

# NG|Screeener Installation

Ljupce Nikolov

May 2019, Yverdon-les-Bains





## Summary

- System Requirement
- Virtual Machine Creation
- NG|OS Installation
- Components Installation
- Connectors Installation
- Checking Install



## System Requirements

### Local / Test Install

- What will be used during training
- **Min 6 GB RAM**
- Turn ON Virtualization hardware extensions
  - Intel VT-x / AMD-V

### Usual Install

- What will be required on production servers
- Min 8 GB RAM
- Min 4 CPUs
- Fast Hard drives (Ideally SSDs)

# Virtual Machine Creation





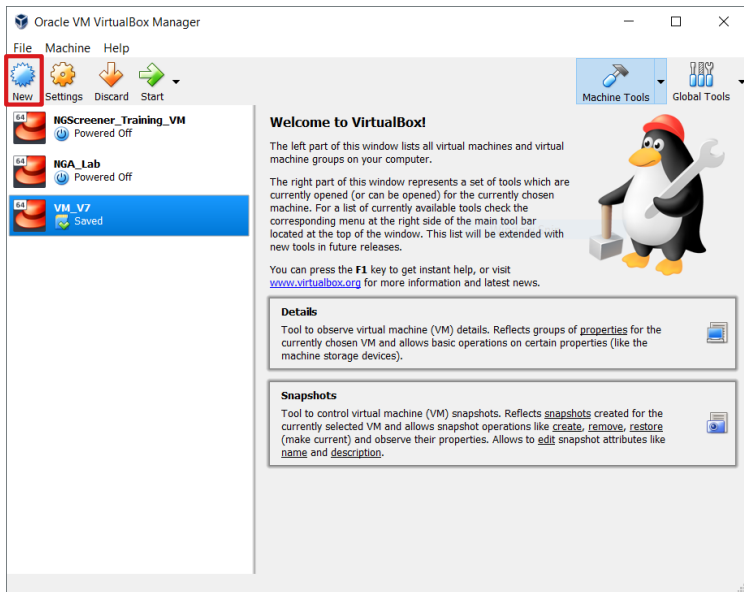
## Virtual Machine Creation

- Virtual Box
  - Version 5.2.8 Minimum
- Used for testing purpose on local machine
- Will be needed during labs

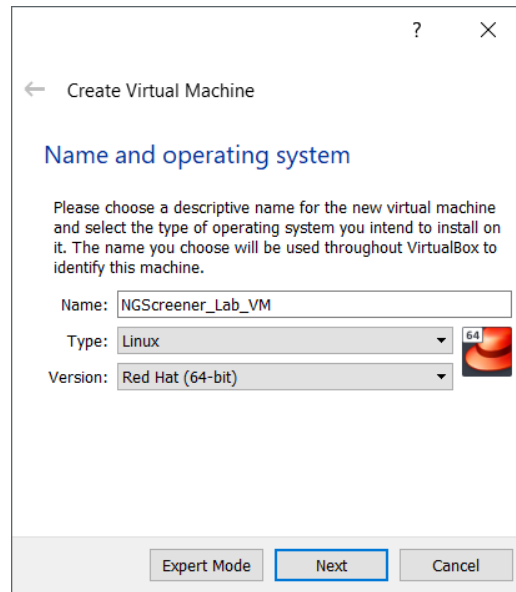


# Virtual Machine Creation

## Step 1: Create a new VM



## Step 2: Select OS (RedHat 64 bits)





# Virtual Machine Creation

## Step 3: Set RAM size (6 GB min)

← Create Virtual Machine

### Memory size

Select the amount of memory (RAM) in megabytes to be allocated to the virtual machine.

The recommended memory size is **1024 MB**.

4 MB 16384 MB

6144 MB

Next Cancel

## Step 4: Create 1<sup>st</sup> Hard disk

← Create Virtual Machine

### Hard disk

If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select one from the list or from another location using the folder icon.

If you need a more complex storage set-up you can skip this step and make the changes to the machine settings once the machine is created.

The recommended size of the hard disk is **8,00 GB**.

☐ Do not add a virtual hard disk

☒ Create a virtual hard disk now

☐ Use an existing virtual hard disk file

NGA\_Lab-disk001.vmdk (Normal, 40,00 GB)

Create Cancel



# Virtual Machine Creation

## Step 5: Type of disks to VMDK

← Create Virtual Hard Disk

### Hard disk file type

Please choose the type of file that you would like to use for the new virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.

- ☐ VDI (VirtualBox Disk Image)
- ☐ VHD (Virtual Hard Disk)
- ☒ VMDK (Virtual Machine Disk)

Expert Mode **Next** Cancel

## Step 6: Set to Dynamically allocated

← Create Virtual Hard Disk

### Storage on physical hard disk

Please choose whether the new virtual hard disk file should grow as it is used (dynamically allocated) or if it should be created at its maximum size (fixed size).

A **dynamically allocated** hard disk file will only use space on your physical hard disk as it fills up (up to a maximum **fixed size**), although it will not shrink again automatically when space on it is freed.

A **fixed size** hard disk file may take longer to create on some systems but is often faster to use.

You can also choose to **split** the hard disk file into several files of up to two gigabytes each. This is mainly useful if you wish to store the virtual machine on removable USB devices or old systems, some of which cannot handle very large files.

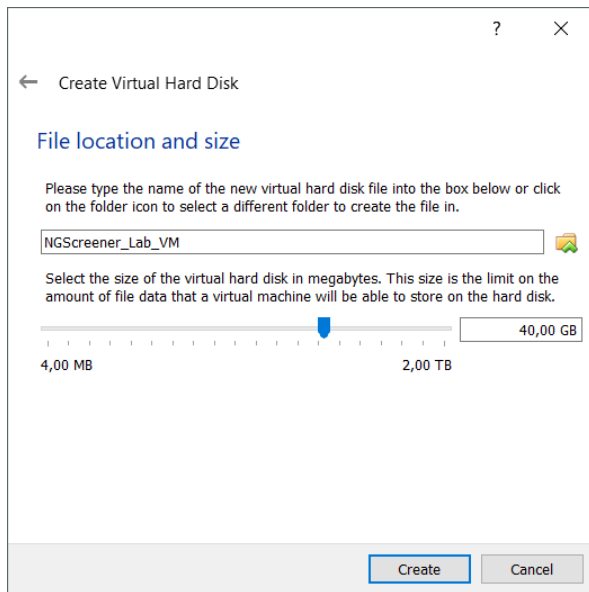
- ☒ Dynamically allocated
- ☐ Fixed size
- ☐ Split into files of less than 2GB

**Next** Cancel

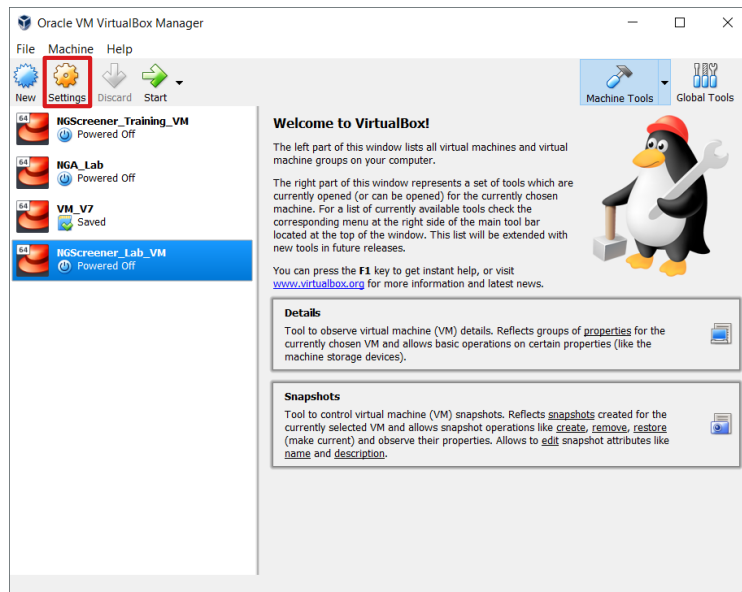


# Virtual Machine Creation

## Step 7: Set Size (min 40 GB)

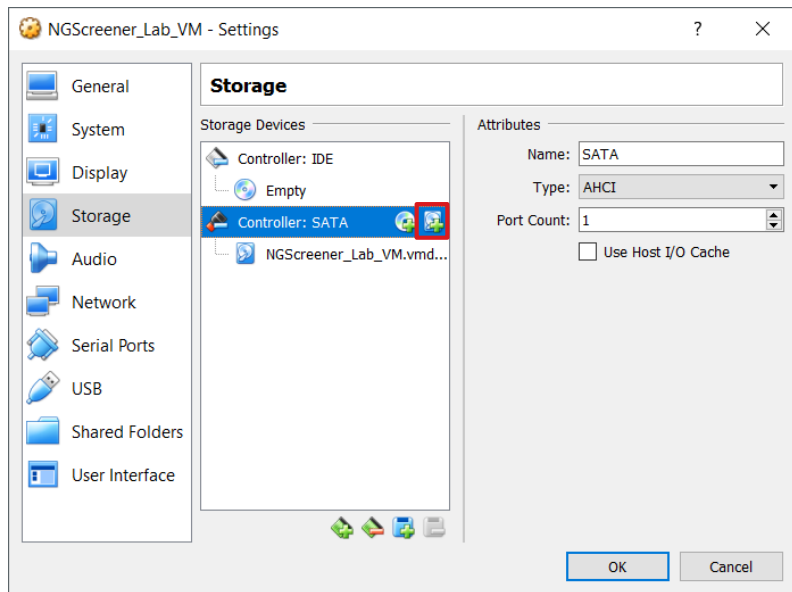


## Step 8: VM is created. Go to setting to tune it



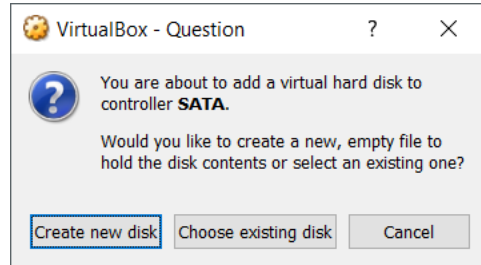
# Virtual Machine Creation

Step 9: Create 2 additional disks



Step 10: Create New disks  
steps 4-7) 50/60 GB

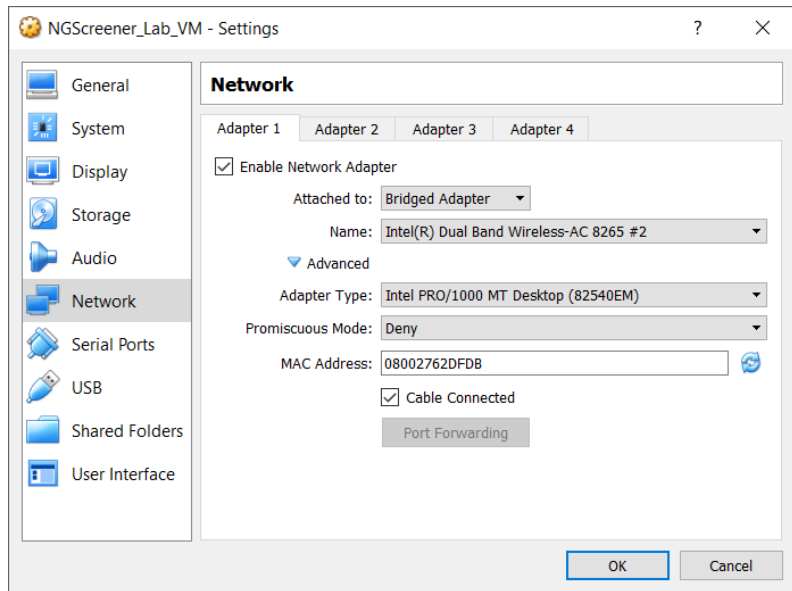
(cf.



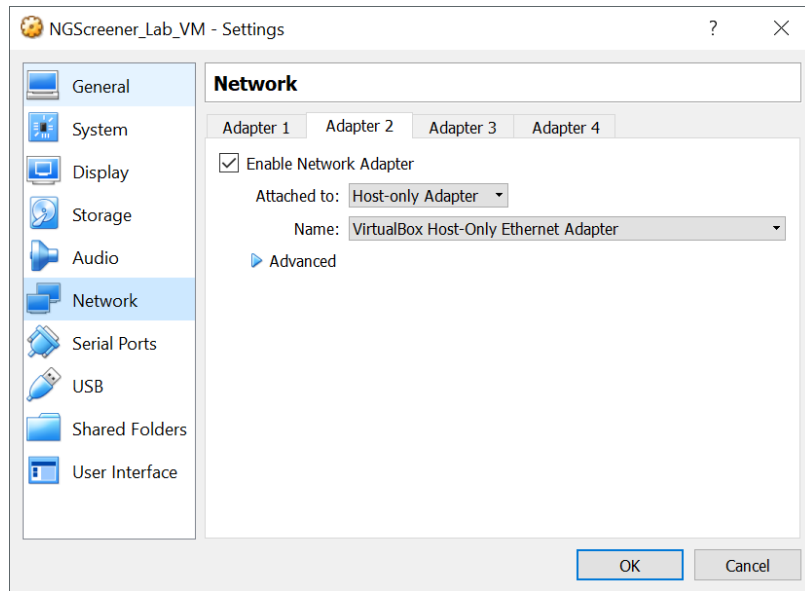


# Virtual Machine Creation

## Step 11: Set network to Bridged Adapter



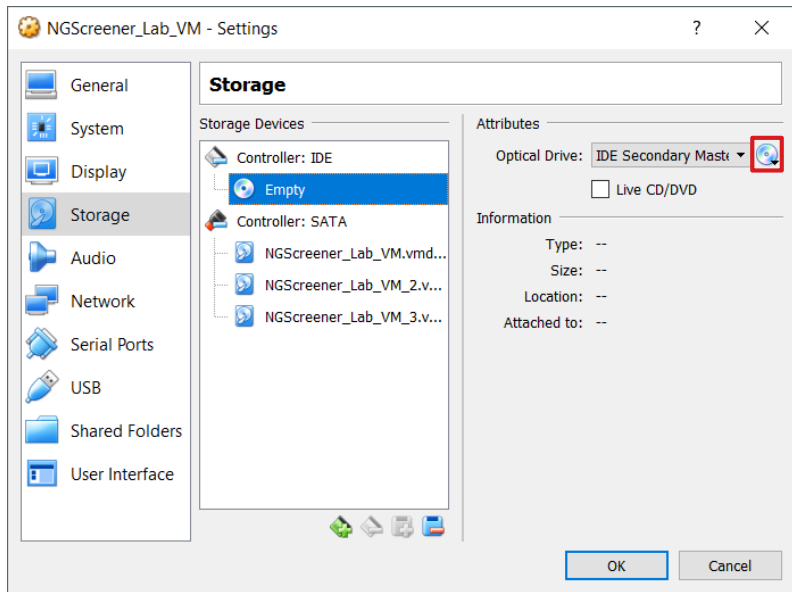
## Step 12: Add a 2<sup>nd</sup> adapter as Host-only Adapter





# Virtual Machine Creation

## Step 13: Mount NG|OS iso file



# NG|OS Installation





## NG | OS Installation

- When started, VM will start on ISO file that has been mounted
- Welcome screen will appear
  - Type `ngscreener` to start install
- Anaconda installer will start
  - Semi automated install



# NetGuardians

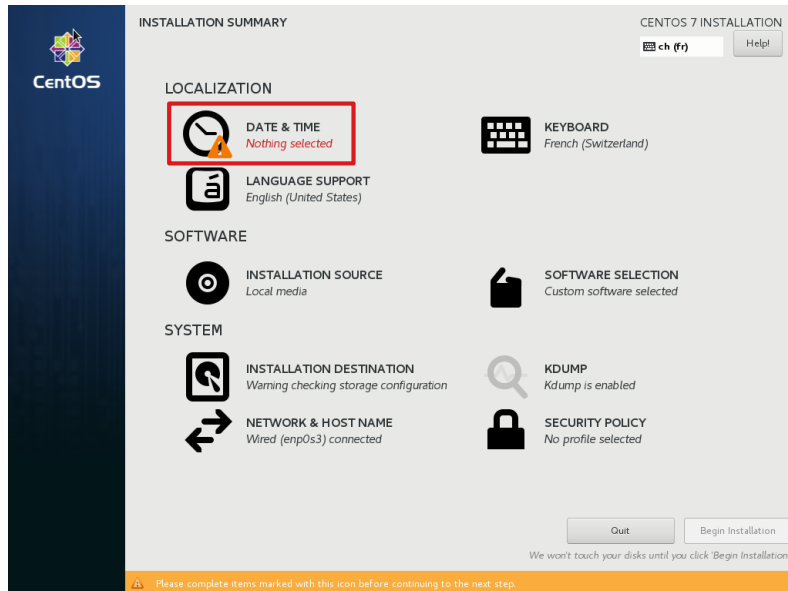
```
- To install NG-Screener type: ngscreener <ENTER>
- To run memtest86 memory test type : memtest86 <ENTER>.
- Use the function keys listed below for more information.

[F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue]
boot: _
```

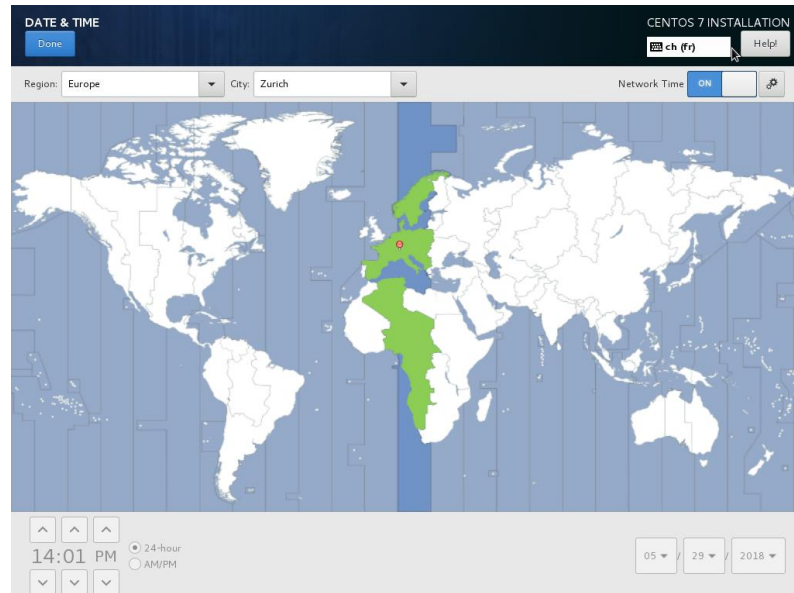


# NG|OS Installation

## Step 1: Anaconda Installer loaded, Click on Date & Time

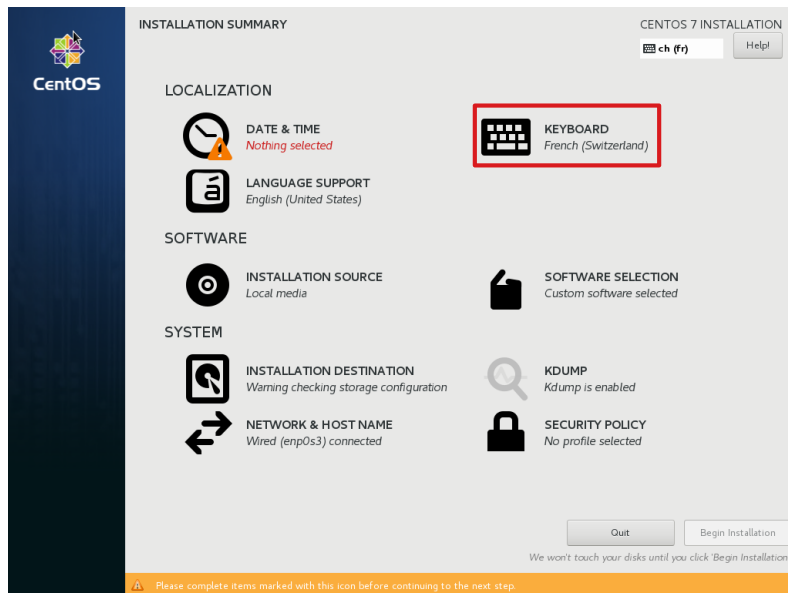


## Step 2: Select correct timezone

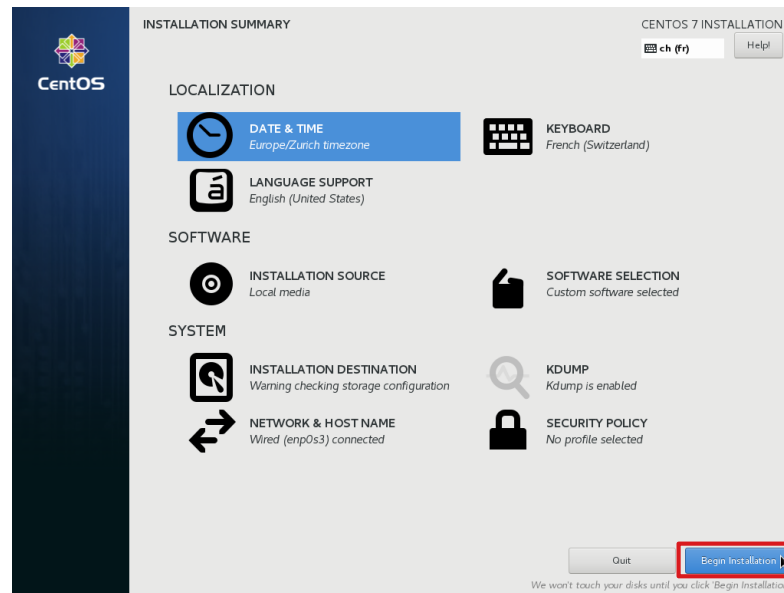


# NG|OS Installation

## Step 3: (Optional) Change keyboard layout



## Step 4: Begin Installation (approx. 30 min)

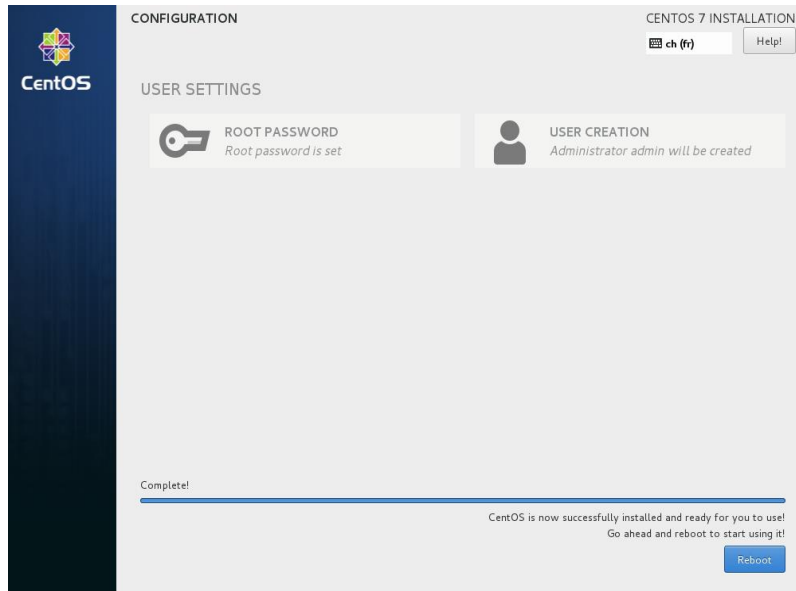




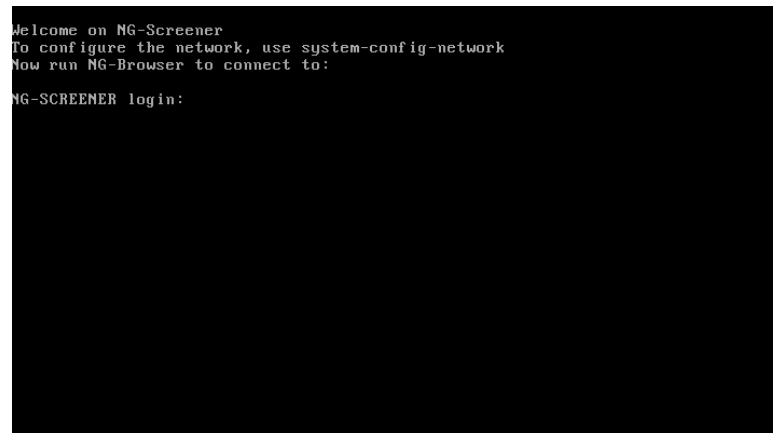


# NG|OS Installation

Step 5: Reboot at the end of OS install and unmount ISO



Step 6: Connect with admin / netguardians credentials





# NG|OS Installation

Step 7: Check IP address provided with  
`ifconfig`

```
NG-SCREENER login: admin
Password:
[admin@NG-SCREENER ~]$
[admin@NG-SCREENER ~]$
[admin@NG-SCREENER ~]$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.210.4.72 netmask 255.255.0.0 broadcast 10.210.255.255
    inet6 fe80::3678:1370:6fc9:2528 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:62:df:db txqueuelen 1000 (Ethernet)
    RX packets 3090 bytes 326497 (310.0 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 203 bytes 21716 (21.2 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 24 bytes 4079 (3.9 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 24 bytes 4079 (3.9 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

[admin@NG-SCREENER ~]$ _
```

Step 8: OS is ready for component  
installation



# NG | Screener Component Installation





# Component Installation

## Installation Order

1. NG|Storage
2. NG|Messaging
3. NG|Processing
4. NG|Syslog
5. NG|Auth
6. NG|Daemon
7. NG|UI
8. NG|Case Manager
9. NG|Management Center
10. NG|Connectors
11. ...

## Before starting Install

- Components are provided as RPM packages
- RPM should be transferred to VM using a File transfer tool
  - SCP / SFTP on port **22**
  - User: **admin** / Pass: **netguardians**
- RPM install should be done as root (su / sudo)
- Configure second interface (host-only)



# Configure Second Interface

## Interface configuration

- Edit `/etc/sysconfig/network-scripts/ifcfg-enp0s8`
- Configuration on the right →
- Restart network
  - `sudo systemctl restart network`
- Could use `demolocal.netguardians.ch` to access machine
  - Needed for NG|Auth
  - See end of slide deck for some other needed configuration for NG|Auth

`NM_CONTROLLED=yes`

`BOOTPROTO=none`

`ONBOOT=yes`

`IPADDR=192.168.56.11`

`NETMASK=255.255.255.0`

`DEVICE=enp0s8`

`PEERDNS=no`

`ZONE=public`



# Component Installation

## 1. NG|Storage Installation

- Install command
  - `sudo rpm -ivh NgStorage-X.Y.Z.rpm`
- Post install actions
  - `sudo systemctl daemon-reload`
  - `sudo systemctl enable ng-storage.service`
  - `sudo systemctl start ng-storage.service`
- Post install check
  - RPM listed as installed: `rpm -qa NgStorage`
  - Service started: `sudo systemctl status ng-storage`



# Component Installation

## 2. NG | Messaging Installation

- Install command
  - `sudo rpm -ivh ngMessaging-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa NgMessaging`
  - Service started:
    - `sudo systemctl status ng-messaging`
    - `sudo systemctl status ng-zookeeper`
    - `sudo systemctl status ng-kafka-manager`



# Component Installation

## 3. NG|Processing Installation

- Install command
  - `sudo rpm -ivh NgProcessing-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa NgProcessing`
  - Service started:
    - `sudo systemctl status ng-history-server`
    - `sudo systemctl status ng-mesos-master`
    - `sudo systemctl status ng-mesos-slave`
    - `sudo systemctl status ng-thrift-server`





## Component Installation

### 4. NG|Syslog Installation

- Install command
  - `sudo rpm -ivh ngSyslogNg-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa ngSyslogNg`
  - Service started:
    - `sudo systemctl status syslog-ng.ngc`



## Component Installation

### 5. NG|Auth Installation

- Install command
  - `sudo rpm -ivh ngAuth-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa ngAuth`
  - Service started:
    - `sudo systemctl status ng-screener-auth.service`



# Component Installation

## 6. NG|Daemon Installation

- Install command
  - `sudo rpm -ivh ngDaemonDistrib-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa ngDaemonDistrib`
  - Service started:
    - `sudo systemctl status ng-screener`



# Component Installation

## 7. NG|UI Installation

- Install command
  - `sudo rpm -ivh ngBrowser-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa ngBrowser`
  - Service started:
    - `sudo systemctl status ng-screener-ui`



## Component Installation

### 8. NG|Case Manager Installation

- Install command
  - `sudo rpm -ivh --force ngCaseManagerRpm-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa ngCaseManagerRpm`
  - Service started:
    - `sudo systemctl status ng-case-manager`



# Component Installation

## 9. NG|Management Center Installation

- Install command
  - `sudo rpm -ivh --force ngManagementCenter-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa ngManagementCenter`
  - Service started:
    - `sudo /etc/init.d/management.ngc status`



# Component Installation

## Connectors - Preparation

- Transfer connectors archive files to VM
- Uncompress all connectors
  - `cd /PATH/TO/CONNECTORS`
  - `unzip "*.zip"`

## Connector - Install

- Install of all connectors at once
- `sudo rpm -ivh  
*/connector/connector-*.rpm`
- Check install
  - `rpm -qa connector*`
- Restart UI
  - `sudo systemctl restart ng-screener-ui`



## Component Installation

### [Optional] NG|Import Installation

- Install command
  - `sudo rpm -ivh ngImport-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa ngImport`
  - Command available: `sudo ngimport`





## Component Installation

### [Optional] NG | Polling System Installation

- Install command
  - `sudo rpm -ivh --force ngPollingSystem-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa ngPollingSystem`
  - Service started:
    - `sudo systemctl status polling-system` (service not started since no configuration for polling)



## Component Installation

### [Optional] NG | Scoring API

- Install command
  - `sudo rpm -ivh ngScoringApi-X.Y.Z.rpm`
  - `sudo rpm -ivh ngScoringApiUi-X.Y.Z.rpm`
- Post install check
  - RPM listed as installed: `rpm -qa | grep ngScoringApi`
  - Service started:
    - `sudo systemctl status ng-scoring-api`
    - `sudo systemctl status ng-scoring-api-ui`

# Specific Configuration for NG|Auth





## NG | Auth specific configuration

- Copy `apache_conf.zip` to VM
- Uncompress it and copy content to `/etc/httpd/conf.d/`
- Restart httpd service
  - `sudo systemctl restart httpd.ngc`
  - Careful there are two httpd services → Restart the one ending with `.ngc` (other is not started)
- Add to entries to `/etc/hosts`
  - `127.0.0.1` `demolocal.netguardians.ch`
  - `192.168.56.11` `demolocal.netguardians.ch`
- Add certs to keystore
  - `keytool -import -alias netguardians -file netguardians.crt -keystore /usr/java/latest/jre/lib/security/cacerts -storepass changeit -noprompt`
  - For both netguardians and intermediate certificates



## NG | Auth specific configuration

- The URL should be now accessible:
  - <https://demolocal.netguardians.ch/auth/admin>
- Login with:
  - Username: superadmin
  - Password: netguardians
- Click on `clients` in the menu on the left
- Edit both `ngBrowser` and `ngCaseManager` client ID
  - Find option Valid Redirect URIs and change from `appliance.netguardians.ch` to `demolocal.netguardians.ch` (cf. printscreen).
  - Save your changes

The screenshot shows a configuration interface with several fields. The 'Valid Redirect URIs' field is highlighted with a red asterisk. It contains the text 'https://demolocal.netguardians.ch/ui/\*'. To the right of the text are two small buttons: a minus sign '-' and a plus sign '+'. Below this field are three more empty input fields labeled 'Root URL', 'Base URL', 'Admin URL', and 'Web Origins'.

Root URL ⓘ	<input type="text"/>
* Valid Redirect URIs ⓘ	<input type="text" value="https://demolocal.netguardians.ch/ui/*"/> - +
Base URL ⓘ	<input type="text"/>
Admin URL ⓘ	<input type="text"/>
Web Origins ⓘ	<input type="text"/> +



## NG|Auth specific configuration

- In command line, edit files in /etc/ng-screener/common/auth/
  - DEFAULT\_ngBrowser.json
  - DEFAULT\_ngCaseManager.json
- Modify parameter auth-server-url in both cases
  - appliance.netguardians.ch to demolocal.netguardians.ch (cf. printscreen)
- Restart both UI and Case Manager
  - `sudo systemctl restart ng-screener-ui`
  - `sudo systemctl restart ng-case-manager.ngc`

```
{  
  "auth-server-url":  
  "https://demolocal.netguardians.ch/auth",  
  "realm": "DEFAULT",  
  "credentials": {  
    "secret": "75db95d1-468b-420e-83ac-  
d2bcde251113"  
  },  
  "verify-token-audience": true,  
  "ssl-required": "external",  
  "resource": "ngBrowser",  
  "use-resource-role-mappings": true,  
  "confidential-port": 0  
}
```

\*Refer to NG|Screener Install Guide chapter 3.9 about SSL configuration



# Check Installation



# Check Installation

## Sanity Check Script

- Execute at the end of installation of components
  - `systemctl | grep -E "ngc-|ng-|-ng"`
- `sudo python /usr/local/ng-screener/tools/sanity/sanity-check.py`

```
[admin@NG-SCREENER 03_Connectors]$ sudo python /usr/local/ng-screener/tools/sanity/sanity-check.py
Centos Version Check: OK
RAM Check: WRONG - Less than 8GB memory
Swap Check: OK
Check Partitions (/ , /var/log, /data and /storage): OK
Check Databases Users OK
Check limits: OK
Check mariadb.ngc Service is running OK
Check licensing: OK
Check Java Version: OK
Check mysql2 is installed: OK
Check installed MariaDb packages: OK
Check if user ng-screener exists: OK
Check if /log-collector directory exists: OK
Check if ngStorage is installed: OK
Check if ng-storage.service is running: OK
Check ngStorage status: OK
```

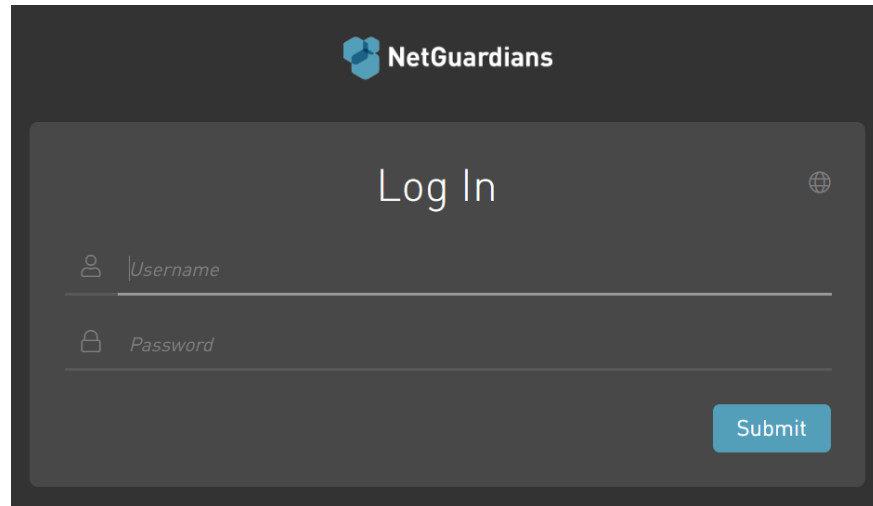




# Check Installation

## Connect to Applications

- Accessing application through `https://demolocal.netguardians.ch`
- Credentials
  - User: admin
  - Pass: netguardians



The image shows a dark-themed web interface for NetGuardians. At the top, the NetGuardians logo is displayed. Below it, the text "Log In" is centered, accompanied by a globe icon on the right. There are two input fields: the first is labeled "Username" with a person icon, and the second is labeled "Password" with a lock icon. A blue "Submit" button is located at the bottom right of the form area.



# THANK YOU!

## Contact us



+41 24 425 97 60



[info@netguardians.ch](mailto:info@netguardians.ch)



[www.netguardians.ch](http://www.netguardians.ch)



[Linkedin.com/company/netguardians](https://www.linkedin.com/company/netguardians)



[Facebook.com/NetGuardians](https://www.facebook.com/NetGuardians)



[@netguardians](https://twitter.com/netguardians)



<https://www.youtube.com/netguardians>



### NetGuardians Headquarters

Y-Parc, Av. des Sciences 13  
1400 Yverdon-les-Bains  
Switzerland

T +41 24 425 97 60

F +41 24 425 97 65



### NetGuardians Africa

KMA Centre , 7th floor,  
Mara Road Upper Hill,  
Nairobi, Kenya

T +254 204 93 11 96



### NetGuardians Asia

143 Cecil Street  
#09-01 GB Building  
069542 Singapore

T +65 6224 0987



### NetGuardians Eastern Europe

Koszykowa 61, 00-667  
Warsaw, Poland



### NetGuardians Germany

Rhein-Main Gebiet  
Germany

T +49 172 3799003