Seminar 1
1DV720 – Server Administration

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18 januari 2019

1 Introduction

During this seminar, we will address the following topics:

- Server vs. Client

- Installation of various server operating systems

- Basic configuration

- Administrative Tools

2 Deadline

The seminar is on the 30th January 2019 and it is compulsory. If you cannot participate, it must be notified in advance and a written report of the seminar must be submitted no later than 3 days after the seminar. The written report should contain detailed answers to all questions in the seminar.

3 Seminar Questions

3.1 General

1. What is it that makes a computer to a server (hardware)?

2. What is meant by a Server when talking about software?

3. What are the major historical milestones for:

   a. Microsoft Windows Server

   b. Linux

4. Describe the different types of System administrator roles and which you are most interested in working as?

5. You have a client who has 50 clients, they want a new file server.

   a. How do you find appropriate hardware for the company?

   b. What hardware do you recommend?

6. What is important to consider before installing a server operating system?

7. What is a HCL and why should it be checked before you install server operating system?

3.2 Microsoft Windows Server

8. Client Access Licenses

   a. What are the different CALs that Microsoft has?

   b. How do the different CALs work?

   c. How would you do to choose the right CAL, in which scenarios does the different CALs fit?

9. Windows Server Core

   a. What is Windows Server Core?

   b. In which scenarios is a Server Core installation appropriate?

   c. What advantages does a Windows Server Core installation compared with a "Server with a GUI"?

10. Windows Powershell and Windows Command Prompt

    a. What is Windows Powershell?

    b. What is the difference between Windows Command Prompt and Powershell?

    c. Name and explain 10 useful command prompt tools/commands.

    d. Name and explain 10 useful Powershell cmdLets.

11. How does Windows Advanced Firewall work?

3.3 Linux

12. There are a lot of different Linux distributions, choose three of the major distributions and answer the following questions:

    a. What are the 5 biggest differences between the distributions?

    b. What did you choose these distributions?

13. What should you consider when you are choosing a Linux distribution for a project?

14. What does the following Bash programs do, explain 2-3 [options] on each and how to use them:

    a. man

    b. echo

    c. sudo

    d. cat

    e. ls

    f. mv

    g. cp

    h. alias

15. Look into how to handle a text editor such as nano(recommended), vim or emacs. You should be able to edit/create files and search for patterns.

16. How can you search for - and install software on your distribution?

17. Locate the log files of your Linux distribution does it have a specific folder that stores it or does it use a command such as journalctl?

18. What is a pipe? '|'

19. IPTables

    a. What is IPTables?

    b. How do you manage IPTables?

    c. Name some basic IPTables commands?

    d. What does the following two lines do together and separate. What would be the difference if we had ACCEPT instead of DROP using both settings?

        `sudo iptables −−policy INPUT DROP`
        `sudo iptables −A INPUT −m conntrack −−ctstate ESTABLISHED,RELATED −j ACCEPT`

    e. What is the difference between inserting(`iptables −A [...]`) a rule and appending it? Does it matter where the rule is put?