

# Procédure Heartbeat

Cette procédure à pour objectif la mise en place du service Heartbeat permettant à un serveur de prendre le relais d'un autre en cas de panne du premier. Dans ce cas ce sera la présence de serveur web

## Prérequis :

- 2 machines Ubuntu Serveur 20.04
- 1 machine client Ubuntu Desktop 20.04

## Installation (sur les deux machines serveur) :

### - Mise à jour de la machine :

```
apt update
```

```
apt upgrade
```

### - Installation de Heartbeat :

```
apt install heartbeat
```

### - Installation d'Apache :

```
apt install apache2
```

## Configuration des fichiers Heartbeat (sur les deux machines serveur) :

### - Se rendre sur le fichier de configuration ha.cf :

```
nano /etc/heartbeat/ha.cf
```

Le modifier comme ceci :

```
logfile /var/log/heartbeat.log
```

```
logfacility daemon
```

```
node hb1
```

```
node hb2
```

```
keepalive 1
```

```
deadtime 10
```

```
bcast enpos3
```

```
ping 10.158.45.254
```

### - Se rendre dans le fichier authkeys :

```
nano /etc/heartbeat/authkeys
```

Le modifier comme ceci :

```
auth1
```

```
1 sha1 0398957168
```

(0398957168 est un mot de passe choisi par moi)

### - Ne pas oublier de mettre à jour les droits du fichier :

```
chmod 600 /etc/heartbeat/authkeys
```

### - Se rendre dans le fichier haresources :

```
nano /etc/heartbeat/haresources
```

Le modifier comme ceci :

```
hb1 10.158.45.252/24/enp0s3
```

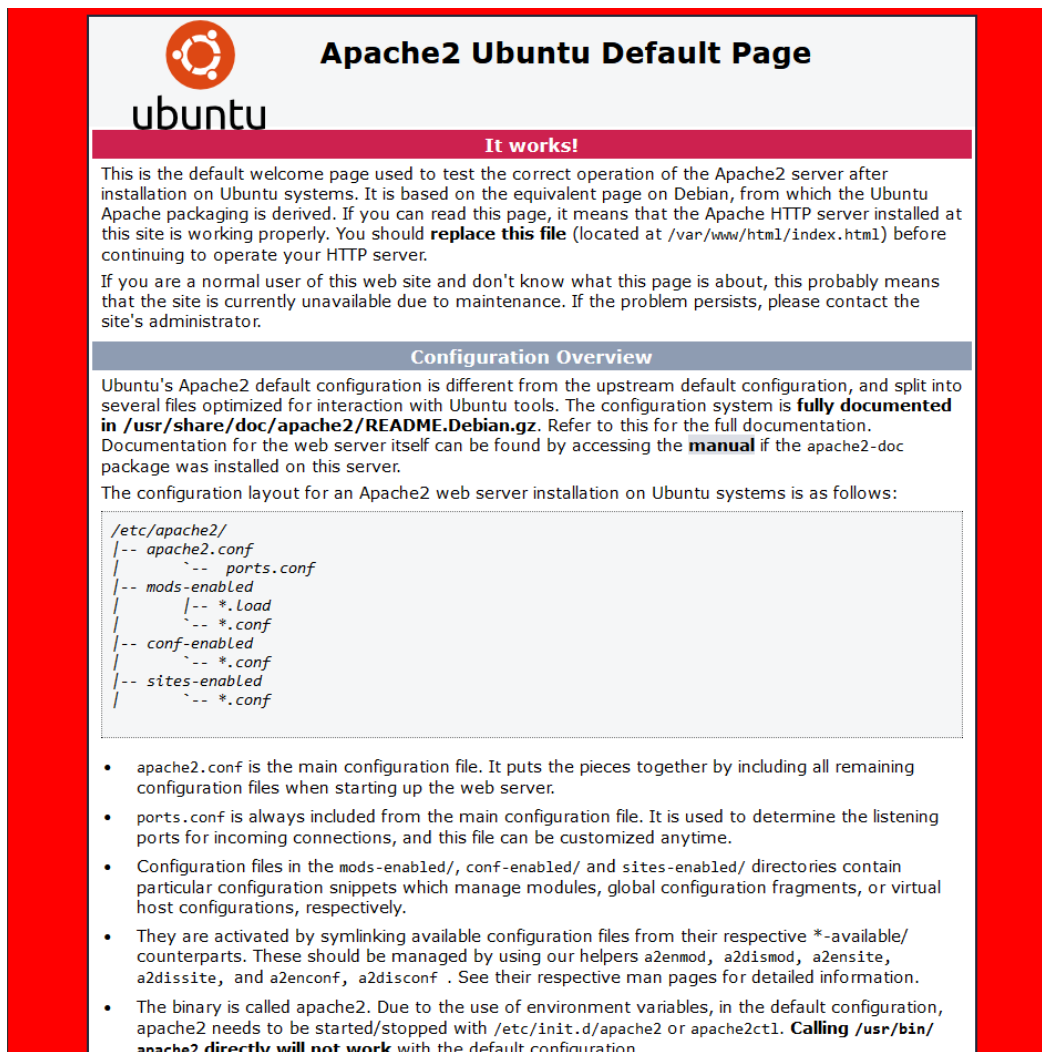
```
hb1 apache2
```

(10.158.45.252 étant l'ip virtuelle)

## Test :

Pour tester le fonctionnement d'Heartbeat j'ai au préalable changer le background color de la page d'accueil d'Apache pour les 2 serveurs. (Rouge pour le serveur 1 et vert pour le serveur 2) .

On ouvre un navigateur et on rentre l'ip virtuelle configuré auparavant qui est donc 10.158.45.252. On arrive sur cette page :



**Apache2 Ubuntu Default Page**

ubuntu

**It works!**

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

**Configuration Overview**

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf
|-- sites-enabled
|   |-- *.conf
```

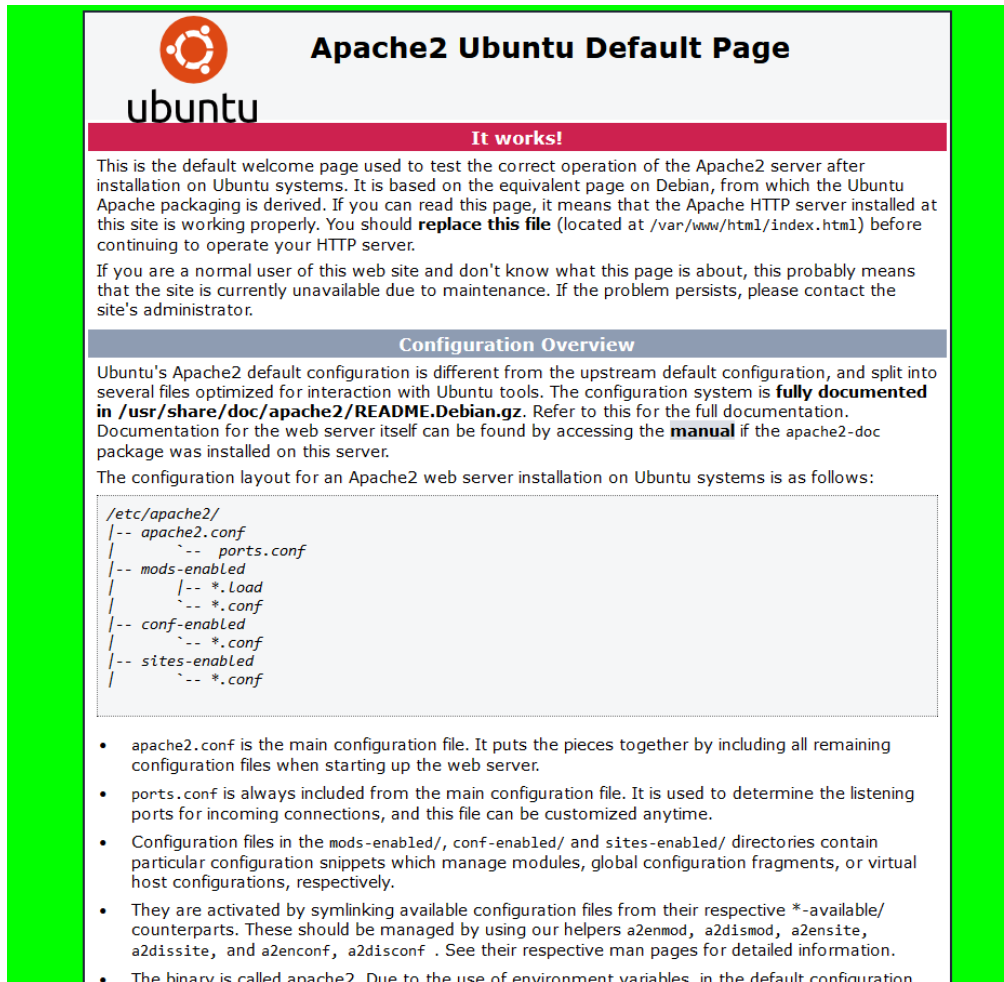
- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual host configurations, respectively.
- They are activated by symlinking available configuration files from their respective `*-available/` counterparts. These should be managed by using our helpers `a2enmod`, `a2dismod`, `a2ensite`, `a2dissite`, and `a2enconf`, `a2disconf` . See their respective man pages for detailed information.
- The binary is called `apache2`. Due to the use of environment variables, in the default configuration, `apache2` needs to be started/stopped with `/etc/init.d/apache2` or `apache2ctl`. **Calling `/usr/bin/apache2` directly will not work** with the default configuration.

On constate que le serveur fonctionne correctement avec l'ip virtuelle. Pour l'instant le serveur fonctionne sur serveur 1 (fond rouge). On va volontairement arrêter le service Heartbeat sur le serveur 1.

## Arrêt du service :

`systemctl stop heartbeat`

Si on actualise la page Internet la couleur de la page va changer comme ceci :



The screenshot shows the Apache2 Ubuntu Default Page. At the top, there is a red header with the Ubuntu logo and the text "Apache2 Ubuntu Default Page". Below this, a green bar contains the text "It works!". The main content area has a light blue background and contains the following text:

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Le changement de couleur en vert indique que le serveur 2 a bien pris le relais du serveur 1.