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#### Overview of the Content

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Lesson\_Quiz



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#### Practical Exercise 1: Nagios Installation and Initial Test

Practical\_Exercise\_Quiz

## PRACTICAL EXERCISE 1 (W2\_PE1): NAGIOS INSTALLATION AND INITIAL TEST

This first practical exercise aims at installing Nagios and starting its web interface. For practical and pedagogical reasons, we will directly build the last version of Nagios (Nagios 4) from the source code.

Remarque 1 : n'oubliez pas les mots de passe que vous avez configurés pour "user" et "root" (les mots de passe initiaux par défaut étaient respectivement user et toor, mais vous les avez normalement changés lors de la première semaine d'introduction).

Remarque 2 : si vous souhaitez faire des copier-coller de certaines commandes du sujet des travaux pratiques, nous vous suggérons de vous connecter sur la plateforme FUN directement depuis le navigateur web de la machine virtuelle.

Remarque 3 : plusieurs outils sont disponibles sur la machine virtuelle pour la création ou l'édition de fichiers :

- Graphical editor: *mousepad*. Basic text editor,
- Graphical editor: *xcoral*. This full-featured programming editor has EMACS-compliant keys, although many functions are available through menus as well,
- Terminal editor: *nano*. Only a few commands are necessary to use it efficiently. The editor additionally shows the options at the bottom of the screen. Main keys are: ctrl-O to save the file, ctrl-X to exit,
- Terminal editor: *vi*, still widely used, although nano supersedes vi in many ways.

### 1. Go to the right place

After having started the virtual machine, we will open a terminal, become root, and go to the directory of the practical exercise /root/nagios-packages :

```
$ sudo su
# cd /root/nagios-packages
```

Practical\_Exercise\_Quiz

## Practical Exercise


### 3: Configuring Polling Intervals

Practical\_Exercise\_Quiz

## Evaluations

Week\_Evaluation

Echéance le avril 10,

2022 at 22:00 UTC 

Aidez-nous à  
améliorer ce  
MOOC

- ▶ Week 3:  
Instrumentation  
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intéresse

We will first create a user "nagios" and a distinct group "nagcmd". We will then add the user "nagios" and the Apache user "www-data", to the "nagcmd" group (this is required to run external commands on Nagios through the web interface) :

```
# useradd nagios
# groupadd nagcmd
# usermod -a -G nagcmd nagios
# usermod -a -G nagcmd www-data
```

(Note: l'interface web de Nagios fonctionne sur un serveur web Apache, dont le user par défaut est "www-data".)

## 3. Build Nagios 4 from the Source Code

We will extract Nagios source code from its archive and go to the created directory:

```
# tar xf nagios-4.3.2.tar.gz
# cd nagios-4.3.2
```

We will configure, compile and install Nagios:

```
# ./configure --with-nagios-group=nagios --with-command-
group=nagcmd
# make all
# make install
# make install-init
# make install-config
# make install-commandmode
```

## 4. We will prepare Apache and configure the Nagios web interface

We will make sure Apache has mod\_rewrite and mod\_cgi enabled:

```
# a2enmod rewrite && a2enmod cgi
```

We will copy the sample virtual host configuration Nagios provides to sites-available:

We will restrict nagios4.conf file permissions:

```
# chmod 644 /etc/apache2/sites-available/nagios4.conf
```

We will enable the new virtual host:

```
# a2ensite nagios4.conf
```

The web interface requires login credentials. Create a "nagiosadmin" account and record the password of your choice:

```
# htpasswd -c /usr/local/nagios/etc/htpasswd.users  
nagiosadmin
```

We will now restart Apache:

```
# systemctl restart apache2
```

We will then configure, compile and install the Nagios plugins:

```
# cd /root/nagios-packages  
# tar xf nagios-plugins-2.2.1.tar.gz  
# cd nagios-plugins-2.2.1  
# ./configure --with-nagios-user=nagios --with-nagios-  
group=nagios --with-openssl  
# make  
# make install
```

## 5. Systemd Configuration

The Nagios build process does not create a systemd service file (If you are not familiar with systemd, you may be interested in taking a look [here](#)). In order to manage the service with systemd, create a Nagios service file with the following content:

**File /etc/systemd/system/nagios.service**

```
BindTo=network.target

[Install]
WantedBy=multi-user.target

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

(Note : pour créer ce fichier de configuration, vous pouvez simplement vous placer dans le répertoire `/etc/systemd/system/`, et appeler la commande `"mousepad nagios.service &"` qui vous permet de créer un nouveau fichier `"nagios.service"`. Vous pouvez ensuite le remplir avec le contenu défini dans l'encadré bleu ci-dessus, et le sauvegarder.)

Enable the service, start Nagios, and check its status:

```
# systemctl enable /etc/systemd/system/nagios.service
# systemctl start nagios
# systemctl status nagios
```

(Note : lorsque vous lancez `"systemctl status nagios"`, vous devez voir apparaître en vert l'état `"active (running)"` pour le service nagios. Pour quitter ensuite la commande, faites simplement CTRL-C.)

## 6. Standalone Test

Now you should be able to access Nagios through your web browser, using the username `"nagiosadmin"` and the password you have created above using `htpasswd`.

Start the web browser **on the virtual machine**, go to the URL : `http://localhost/nagios` to access the web interface of Nagios.

(Note : lorsque vous vous connecterez à l'interface web, une fenêtre pop-up va s'ouvrir vous demandant votre login et mot de passe. Il s'agira du login `"nagiosadmin"` et du mot de passe associé que vous avez choisi précédemment à l'étape 4.)

The default configuration files allow to monitor *localhost*. Take the time to browse through the different views provided by Nagios, mainly:

- the services,
- the hosts.

Bilan de l'exercice : nous avons réalisé l'installation de Nagios et de ses plugins sur la machine virtuelle, et avons navigué sur l'interface web de l'outil (tableau de bord).

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### QUESTION W2.PE1.1 (1/1 point)

Which one of the views offers a good summary of the situation? (NA=1)

☐ The map

☐ The services

☒ The tactical overview ✓

**Correct:** Correct! This view is really the Nagios dashboard.

*Vous avez utilisé 1 essais sur 3*

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### QUESTION W2.PE1.2 (1/1 point)

Check thoroughly the status of our virtual machine with the different views.

Do you notice anything special? (NA=1)

☐ Everything seems ok to me!

☒ There is indeed a "critical" error with the hard disk! ✓

**Correct:**

Nagios detected a very low free space on the hard disk, but have no fear, the mechanics of VirtualBox will always ensure disk space availability!

*Vous avez utilisé 1 essais sur 3*

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