

## Common instructions on Taitaja-tasks

### Common instructions:

- Unless otherwise instructed, always use password "Qwerty7". This password also is default password for all preinstalled servers, unless otherwise instructed.
- Server names must be configured as instructed in the task
- Linux-servers are installed by default without graphical interface. Windows servers are preinstalled with graphical interface, unless otherwise mentioned.
- All installed servers and services must be in english, unless otherwise mentioned. This can affect in evaluation points
- If in the assignment it is not clearly instructed how to do certain things, you can configure the service any way you want, so that the functionality is working as instructed. The functionality will be tested.
- Replace "X"-letter in tasks with your competitor number.

For example: `http://taitajaX.local` => <http://taitaja9.local>

**IMPORTANT! Please read the whole task before starting. Making notes on competition assignment papers is allowed. All devices will be restarted before evaluation, so make sure that everything works after reboot.**

Saarenit Ltd has been using years the old Windows Server 2008-server to run all of the business IT-services. For some reason lately all the websites has stopped to work and are redirecting to wrong websites. The IT Manager believes that the server was hacked. After the incident the CEO Henri Meriheinä has decided to invest in IT-resources so all the systems can be upgraded and protected from outside attacks.

Saarenit Ltd has hired you as System Specialist to execute there upgrades and to make sure the services are working securely. You must complete migration and also a few other tasks which are listed in the "Changes to the systems".

Read assignment carefully and think in which order you should do the job. The CEO wants that you document all the changes that you make, so it is more easy to see what has been done. Documentation also works as the reason for payment. If task has not been documented, it won't be paid.

Organization Manager Elisa Elovaara wants that you secure the network and separate Organization units in their own networks.

If you feel that you cannot proceed with the task, which is needed for continue working, you can purchase the solutions from Stadi Ltd (this means loss of points)

## Windows

### DC2008

#### Installed roles on server

1. Active Directory
2. DNS
3. DHCP
4. File Server
5. IIS (Intranet & company www-pages)

List a few possible reasons why the server DC2008 was hacked:

.....

.....

.....

After completing the migration, remove DC2008 from the domain and shut it down

### DC2017

Server has been preinstalled for you. You now need to prepare and execute migration from DC2008-server to this server.

After completing the migration, the Domain Functional Level must to be Server 2012R2.

## Changes to the systems

1. Mikko Rauttola from coding-department has complained that he has not been able to login with his short login username "raumi", even though the fact that the short username works on other users. Make sure that Mikko can login in the future with his short login name too.
2. Mikko Rauttola has also complained that he is unable to login after 15:00 (3pm), even though he should be able to login anytime.
3. For some reason all other users have been able to read each others shared home directory. Change server settings so only the owner of the homefolder and System have access to those folders.
4. IT Manager wants that in the new DC2012 server the data is saved on an external 40Gb dynamically expanding virtual disk.
5. The CEO wants full permission on his own computer and Group Policy (GPO) must not affect on his computer.
6. Password policies
  - o Minimum 6-digits password
  - o Minimum limit for changing password is 2 days
  - o Successful & unsuccessful logins must be registered in the logs of the server
7. Make sure that pages [www.saarenit.com](http://www.saarenit.com) and [intra.saarenit.local](http://intra.saarenit.local) are working and that **SSL** has been enabled
8. IT Manager wants .htm-website, where he can see unsuccessful logins on domain computers. He has heard that it is possible to create this with PowerShell.
9. IT Manager wants .htm-website, where he can see domain users whose passwords never expire. He has heard that it is possible to create this with PowerShell.

## Windows 8.1 laptop

This laptop is a demo workstation for the domain

- Join this workstation on domain saarenit.local
- Configure workstation name as W10Laptop
- Configure username "KilpailijaX" (X=your competitor number) and user password Taituri2017

## Windows 10 laptop

This is the laptop of IT-department which is meant for testing and managing virtual machines. In this machine there also has been installed Cisco Packet Tracer 6.3, in case you need to simulate networks.

## Users and Organization units

Name	Title	Organization unit	Password
Henri Meriheinä	Toimitusjohtaja (CEO)	Johto	
Juha Sainio	Talousjohtaja (CFO)	Johto	
Mari Lindholm	Henkilöstöjohtaja (HR Director)	Johto	
Elisa Elovaara	Tietohallintojohtaja (CIO)	Tuki	
Mikko Gunell	Mikrotukihenkilö (PC support person)	Tuki	
Tuula Kankaanpää	Mikrotukihenkilö (PC support person)	Tuki	
Hanna Sainio	Devausjohtaja (CDO)	Koodaus	
Anni Sandell	Devaaja (developer)	Koodaus	
Mikko Rauttola	Koodaaja (coder)	Koodaus	

## Network

There are no documentation from the network functionality. Your job is to reconfigure network to work securely as explained in the task.

Separate users to these networks

VLAN ID	Name	Mikrotik ports	Switch ports
10	Työasemaverkko (workstation network)	ETH3	Fa 0/1 – 20
20	Palvelinverkko (server network)	ETH4	-
30	WLAN	WLAN	-
TRUNK	-	ETH 5	Ga 0/1 - 2

You have LAN 10.0.0.0/23 in your use. Split the network so that the first /24 network is assigned to server network, the second /25-network to workstation and the last /25 to WLAN.

## Router

- Rename router as TR-X
- Configure all VLAN:s to the router. The first IP-address of the networks must be the default gateway in all networks. The routing between networks must be blocked.
- Configure NAT between ISP-network (ETH1) and internal networks. IP-settings you will have from the ISP.
- Configure DHCP-service so that Windows server DHCP-service is assigning IP:s to workstation- & WLAN-networks. Windows servers are in the servers-network.
- Allow access to administration only from server network (MAC/IP).
- Configure wireless network:
  - SSID: TaitajaX, WPA2-PSK: \_\_\_\_\_
  - Configure wireless network so that it has access to correct networks on LAN. Wireless LAN must be on channel 11, on bandwidth 20Mhz and sending (transmit) rate limited to 10mW
- Configure PPTP-VPN-service on Mikrotik. Create VPN user vpn and password Qwerty7. Configure VPN so it has access to server-network.

## Switch

- Rename switch TS-X
- Configure second IP address from server-network.
- Configure encrypted Enable-password.
- Configure encrypted Telnet-remote control on 0-4.
- Configure VLAN:s on switch and name them.

## Network schema

