.tar.gz
cd nagios-4.4.6

# Step 4: Compile and install Nagios Core
echo "Step 4: Compiling and installing Nagios Core..."
./configure --with-command-group=nagcmd
make all
sudo make install
sudo make install-commandmode
sudo make install-config
sudo make install-webconf

# Step 5: Install Nagios Plugins
echo "Step 5: Installing Nagios Plugins..."
cd ~/nagios-install
wget https://nagios-plugins.org/download/nagios-plugins-2.3.3.tar.gz
tar xzf nagios-plugins-2.3.3.tar.gz
cd nagios-plugins-2.3.3
./configure --with-nagios-user=nagios --with-nagios-group=nagios
make
sudo make install

# Step 6: Configure Apache and set password
echo "Step 6: Configuring Apache..."
sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin

# Step 7: Set proper permissions
echo "Step 7: Setting permissions..."
sudo chown -R nagios:nagios /usr/local/nagios/etc/
sudo chown -R nagios:nagios /usr/local/nagios/var/
sudo mkdir -p /usr/local/nagios/var/spool/checkresults
sudo chown nagios:nagcmd /usr/local/nagios/var/spool/checkresults
sudo chmod 775 /usr/local/nagios/var/spool/checkresults

# Step 8: Create systemd service
echo "Step 8: Creating systemd service..."
sudo tee /etc/systemd/system/nagios.service << EOF
```

```
[Unit]
Description=Nagios
BindTo=network.target

[Install]
WantedBy=multi-user.target

[Service]
Type=simple
User=nagios
Group=nagios
ExecStart=/usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg
EOF

# Step 9: Verify configuration
echo "Step 9: Verifying configuration..."
sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

# Step 10: Start services
echo "Step 10: Starting services..."
sudo systemctl daemon-reload
sudo systemctl enable nagios
sudo systemctl start nagios
sudo systemctl restart apache2

# Step 11: Get server IP for access
echo "Step 11: Getting server information..."
PUBLIC_IP=$(curl -s http://169.254.169.254/latest/meta-data/public-ipv4)
PRIVATE_IP=$(curl -s http://169.254.169.254/latest/meta-data/local-ipv4)

echo "================================================"
echo "Nagios Installation Complete!"
echo "================================================"
echo "Access Nagios at: http://$PUBLIC_IP/nagios"
echo "Username: nagiosadmin"
echo "Password: [the password you set during installation]"
echo "================================================"
echo "Check Nagios status: sudo systemctl status nagios"
echo "Check Nagios logs: sudo tail -f /usr/local/nagios/var/nagios.log"
echo "================================================"
```