

## **MODUL 2 – Linux Island IT Network Systems Administration**

**LKS Nasional  
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## 1. EXAM

### 1.1 CONTENTS

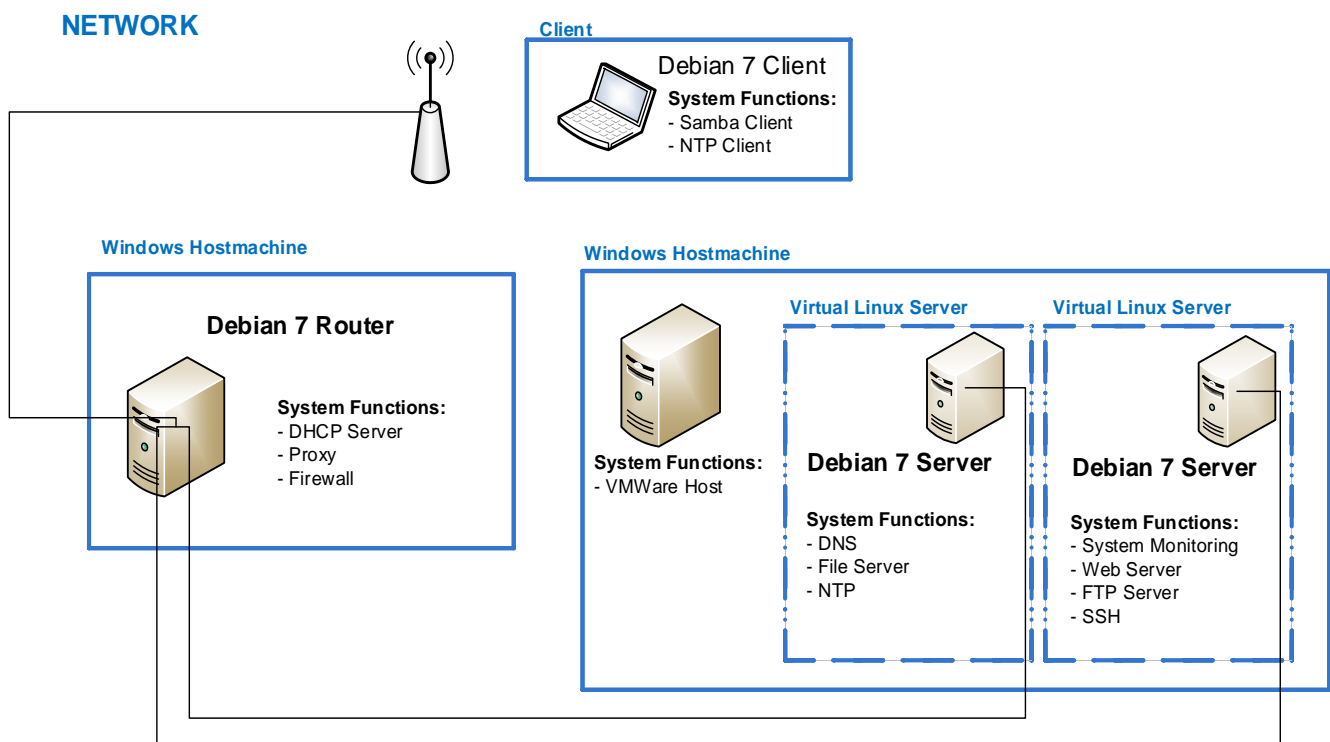
This Test Project proposal consists of the following document/file:

1. Modul 2 – Linux Island.docx

### 1.2 INTRODUCTION

The competition has a fixed start and finish time. You must decide how to best divide your time.

### 1.3 QUICK SPECIFICATIONS



## 1.4 PART 1

### Working Tasks Linux Virtual Server1 (serpongSRV)

Note: Please use the default configuration if you are not given the details.

- Install and Setup Server with the Debian 7 Operating System with the settings specified in the appendix for serpongSRV (hostname, password, IP, etc.). Ensure that all components are correctly installed (**Don't install Graphical User Interface (GUI) such as KDE, GNOME, etc**)
- Install and configure the services
  - Configure and Install DNS Server
    - Configure DNS Server with two domain
      - **serpong.net** to serpongSRV
      - **ice-bsd.com** to iceSRV
    - Create subdomain **files.serpong.net** and **ntp.serpong.net**
    - Create subdomain **www.ice-bsd.com** and **ftp.ice-bsd.com**
  - Configure and Install File Server (Samba)
    - Share "internal"
      - Path is /var/internal
      - Give access only user "manager" with password "access"
    - Share "public"
      - Path /var/public
      - Enable read-only access to everyone
  - Configure and Install NTP
    - Set NTP server service. Use local clock as time server source
    - Synchronize debian client time with the NTP server time in the **serpongSRV**

### Working tasks Linux Virtual Server2 (iceSRV)

- Install and Set up server with the Debian 7 operating system with the settings specified in the appendix for **iceSRV** (hostname, password, IP, etc.). Ensure that all components are correctly installed (**Don't install Graphical User Interface (GUI) such as KDE, GNOME, etc**)
- Install and configure the services
  - Webserver (apache2)
    - Install apache2
    - Modify the default page with the code in appendix
    - Users access to this server by:  
**`http://www.ice-bsd.com`**
    - Enable HTTPs
    - Create virtual webpages for user01 to user05  
ex. **`http://www.ice-bsd.com/~user03`**
  - Install and Configure FTP Server
    - Install FTP server
    - Each user (user01 to user05) will have a home directory. User must have access to update their own webpage via FTP.  
Note: the file website for users will be share if your client already.
  - Install and Configure SSH Server
    - install SSH Server
    - Change SSH port default to 2015
  - Install and Configure Monitoring (Cacti)
    - Install Cacti
    - Create an admin-user “master” with password “skills2015”
    - Create a graph showing the traffic statistics of the CPU, Memory and interfaces of the **iceSRV**

## 1.5 PART 2

### Working Tasks Linux Router (iceRO)

Note: Please use the default configuration if you are not given the details.

- Install and Set up server with the Debian 7 operating system with the settings specified in the appendix for **iceSRV** (hostname, password, IP, etc.). Ensure that all components are correctly installed (**Don't install Graphical User Interface (GUI) such as KDE, GNOME, etc**)
- Install and Configure DHCP Server
  - Install DHCP Server
  - DHCP Server Scope:
    - Range : 10.10.8.1 – 10.10.8.50
    - Netmask : 255.255.255.192
    - Gateway : 10.10.8.60
    - DNS : 10.10.0.2
- Install and Configure Proxy Server
  - Install proxy server
  - Configure Proxy Server to allow only 'whitelist accessed' of website from debian client using ACL (access control list).  
Whitelist accessed:
    - \*.serpong.net
    - \*.ice-bsd.com
    - debian.org
  - Configure Proxy Server to access Internet using username and password (non-transparent mode). Using username "access" and password "secret".
  - Configure Proxy Server to limit bandwidth for download.
  - Add web-based tool to monitor user proxy activity.
- Configure Firewall
  - Configure packet filtering Firewall to allow HTTP, HTTPs, FTP and SSH to **iceSRV** from outside and deny all other services.
  - Ensure the outside can access any service on **serpongSRV**.

## 1.6 PART 3

### Working Tasks Wireless Access Point

Note: Use the default configuration if you are not given the details.

- Set SSID "serpong@cyber\_xw"
- Don't broadcast SSID
- Set WPA-PSK authentication
- Set MAC address filtering to allow only Windows Client
- Set IP Address 10.10.8.w/26

Note:

- x = number competitor
- w = date of birth (ex. 30 for date of birth 30)

## 1.7 PART 4

### Working Tasks Linux Client

Note: Use the default configuration if you are not given the details.

- Install and Set up server with the Debian 7 Desktop operating system with the settings specified in the appendix for **iceCLIENT** (hostname, password, IP, etc.). Install a Graphical User Interface (GUI) of your choice.
- Install and configure samba client
  - Make sure the share "public" on serpongSRV is being mounted to /mnt/share at startup.
- Synchronize time to NTP server with the NTP server time in the **serpongSRV**.

## 2 APPENDIX

### 2.1 Specifications

#### 2.1.1 LINUX SERVER1 SPECIFICATIONS (serpongSRV)

Computer name:	serpongSRV
Root password:	Serpong2015
Default User name:	competitor
Default User password:	Serpong2015
Domain name:	serpong.net
IP address:	10.10.0.2/30
Virtual network card bridged to:	vmnet0

#### 2.1.2 LINUX SERVER2 SPECIFICATIONS (iceSRV)

Computer name:	iceSRV
Root password:	Serpong2015
Default User name:	competitor
Default User password:	Serpong2015
Domain name:	ice-bsd.com
IP address:	10.10.0.6/30
Virtual network card bridged to:	vmnet1

#### 2.1.3 LINUX ROUTER SPESIFIKATIONS (iceRO)

Computer name:	iceRO
Root password:	Serpong2015
Default User name:	competitor
Default User password:	Serpong2015
Domain name:	ice-bsd.com
IP address:	10.10.0.1/30 10.10.0.5/30 10.10.8.60/26

#### 2.1.4 NETWORK SPECIFICATIONS

iceRO - serpongSRV	10.10.0.0/30
iceRO - iceSRV	10.10.0.4/30
iceRO outside	10.10.8.0/26

#### 2.1.5 NOTEBOOK SPECIFICATIONS

Computer name:	debCLIENT
Domain:	serpong.net
User name:	competitor
Password:	Serpong2015
IP address	dhcp



## 2.1.6 NETWORK DIAGRAM

