

Final Exam

DT149G Administration of UNIX-like systems

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Instructions

Carefully read the questions before you start answering them. Note the time limit of the exam and plan your answers accordingly. Only answer the question. The questions are *not* sorted by difficulty. Clearly show which answer you are giving your solution to. *Always motivate your answers and show your calculations.*

Time 5 hours.

Exam Aids Dictionary, Course Litterature [2] or latest edition.

Maximum points 30

Questions 10

Preliminary grades

The following grading criteria applies: $E \geq 30\%$, $D \geq 45\%$, $C \geq 60\%$, $B \geq 75\%$, $A \geq 90\%$. Scoring will be based on level of depth shown in your answer. To pass this exam you must have shown proficient knowledge in all the intended learning outcomes (ILO) covered in this exam. Each questions ILO affiliation is shown as (ILO: #). The grade limit given is preliminary per ILO. Final grade is set based on your performance on each individual ILO.

Covered ILO

This exam covers the following Intended Learning Outcomes (ILO)

- ILO: 1 – Administer and modify a UNIX-like system and its services
- ILO: 2 – Identify, implement and motivate choice of services
- ILO: 3 – Describe how the upstart process works in a UNIX-like system

Questions

The questions below are not given in any particular order.

- (3p) 1. (*ILO: 1*) You need to check what modification-, change-, and access time a file have, how can you check this? Discuss the difference between them, and what they actually mean. What other meta-information can be found about a file?
- (3p) 2. (*ILO: 1*) When compiling your own kernel can you give three drawbacks and three advantages compared to of using a full distribution
- (3p) 3. (*ILO: 1*) In this course, you scheduled to run a program in two different ways. Discuss these two alternatives. Give examples of how to use them, and also give examples of tasks that are more suitable for each of the two alternatives.
- (3p) 4. (*ILO: 2*) You are setting up a file server and want to ensure that only a few users are able to access and read the data that is stored in /backup, and even fewer should be able to write to that folder. How would you achieve this?
- (3p) 5. (*ILO: 2*) Name and explain all the different components in an e-mail system.
- (3p) 6. (*ILO: 2*) What types of attacks are firewalls, such as IPTables good at protecting you against? And what types of attacks can't a firewall detect?
- (3p) 7. (*ILO: 2*) Name and explain all the resource records needed for setting up your own domain, and a subdomain.
- (3p) 8. (*ILO: 3*) What purpose do a ramdisk have in the boot process?
- (3p) 9. (*ILO: 3*) How would you go about to identify a process that is taking up too much resources, and instead of killing it, suspend it. If you later would like to start it up again, how will you achieve this?
- (3p) 10. (*ILO: 3*) What is the purpose of the commands nice and renice? Explain the difference, For each of the commands, give a scenario when using these are necessary.

References

- [1] *DT149G - Administration of UNIX-like systems*. Course version 1.0. 2015.
- [2] Evi Nemeth et al. *UNIX and Linux system administration handbook*. 4th ed. Upper Saddle River, NJ: Prentice Hall, 2011. ISBN: 978-0-13-148005-6 (pbk. : alk. paper).