6DISS

Caribbean Workshop - Guadeloupe

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Host Configuration - Windows

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Laboratory Exercise: *Host Configuration (Windows XP/VISTA)*

Objectives

In this laboratory exercise you will complete the following tasks:

- *Activate the IPv6 protocol stack on WinXP PC's*
- *Understand basic IPv6 concepts*
- *Manually add/remove IPv6 addresses on Win XP*
- *Bonus: Disable 6to4 and isatap virtual interfaces*

Visual Objective

The following figure shows the topology of the current laboratory. This laboratory is identical with the one on the previous module (*lHost Configuration Linux*)

Following figure shows the topology of the current laboratory. This laboratory is similar with the one on the *Linux* configuration module.

Linux/Windows   Linux/Windows   ...
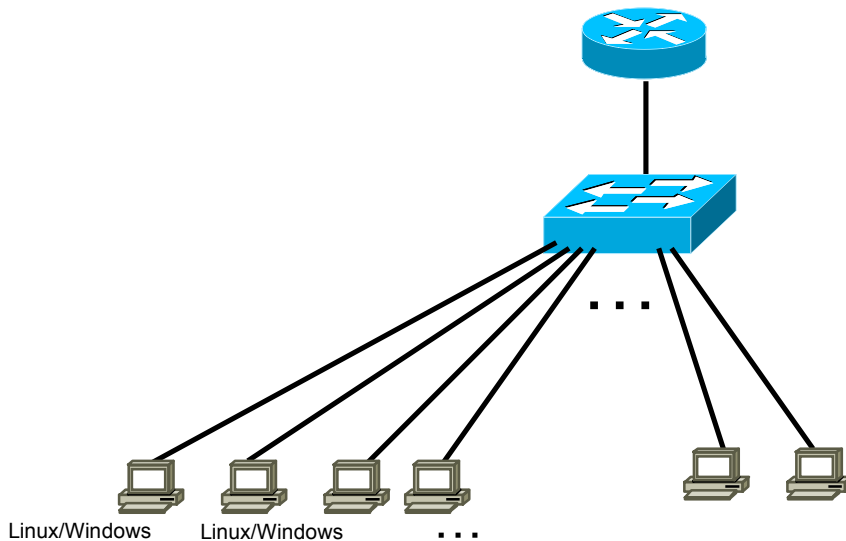
Task 1: *Enabling IPv6 on Windows XP/VISTA*

Complete the following exercise's steps

Step 1: Enable IPv6 on your Windows XP/VISTA
(**Tip:** There are two alternative methods to do it)
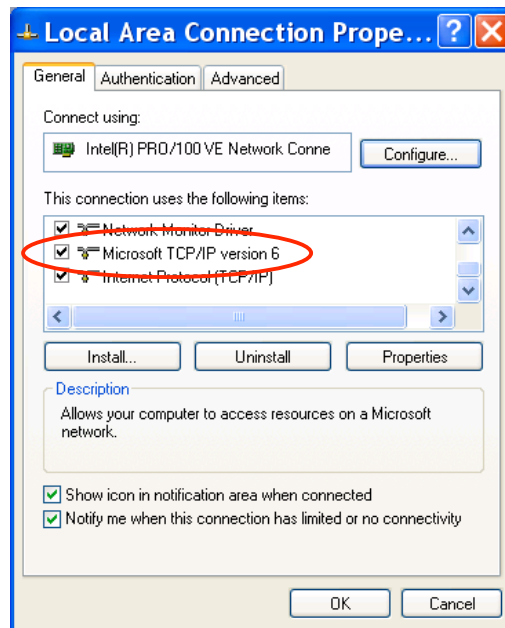- Using the WinXP GUI

Figure 1: IPv6 GUI installation

- Or from a CLI run `ipv6 install`

Task 2: *Display and identify existing IPv6 addresses*

Complete the following exercise's steps

Step 1: Identify the different interfaces at your PC. Which ones are related to IPv6 transition mechanisms?
From a CLI run the following commands:
- `ipconfig /all`
- `netsh interface ipv6 show interface` (look at the end of the document for `netsh` basic information).

Step 2: Identify different types of IPv6 addresses
- Link local (**Tip:** Search for fe80::...)
- multicast addresses

- validity of addresses (**Tip:** Use the command `netsh interface ipv6 show address` <interface>)

Task 3: Using some IPv6 related tools

Step 1: Ping local IPv6 addresses
- Ping the IPv6 localhost address (**::1**)
- Ping your host's link-local

Step 2: Without looking into the router, identify the router's link-local address
- What's the appropriate command?
  - `Traceroute`?
  - `Show neighbors`?

- Ping router's addresses (link-local). Did you successfully ping router's link-local address?

Task 4: Add/Remove IPv6 addresses

Complete the following exercise's steps

Step 1: Manually add an IPv6 address
- On your local area connection, add the following address: 2001:DB8:CAFE:1111::NN

(**Tip 1:** `netsh ipv6 interface add` …)
(**Tip 2:** <interface -> interface number or name>)

Step 2: Manually remove an IPv6 address
- Remove the address created on the previous step (**Tip:** `netsh ipv6 interface delete` …)

Bonus:

Step 3: Disable privacy extensions (RFC3041). (**Tip**: Use the command `netsh interface ipv6 set privacy`)
- Check your current addresses
- What could be the problems in terms of security if you enable/disable privacy extension?

Step 4: Disable 6to4 and isatap virtual interfaces .
(**Tip 1**: Use the command `netsh interface ipv6 6to4 set state` …)
(**Tip 2**: Use the command `netsh interface isatap set` …)
Check your current interfaces.

Summary

After completing these exercises, you should be able to:
- *Enable and configure IPv6 addresses on windows XP*
- *Identify local address types*
- *Manually add/remove IPv6 addresses*
- *Bonus: Disable 6to4 and isatap virtual interfaces*

Appendix *A*

Using Netsh

`Netsh` is a command-line scripting utility, for the Windows Operating System, which allows you to display or modify a computer's network configuration currently running.

Netsh contexts

To run a **netsh** command, you must start **netsh** from the CLI prompt and change to the context that contains the command you want to use. The contexts that are available to you depend on which networking components you have installed. For example, if you type **dhcp** at the **Netsh** command prompt, you change to the DHCP context, but if you do not have DHCP installed the following message appears:

The following command was not found: dhcp.

Running Netsh commands from the Netsh.exe command prompt

Netsh uses the following standard commands in all contexts that you can run from a Netsh.exe command prompt (that is, netsh>). There might be functional differences between Netsh context commands on Windows 2003 and Windows XP.

1. To view the command syntax, click a command.
2. **..**   Moves to the context that is one level up.
3. {*/?|?|help|h*}   Displays help at the command prompt.
4. ***Abort***   Discards any changes made in offline mode. **Abort** has no effect in online mode.
5. ***quit***   Exits Netsh.exe

Example

The following sample script changes a context from the root context to the **interface ipv6** context and adds an IPv6 address:

```
C:\> netsh
netsh>
netsh> interface ipv6
netsh interface ipv6>
netsh interface ipv6> add address interface=7 address=2001:DB8:CAFE:1111::1
```