

July 2023

SOP: AfyaSTAT INSTALLATION ON UBUNTU PLATFORM USING AUTO-SCRIPT



AfyaSTAT is a mobile-based application that supports electronic management and documentation of HTS. Installation process has been simplified using automated scripts to make it easier and convenient for users to install at the facility level. This optimization also includes automatic configuration for Pie-Hole and all the related dependencies. This user manual outlines the AfyaSTAT installation process on Ubuntu Desktop and Ubuntu Server (Version 20.04).

Objective: To provide simplified guidance to users on how to install AfyaSTAT Application in Ubuntu environment using automated script.

Target audience: SI, HI, M&E, IT

Last Update: 17th July 2023

AfyaSTAT Dependencies:

The following dependencies will be installed automatically by the script during the AfyaSTAT installation.

- *Docker-CE*
- *Docker-Compose*
- *Node JS*
- *Python*
- *PIP*
- *Medic configuration*
- *Git*
- *PM2*

Just Before you begin!

You will need the following basic prerequisite for successful installation of AfyaSTAT using the auto-script: Stable internet, Installation package, properly names setup folder.

- i. **Stable and reliable internet access:** During installation, the script automatically pulls resources from the internet. This requires constant internet availability. For best experience, ensure you have a stable network for the entire period of installation.
- ii. **Valid installation package:** Obtain valid installation package from KenyaHMIS GitHub repository. The package should contain the following files:



medic



node_
modules



tls-certs



install_
afyastat.
yml



package-
lock.json

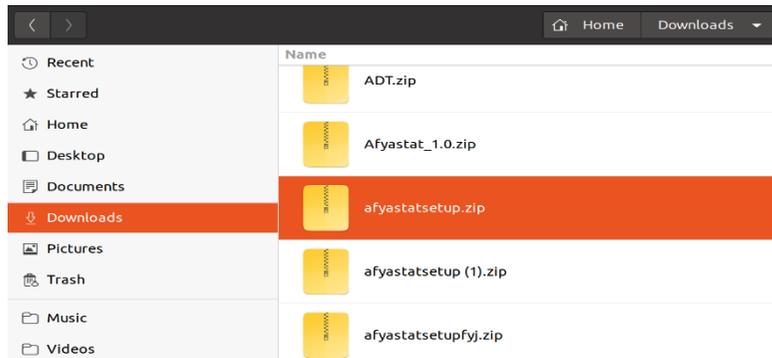


setup_
script.sh



setupVars.
conf

On the Ubuntu server, locate the afyastatsetup.zip folder in Downloads Directory and extract. Open the extracted folder created as shown below.



medic



node_
modules



tls-certs



install_
afyastat.
yml



package-
lock.json



setup_
script.sh



setupVars.
conf

PART A: INSTALLATION PROCESS

Installation Process

The installation process is straight forward if all the prerequisites above are met. The following are simple steps to follow:

Step 1. Open the Terminate window by pressing: `Ctrl+Alt+T`

Step 2: Change directory to AfyasTATSetup folder: `cd afyastatsetup [ENTER]`

Step 3: Execute the setup file to install AfyasTAT: `sudo sh setup_script.sh [ENTER]`

Step 4: Enter valid Ubuntu root password when prompted and press [ENTER]

Step 5: Enter valid MySQL password when prompted and press [ENTER]

1.

The installation process will commence as shown in the following screenshot. Wait while monitoring the progress on the screen. If any error or failure is noted, then you will need to run the script one more time. Errors are mostly shown in red colour.

The script will do the following

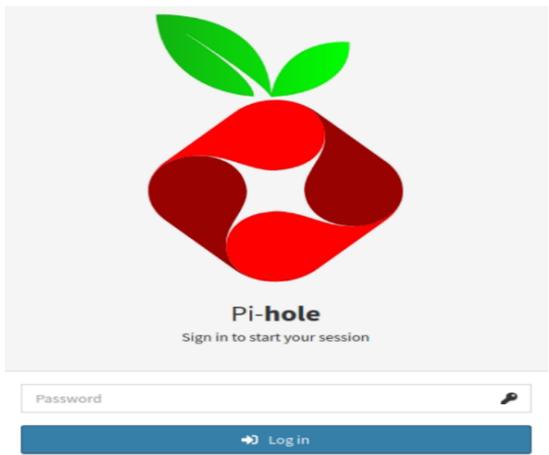
- Install Ansible utility
- Use ansible to install all the afyaSTAT dependencies e.g
 - o Install and configure Pi-Hole
 - o Install Medic-mobile Containers; Medic-OS and Haproxy
 - o Edit Nginx.config file.

- Make necessary configuration on KenyaEMR global properties,
- Make settings in the AfyaSTAT configuration that are necessary for data exchange with KenyaEMR

Provided the internet connectivity is available, the installation process will proceed uninterrupted. Wait for the installation to run to the end.

The whole process takes about 20mins to complete.

```
botienoh@botienoh: ~/AfyaSTATSetup
botienoh@botienoh:~$ cd AfyaSTATSetup/
botienoh@botienoh:~/AfyaSTATSetup$ sudo sh setup_script.sh
[sudo] password for botienoh:
Hit:1 https://download.docker.com/linux/ubuntu xenial InRelease
Hit:2 http://ke.archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:4 http://ke.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:5 http://ke.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:6 http://ke.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [701 kB]
Get:7 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metadata [40.7 kB]
Get:8 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [1,103 kB]
Get:9 http://ke.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2,002 kB]
Get:10 http://ke.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [279 kB]
Get:11 http://ke.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [15.6 kB]
Get:12 http://ke.archive.ubuntu.com/ubuntu focal-updates/universe i386 Packages [685 kB]
72% [12 Packages 339 kB/685 kB 49%] [8 Packages 806 kB/1,103 kB 73%]
```

<p>2.</p>	<p>Successful execution of the script will reflect what is displayed in the screen below indicating successful installation. If the installation end in error then you will need to repeat the setup process.</p> <pre>PLAY RECAP ***** localhost : ok=59 changed=29 unreachable=0 failed=0 skipped=2 rescued=0 ignored=0 Updating openmrs global_properties Warning: Using a password on the command line interface can be insecure. Warning: Using a password on the command line interface can be insecure. Warning: Using a password on the command line interface can be insecure. Done updating the global_property Setup Completed rao@rao:~/afyastatsetupHackathon\$</pre>	
<p>3.</p>	<p>Confirm Pi-Hole Settings (The part for the local DNS settings is still missing)</p> <p>The AfyaSTAT auto installation script makes all the configuration for you in the background. However, you may still want to verify that the configurations are correct.</p> <p>On the browser, enter this URL: https://dns.hmislocal.org:8443 to load Pi-Hole administration platform.</p> <ul style="list-style-type: none"> - On the Pi-Hole home page, locate Login link and click to login. 	<p>Obtain valid login password from your EMR admin and use it to log in. The default password is Test123</p> 

a. Verify DNS Settings

- Click Settings and locate DNS tab as shown below



- Confirm that all settings are correct. Of utmost interest is the section for **“Potentially dangerous options”** highlighted here. Check to make sure the **“Permit all origins”** option is checked. If not, proceed and tick it as shown. Save the changes and exit.

IPv4	IPv6	Name
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Google (ECS, DNSSEC)
<input type="checkbox"/>	<input type="checkbox"/>	OpenDNS (ECS, DNSSEC)
<input type="checkbox"/>	<input type="checkbox"/>	Level3
<input type="checkbox"/>	<input type="checkbox"/>	Comodo
<input type="checkbox"/>	<input type="checkbox"/>	DNS.WATCH (DNSSEC)
<input type="checkbox"/>	<input type="checkbox"/>	Quad9 (filtered, DNSSEC)
<input type="checkbox"/>	<input type="checkbox"/>	Quad9 (unfiltered, no DNSSEC)
<input type="checkbox"/>	<input type="checkbox"/>	Quad9 (filtered, ECS, DNSSEC)
<input type="checkbox"/>	<input type="checkbox"/>	Cloudflare (DNSSEC)

ECS (Extended Client Subnet) defines a mechanism for recursive resolvers to send partial client IP address information to authoritative DNS name servers. Content Delivery Networks (CDNs) and latency-sensitive services use this to give geo-located responses when responding to name lookups coming through public DNS resolvers. *Note that ECS may result in reduced privacy.*

Custom 1 (IPv4)	Custom 2 (IPv4)
<input type="checkbox"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>
Custom 3 (IPv6)	Custom 4 (IPv6)
<input type="checkbox"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>

Interface settings

Recommended setting

- Allow only local requests**
Allows only queries from devices that are at most one hop away (local devices)

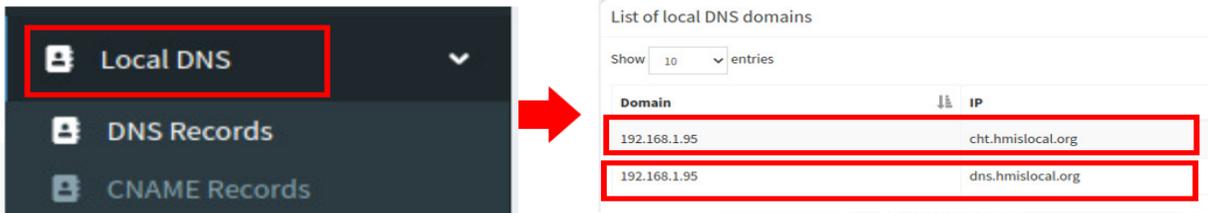
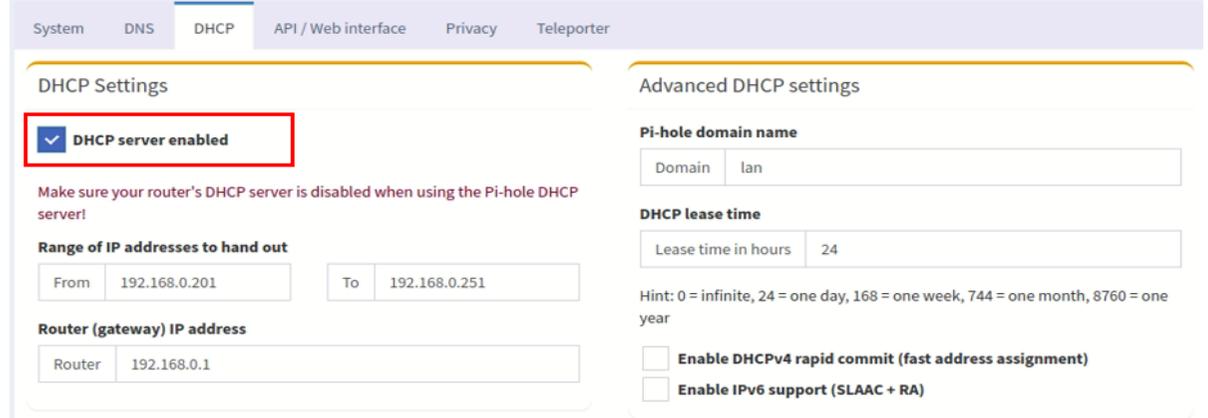
Potentially dangerous options

Make sure your Pi-hole is properly firewalled!

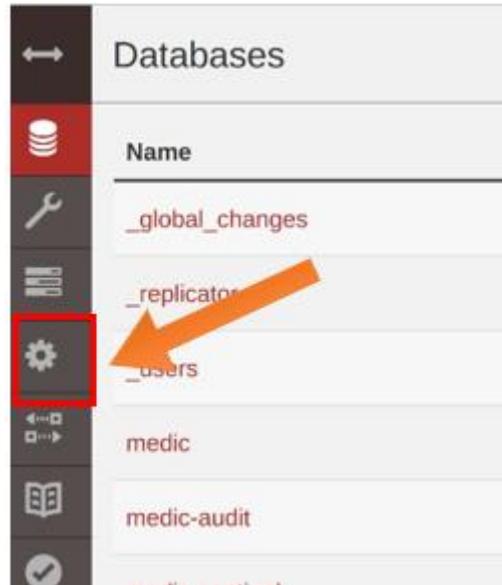
- Respond only on interface eth0**
- Bind only to interface eth0**
- Permit all origins**

These options are dangerous on devices directly connected to the Internet such as cloud instances and are only safe if your Pi-hole is properly firewalled. In a typical at-home setup where your Pi-hole is located within your local network (and you have **not** forwarded port 53 in your router!) they are safe to use.

See [our documentation](#) for further technical details.

<p>4.</p>	<p>b. Ensure Local DNS are set correctly</p> <ul style="list-style-type: none"> - Click on the local DNS option and check to ensure the domains and IP are picked correctly. If not set, then you need to rerun your setup. 	
<p>5.</p>	<p>c. Verify DHCP Configurations</p> <ul style="list-style-type: none"> - Click on the DHCP Tab. Under DHCP Settings, confirm that the DHCP server is enabled (Checked). 	
<p>6.</p>	<p>Verify integration setting</p> <p>To enable seamless data exchange between AfyaSTAT and KenyaEMR, you need to verify that all the KenyaEMR credentials are set correctly in the AfyaSTAT admin section. To achieve this, go to the config screen and enter the following on the browser address section: https://cht.hmislocal.org/_utils/ Press ENTER</p>	

7. - Locate and click the settings on the side menu as shown below



- On the opened settings screen, check under **Option** column (highlighted) to locate the entry for **medic_credentials**. If not available, then you need to manually set it. See the troubleshooting section on how to manually set the credentials.
- **Reboot the server.**

Section	Option	Value	
admins	admin	-pbkdf2-7d3affb84cb4ba4fb0fca7f697388debe54cf0fe,5cccbaf69f230dff8727cbe43280265b,10	🗑️
	horticulturalist	-pbkdf2-395f46216f4f797a95f467b6f635dc5148de6a48,1e160ce0ff3eed03bf260d561a37b252,10	🗑️
	medic	-pbkdf2-aae4d0578067a00a103630ee33f69b73e22eefc1,0caa4170b7e26383fd5b74e02c31b7c8,10	🗑️
	medic-api	-pbkdf2-847f487d8db1496dce2a84c20dc18df474c478da,acfbfe44ebe5b7e238f6e1aaa9f30af9,10	🗑️
	medic-couch2pg	-pbkdf2-0403d6f3d380e91377fa35ed299af158dc28b199,3455c1dc1a46c6664868ae90867908a8,10	🗑️
	medic-sentinel	-pbkdf2-274a356d1a7559b48ba4e40b973445c01a438ba5,506dc647b23bf10c75bb4dd09cc21f62,10	🗑️
attachments	compressible_types	text/*, application/javascript, application/json, application/xml	🗑️
	compression_level	8	🗑️

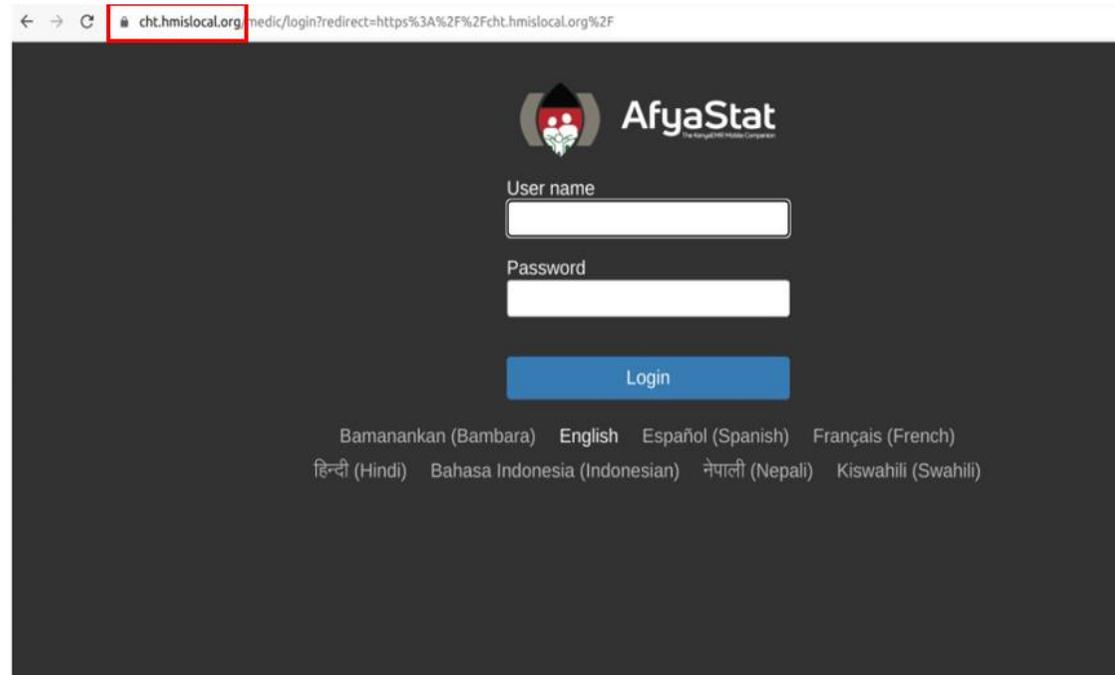
Confirmation of installation and login to AfyaSTAT

Once installation is completed successfully, go to your browser and type <https://cht.hmislocal.org> and press ENTER to access AfyaStat. AfyaSTAT login page should launch as shown here.

8. - Log on to AfyaSTAT normally with Admin credentials.

NB: Obtain valid login credentials from your Admin / Champion.

If the application does not load properly, then refer to the troubleshooting section for details.



cht.hmislocal.org/medic/login?redirect=https%3A%2F%2Fcht.hmislocal.org%2F

 **AfyaStat**
The KenyaHMIS Mobile Companion

User name

Password

Login

Bamanankan (Bambara) English Español (Spanish) Français (French)
हिन्दी (Hindi) Bahasa Indonesia (Indonesian) नेपाली (Nepali) Kiswahili (Swahili)

SECTION 2: TROUBLESHOOTING AFYASTAT AUTO-INSTALLATION

Try the following if your instance of AfyaSTAT failed to start correctly. You can identify the issue by checking the medic-os logs. Here are possible issues that may affect proper functioning of AfyaSTAT after installation

Issue	Possible solution
You failed to reboot the server after installation.	Reboot the server normally. This will ensure that all services and containers are reloaded properly.
Wrong Installation Package used	Obtain and use the correct installation from KenyaHMIS GitHub page.
Installation Script did not complete successfully	Simply execute the script afresh. Ensure your internet is stable.
Apache Port conflict:	Assign a different port from the one currently allocated as follows: <ul style="list-style-type: none"> • In the command window, type: <code>sudo nano /etc/apache2/ports.conf</code> [ENTER] • Edit the port from 80 to 8082 (Locate the first line starting with “Listen.....”) • Save and exit the editor. Rerun the installation afresh.

Data exchange between KenyaEMR – AfyaSTAT Is not happening.

May Data exchange Credential not set. So you may need to properly Configure KenyaEMR – AfyaSTAT Data exchange protocol as explained in step 6 above.

Containers cannot auto uninstall

Uninstall entire docker container and run the AfyaSTAT installer again. Here are the steps:

Step 1: `dpkg -l | grep -i docker`

To identify what installed package you have:

Step 2:

```
sudo apt-get purge -y docker-engine docker docker.io docker-ce docker-ce-cli
```

```
sudo apt-get autoremove -y --purge docker-engine docker docker.io docker-ce
```

The above commands will not remove images, containers, volumes, or user created configuration files on your host. If you wish to delete all images, containers, and volumes run the following commands:

```
sudo rm -rf /var/lib/docker /etc/docker
```

```
sudo rm /etc/apparmor.d/docker
```

```
sudo groupdel docker
```

```
sudo rm -rf /var/run/docker.sock
```

You have removed Docker from the system completely.

Step 3: Rerun the installation script again while ensuring your internet is stable.

PM2 not running	Solution: Restart PM2 as follows: <ul style="list-style-type: none">• <code>pm2 start app.js</code>
Pi-Hole not correctly configured:	Ensure your Pi-Hole is correctly configured as explained in the Pi-Hole configuration section above.
Listener not running.	Solution: Start listner <ul style="list-style-type: none">• <code>sudo pm2 stop listener.js</code>• <code>sudo pm2 flush</code>• <code>sudo pm2 start listener.js</code>

NB: For further support, contact KeHMIS service desk on this toll-free line: 0800-722-440

THE END