Lab 8:

Name Service Switch

Linux Server Security  
 2024-2025

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## Introduction

# Lab concept

During this lab, we will play with Linux’ Name Service Switch (NSS).

# Learning goals

* Understanding NSS configuration
* Adding extra ‘services’ for a ‘database’ in NSS
* Inquire a ‘service’ for a given explicitly

# Practicalities and prerequisites

You’ll need the following:

* Your VMs and the pfSense VM as installed during previous lab(s)

## NSS

* Have a look at the /etc/nsswitch.conf file at your Debian machine. What are the sources/services defined for the ‘hosts’ database?

A screenshot of a computer

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Files dns (probably /etc/hosts and dns)

* Add www.howest.be in your /etc/hosts file and set it to be on 127.0.0.1 . Now ping www.howest.be . What IP address is it pinging? (Note when on campus: pinging outside the Howest internal network is blocked, but you’ll see the resolved name when ping starts. You could use fw.howest.be instead of www.howest.be throughout this set of exercises.)

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It will ping 127.0.0.1

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It indeed pings 127.0.0.1

* Change the order of the services for the hosts database in /etc/nsswitch.conf . Now ping www.howest.be again. What IP address is it pinging?

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Now it pings 5.134.4.97A screen shot of a computer

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* Put the order of the services for the hosts database back to its original state.

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* Use the getent command with appropriate option to explicitly inquire the ‘files’ service to translate www.howest.be . Do the same to explicitly inquire the ‘dns’ service

getent -s dns hosts [www.howest.be](http://www.howest.be)

A screen shot of a computer

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* The DNS service of pfSense will reply with 127.0.0.1 and ::1 for every host/domain within the top level domain “.localhost”. On debian, ping whatever.localhost and gateway.localhost to verify.

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* Now, install the libnss-gw-name package on debian. Ping gateway.localhost again. What IP address is debian pinging now? And which if you install the same package and ping gateway.localhost on your debian-extra machine? Is this name listed in /etc/hosts? What other service could be responsible for translating the gateway.localhost name (hint: this section is about NSS 😊)?

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The name is not present in the /etc/hosts.

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It pings the interface from Debian OG.

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* Now have a look at the NSS config file at RHEL. What service is listed there by default which was not on debian? Have a look at the man page of nss-myhostname . What name is made available by that service for the default gateway? Try pinging that name.



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The name is **myhostname**