

Chapitre 7 – Serveur Debian DS2 : serveurs Web virtuels

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1. Serveurs Web virtuels (hôtes virtuels).

1.1 PRINCIPE

```
permitted by applicable law.  
root@DS2: ~#cd /etc/apache2/sites-enabled/  
root@DS2: /etc/apache2/sites-enabled#ls -l  
total 0  
lrwxrwxrwx 1 root root 35 12 févr. 09:48 000-default.conf -> ../sites-available/000-default.conf  
root@DS2: /etc/apache2/sites-enabled#_
```

1.2 Type d'hébergement virtuel

1.2.1 Hébergement virtuel par adresse IP

Ajout de l'alias IP sur enp0s3

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```
GNU nano 8.4 /etc/network/interfaces
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
allow-hotplug enp0s3
iface enp0s3 inet static
address 192.168.4.10
netmask 255.255.255.0
network 192.168.4.0
broadcast 192.168.4.255
gateway 192.168.4.254
dns-search sio-exupery.fr
dns-domain sio-exupery.fr
dns-nameservers 192.168.4.10

auto enp0s3:0
iface enp0s3:0 inet static
address 192.168.4.9
netmask 255.255.255.0
network 192.168.4.0
broadcast 192.168.4.255
```

Activation de l'alias et vérification de son bon fonctionnement avec un ping

```
root@DS2: ~#ifup enp0s3:0
root@DS2: ~#ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:ab:c6:47 brd ff:ff:ff:ff:ff:ff
    altname enx080027abc647
    inet 192.168.4.10/24 brd 192.168.4.255 scope global enp0s3
        valid_lft forever preferred_lft forever
    inet 192.168.4.9/24 brd 192.168.4.255 scope global secondary enp0s3:0
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:feab:c647/64 scope link proto kernel_ll
        valid_lft forever preferred_lft forever
root@DS2: ~#
root@DS2: ~#ping -c 2 192.168.4.9
PING 192.168.4.9 (192.168.4.9) 56(84) bytes of data.
64 bytes from 192.168.4.9: icmp_seq=1 ttl=64 time=0.087 ms
64 bytes from 192.168.4.9: icmp_seq=2 ttl=64 time=0.088 ms

--- 192.168.4.9 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1067ms
rtt min/avg/max/mdev = 0.087/0.087/0.088/0.000 ms
root@DS2: ~#
```

Création des deux répertoire nécessaires pour les deux hébergements virtuels

```
root@DS2: ~#mkdir /var/www/html/secu /var/www/html/web
```

Copie, dans ces deux répertoires, du fichier HTML test créer précédemment.

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```
root@DS2: ~#cp /var/www/html/index.html /var/www/html/secu
root@DS2: ~#cp /var/www/html/index.html /var/www/html/web
root@DS2: ~#_
```

```
GNU nano 8.4 /var/www/html/secu/index.html
<html>
<head>
<title>SIO Saint-Ex</title>
</head>

<body bgcolor="#EEEEEE">
<h1>BTS SIO</h1>
<p>Site secu en construction</p>

</body>
</html>
```

```
GNU nano 8.4 /var/www/html/web/index.html
<html>
<head>
<title>SIO Saint-Ex</title>
</head>

<body bgcolor="#EEEEEE">
<h1>BTS SIO</h1>
<p>Site web en construction</p>

</body>
</html>
```

Création du répertoire pour le fichier log

```
root@DS2: ~#mkdir /var/www/html/secu/logs /var/www/html/web/logs
root@DS2: ~#_
```

Consultation du fichier virtual host 000-default.conf

```
GNU nano 8.4 /etc/apache2/sites-available/000-default.conf
<VirtualHost *:80>
# The ServerName directive sets the request scheme, hostname and port that
# the server uses to identify itself. This is used when creating
# redirection URLs. In the context of virtual hosts, the ServerName
# specifies what hostname must appear in the request's Host: header to
# match this virtual host. For the default virtual host (this file) this
# value is not decisive as it is used as a last resort host regardless.
# However, you must set it for any further virtual host explicitly.
#ServerName www.example.com

ServerAdmin webmaster@localhost
DocumentRoot /var/www/html

# Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
# error, crit, alert, emerg.
# It is also possible to configure the loglevel for particular
# modules, e.g.
#LogLevel info ssl:warn

ErrorLog ${APACHE_LOG_DIR}/error.log
CustomLog ${APACHE_LOG_DIR}/access.log combined

# For most configuration files from conf-available/, which are
# enabled or disabled at a global level, it is possible to
# include a line for only one particular virtual host. For example the
# following line enables the CGI configuration for this host only
# after it has been globally disabled with "a2disconf".
#Include conf-available/serve-cgi-bin.conf
</VirtualHost>
```

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Suppression du fichier /etc/apache2/sites-enabled/000-default.conf. :

```
root@DS2: ~#ls -l /etc/apache2/sites-enabled
total 0
lrwxrwxrwx 1 root root 35 12 févr. 09:48 000-default.conf -> ../sites-available/000-default.conf
root@DS2: ~#rm /etc/apache2/sites-enabled/000-default.conf
root@DS2: ~#
```

Copie du fichier virtual host

```
root@DS2: ~#cp /etc/apache2/sites-available/000-default.conf /etc/apache2/sites-available/sites-sio.conf
root@DS2: ~#
```

modification du fichier /etc/apache2/sites-available/sites-sio.conf avec les conteneurs déclarés par la directive VirtualHost

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```
GNU nano 8.4 /etc/apache2/sites-available/sites-sio.conf
<VirtualHost 192.168.4.9>
# The ServerName directive sets the request scheme, hostname and port that
# the server uses to identify itself. This is used when creating
# redirection URLs. In the context of virtual hosts, the ServerName
# specifies what hostname must appear in the request's Host: header to
# match this virtual host. For the default virtual host (this file) this
# value is not decisive as it is used as a last resort host regardless.
# However, you must set it for any further virtual host explicitly.
ServerName secu.sio-exupery.fr

ServerAdmin webmaster@localhost
DocumentRoot /var/www/html/secu

# Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
# error, crit, alert, emerg.
# It is also possible to configure the loglevel for particular
# modules, e.g.
#LogLevel info ssl:warn

ErrorLog /var/www/html/secu/logs/error.log
CustomLog /var/www/html/secu/logs/access.log combined

# For most configuration files from conf-available/, which are
# enabled or disabled at a global level, it is possible to
# include a line for only one particular virtual host. For example the
# following line enables the CGI configuration for this host only
# after it has been globally disabled with "a2disconf".
#Include conf-available/serve-cgi-bin.conf
</VirtualHost>

<VirtualHost *:80>
ServerName www.sio-exupery.fr
ServerAdmin webmaster@localhost
documentRoot /var/www/html/web
ErrorLog /var/www/html/web/logs/error.log
CustomLog /var/www/html/web/logs/access.log combined
</VirtualHost>
```

Activation des fichiers Virtualhost

```
root@DS2: ~#a2ensite sites-sio.conf
Removing dangling link /etc/apache2/sites-enabled/sites-sio.confEnabling site sites-sio.
To activate the new configuration, you need to run:
    systemctl reload apache2
root@DS2: ~#systemctl reload apache2
root@DS2: ~#
```

Restart du service apache2 :

```
root@DS2: ~#systemctl restart apache2
root@DS2: ~#_
```

Ajout de la ligne correspondant à la secu

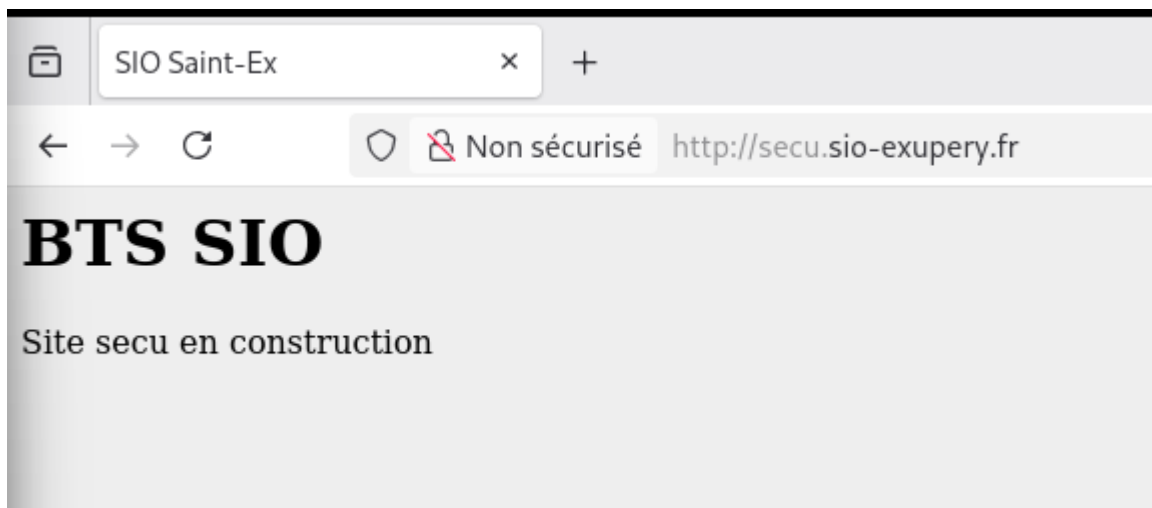
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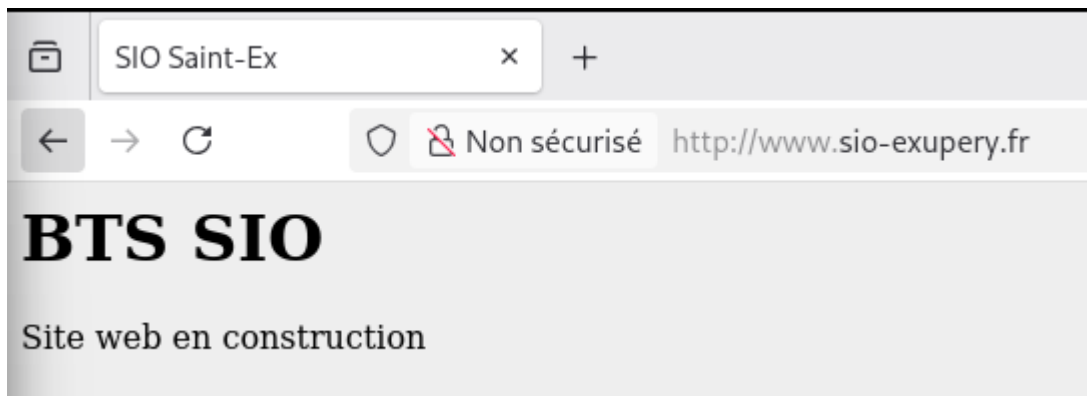
```
GNU nano 8.4 /var/cache/bind/db.sio-exupery.fr
; fichier pour la résolution directe
$TTL 86400
@      IN SOA  DS2.sio-exupery.fr root.sio-exupery.fr. (
        2025030501
        1w
        1d
        4w
        1w )
@      IN NS   DS2.sio-exupery.fr.
intra.sio-exupery.fr      IN NS   DS1.intra.sio-exupery.fr.
DS2.sio-exupery.fr.      IN A    192.168.4.10
DS1.intra.sio-exupery.fr.  IN A    192.168.4.254
ftp      IN      CNAME DS2
www      IN      CNAME DS2
secu     IN A    192.168.4.9
```

Relancement du service DNS et vérification à l'aide d'un ping

```
root@DS2: ~#systemctl restart bind9
root@DS2: ~#ping secu.sio-exupery.fr
PING secu.sio-exupery.fr (192.168.4.9) 56(84) bytes of data.
64 bytes from 192.168.4.9: icmp_seq=1 ttl=64 time=0.025 ms
64 bytes from 192.168.4.9: icmp_seq=2 ttl=64 time=0.092 ms
64 bytes from 192.168.4.9: icmp_seq=3 ttl=64 time=0.090 ms
^C
--- secu.sio-exupery.fr ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2145ms
rtt min/avg/max/mdev = 0.025/0.069/0.092/0.031 ms
root@DS2: ~#
```

Vérification du bon fonctionnement





1.2.2 Hébergement virtuel par le nom

Création de deux répertoire projet1 et projet2 avec des sous répertoire repweb

```
root@DS2: ~#mkdir -p /var/www/html/projet1/repweb/logs /var/www/html/projet2/repweb/logs
root@DS2: ~#
```

Création du fichier log pour l'hôte virtuelle associé au site wordpress

```
root@DS2: ~#mkdir /var/www/html/sitewordpress/wordpress/logs
root@DS2: ~#
```

Affichage des 5 répertoires correspondant au virtual host

```
root@DS2: ~#ls -l /var/www/html
total 44
-rw-r--r-- 1 root root 138 15 févr. 22:21 index.html
-rw-r--r-- 1 root root 10703 12 févr. 09:48 index.sauv
-rw-r--r-- 1 root root 367 15 févr. 23:03 pagepdo.php
-rw-r--r-- 1 root root 20 15 févr. 22:28 pagephpptest.php
drwxr-xr-x 3 root root 4096 26 mars 16:15 projet1
drwxr-xr-x 3 root root 4096 26 mars 16:15 projet2
drwxr-xr-x 3 root root 4096 26 mars 15:47 secu
drwxr-xr-x 3 root root 4096 4 mars 19:26 sitewordpress
drwxr-xr-x 3 root root 4096 26 mars 16:13 web
root@DS2: ~#
```

Modification des hotes virtuels :

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```
GNU nano 8.4 /etc/apache2/sites-available/sites-sio.0
<VirtualHost 192.168.4.9:80>
# The ServerName directive sets the request scheme, hostname and port that
# the server uses to identify itself. This is used when creating
# redirection URLs. In the context of virtual hosts, the ServerName
# specifies what hostname must appear in the request's Host: header to
# match this virtual host. For the default virtual host (this file) this
# value is not decisive as it is used as a last resort host regardless.
# However, you must set it for any further virtual host explicitly.
ServerName secu.sio-exupery.fr
ServerAdmin webmaster@localhost
DocumentRoot /var/www/html/secu
ErrorLog /var/www/html/secu/logs/error.log
CustomLog /var/www/html/secu/logs/access.log combined
</VirtualHost>

<VirtualHost 192.168.4.10:80>
ServerName www.sio-exupery.fr
ServerAdmin webmaster@localhost
DocumentRoot /var/www/html/web
ErrorLog /var/www/html/web/logs/error.log
CustomLog /var/www/html/web/logs/access.log combined
</VirtualHost>

<VirtualHost 192.168.4.10:80>
ServerName projet1.sio-exupery.fr
ServerAdmin webmaster@localhost
DocumentRoot /var/www/html/projet1/repweb
ErrorLog /var/www/html/projet1/repweb/logs/error.log
CustomLog /var/www/html/projet1/repweb/logs/access.log combined
</VirtualHost>

<VirtualHost 192.168.4.10:80>
ServerName projet2.sio-exupery.fr
ServerAdmin webmaster@localhost
DocumentRoot /var/www/html/projet2/repweb
ErrorLog /var/www/html/projet2/repweb/logs/error.log
CustomLog /var/www/html/projet2/repweb/logs/access.log combined
</VirtualHost>

<VirtualHost 192.168.4.10:80>
ServerName blog.sio-exupery.fr
ServerAdmin webmaster@localhost
DocumentRoot /var/www/html/sitewordpress/wordpress
ErrorLog /var/www/html/sitewordpress/wordpress/logs/error.log
CustomLog /var/www/html/sitewordpress/wordpress/logs/access.log combined
</VirtualHost>
[ 46 lignes écrites ]
```

Relance des services apache2 sur ds2

```
root@DS2: ~#systemctl reload apache2
root@DS2: ~#
```

Rajout des trois alias necessaire

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```
GNU nano 8.4 /var/cache/bind/db.sio-exupery.fr
; fichier pour la résolution directe
$TTL 86400
@      IN SOA DS2.sio-exupery.fr root.sio-exupery.fr. (
        2026030501
        1w
        1d
        4w
        1w )
@      IN NS   DS2.sio-exupery.fr.
intra.sio-exupery.fr      IN NS   DS1.intra.sio-exupery.fr.
DS2.sio-exupery.fr.      IN A    192.168.4.10
DS1.intra.sio-exupery.fr.  IN A    192.168.4.254
ftp      IN     CNAME DS2
www      IN     CNAME DS2
secu     IN A    192.168.4.9
projet1  IN     CNAME DS2
projet2  IN     CNAME DS2
blog     IN     CNAME DS2_
```

Restart des systèmes

```
root@DS2: ~#systemctl restart bind9
root@DS2: ~#
```

Copie et modification des pages

```
root@DS2: ~#systemctl reload apache2
root@DS2: ~#cp /var/www/html/index.html /var/www/html/projet1/repweb
root@DS2: ~#cp /var/www/html/index.html /var/www/html/projet2/repweb
root@DS2: ~#_
```

```
GNU nano 8.4 /var/www/html/projet1/repweb/index.html
<html>
<head>
<title>SIO Saint-Ex</title>
</head>

<body bgcolor="#EEEEEE">
<h1>BTS SIO PROJET1</h1>
<p>Site en construction</p>

</body>
</html>
```

```
GNU nano 8.4 /var/www/html/projet2/repweb/index.html
<html>
<head>
<title>SIO Saint-Ex</title>
</head>

<body bgcolor="#EEEEEE">
<h1>BTS SIO projet2</h1>
<p>Site en construction</p>

</body>
</html>
```

Test du bon fonctionnement

