



***Central America Workshop - Guatemala City  
Guatemala***

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***Management Tools***

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# Laboratory Exercise: *Management Tools*

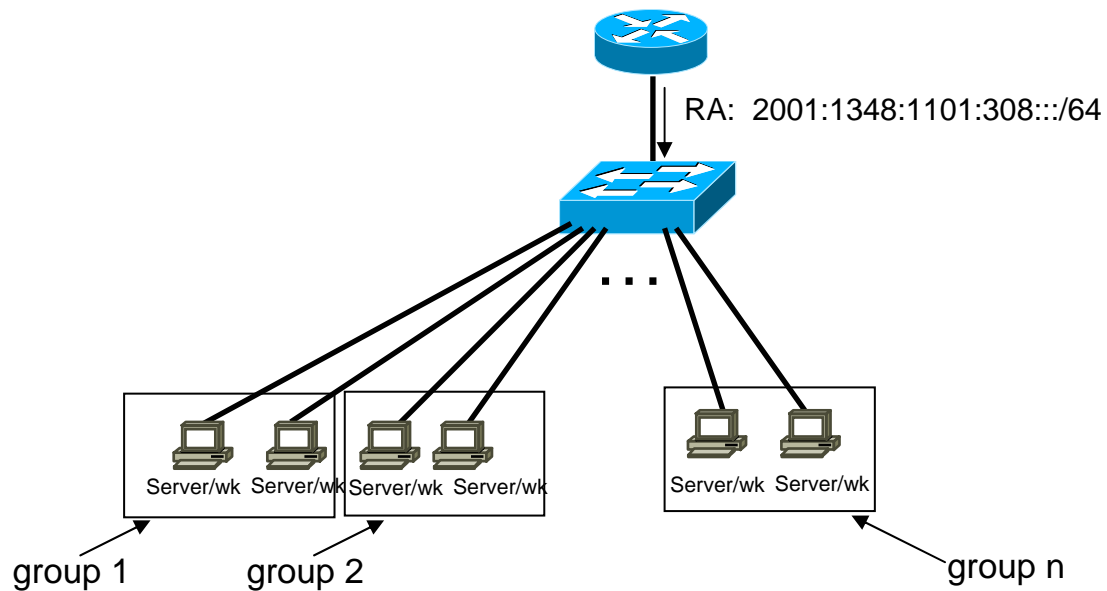
## Objectives

In this laboratory exercise you will complete the following tasks:

- *Install a tool to monitor machines and associated services (argus)*
- *Test additional tools (Looking glass, ASPathTree, etc)*

## Visual Objective

The following figure shows the topology for this exercise.



**Figure 1:** Scenario topology

## Setup/Scenario

*The main goal of this hands-on is to monitor the router, the PCs and the services installed during the last hands-on on the LAN.*

*All the PCs must run Linux.*

*After having installed a tool to do that, you will test additional monitoring tools available in the web.*

### Task 1: Install a tool to manage the equipment and the services

Complete the following exercise's steps:

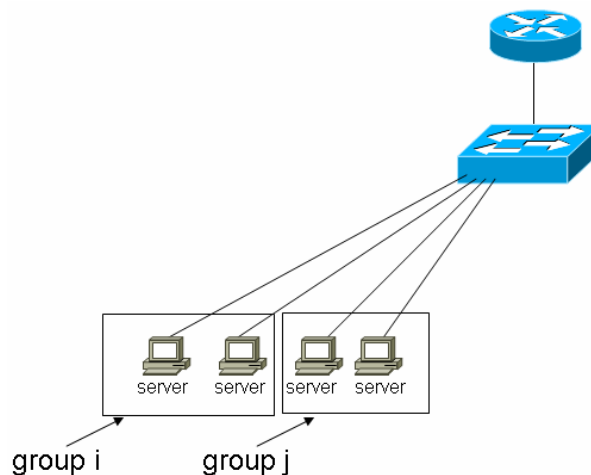
- **Step 1:** Install Argus (<http://argus.tcp4me.com/>) in your PC
  - Download argus (version 3.4)
  - Untar: `tar -xvzf argus-3.4.tar`
  - Install argus: `./Configure, make, make install`. Note that you must be root for the last one.

**Note:** For running Argus in this hands-on, you'll need:

- i. Perl 5
- ii. Fping and fping6
- iii. Apache

During the Argus installation, if these packages are not installed in your PC, the Argus installer will propose you to install them.

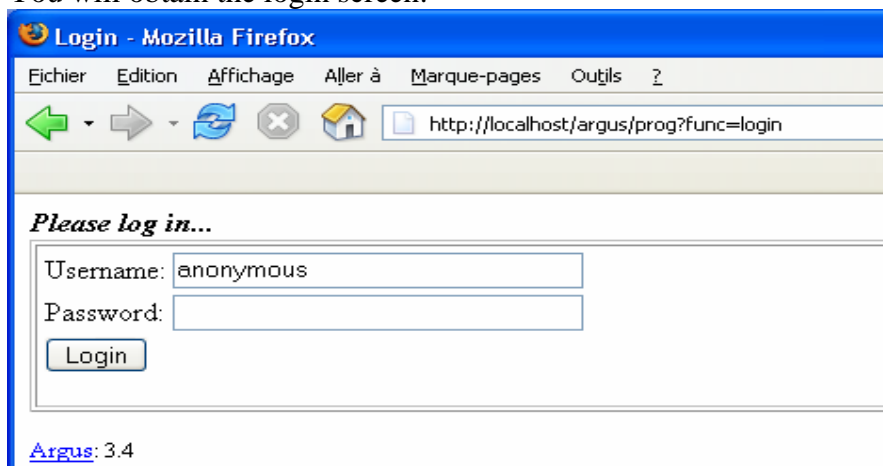
- **Step 2:** Configuration of Argus (creation of a file to monitor the router, PCs and services running (web, ftp), "user" file and Apache configuration).
  - You have to monitor 2 groups and the router:



- a “server” of group *i* will monitor:
  - The router: **ping**
  - The other server of group *i* and the servers of group *j*: **ping** and services (**web** and **ftp**)

**NB: You can start monitoring one sever and check if Argus is running well.**

- To do that, retrieve the IPv4 and IPv6 addresses of the router and your neighbours (group *i* and *j*)
- Create the configuration file of Argus (see Appendix A):
  - Copy the file “config.example” to “config”  
(**Tip 1:** Use the command `argus-config --datadir` to find the config folder ...)
  - Modify the file “config” to integrate new services supervision
- Create the user file:
  - Copy the file “users.example” to “users”
  - Modify the file “users” to add your own user.
- **Step 3:** Web server configuration:
  - Be sure that \$datadir is writable by the *www* user (or whatever uid your web server runs as)
  - Copy icons to somewhere accessible by your web server (these locations get specified in config file) or feel free to replace them with your own icons, or no icons at all.
  - Create a symlink in your cgi-bin directory to the arguscgi program: You can add in the web server config file a ScriptAlias line:  
e.g: `ScriptAlias /argus/prog /usr/local/sbin/arguscgi`
- **Step 4:** Run argus daemon:
  - `#argusd &`
  - Check with your web browser that argus is running well:  
<http://localhost/argus/prog?func=login>  
You will obtain the login screen:



(**Tip 1:** See the log file if you encountered some problems ...)

- **Step 5:** Play with Argus
  - Put some PCs or services down and check that Argus detects the failovers.

## **Task 2: Test additional management tools or applications available in the web**

Complete the following exercise's steps:

- **Step 1:** Access an AS Path web site. Find the number of IPv6 AS numbers and the number of routing entries in the IPv6 routing table (e.g: <https://noc.cssi.renater.fr/AS-Path-Tree/>)
- **Step 2:** Use a Looking Glass web site. Identify the different IPv6 requests that you can achieve (e.g: <https://noc.cssi.renater.fr/-l-g-v-6-.php>)
  - Try to ping or traceroute an IPv6 address
  - Retrieve the IPv6 BGP table
  - ...

## **Summary**

After completing these exercises, you should be able to:

- *Install and configure monitoring tools (argus) for manage a network*
- *Find useful information in the web concerning IPv6 management tools*



## Appendix A

### Configuration file for argus

```
Group "Routers" {
  #Router supervision
  Host "GW_IPv6" {
    hostname: 2001:db8:XXXX:YYYY:...
    graph: yes
    Service Ping
  }
}

Group "Group 1" {
  #Server supervision
  Host "server_IPv4" {
    hostname: x.x.x.x          # IPv4 address
    graph: yes

    # Services that you want to monitor
    Service TCP/HTTP
    Service TCP/FTP
    Service Ping

    # Example to monitor DNS service
    Service UDP/DNS{
      zone:  guatemala.workshop.6diss.org
      class: IN
      query: AAAA
    }
  }

  Host "server_IPv6" {
    hostname: 2001:db8:XXXX:YYYY:...
    graph: yes

    # Services that you want to monitor
    Service TCP/HTTP
    Service TCP/FTP
    Service Ping

    # Example to monitor DNS service
    Service UDP/DNS{
      zone:  guatemala.workshop.6diss.org
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```