Missing Semester

Lecture 1: Course Overview + The Shell (2020)

1. For this course, you need to be using a Unix shell like Bash or ZSH. If you are on Linux or macOS, you don’t have to do anything special. If you are on Windows, you need to make sure you are not running cmd.exe or PowerShell; you can use [Windows Subsystem for Linux](https://docs.microsoft.com/en-us/windows/wsl/) or a Linux virtual machine to use Unix-style command-line tools. To make sure you’re running an appropriate shell, you can try the command echo $SHELL. If it says something like /bin/bash or /usr/bin/zsh, that means you’re running the right program
2. Create a new directory called missing under /tmp.

Mkdir /tmp/missing

1. Look up the touch program. The man program is your friend.

man touch

1. Use touch to create a new file called semester in missing.

touch /tmp/missing/semester

1. Write the following into that file, one line at a time:

#!/bin/sh

curl --head --silent https://missing.csail.mit.edu

The first line might be tricky to get working. It’s helpful to know that # starts a comment in Bash, and ! has a special meaning even within double-quoted (") strings. Bash treats single-quoted strings (') differently: they will do the trick in this case. See the Bash [quoting](https://www.gnu.org/software/bash/manual/html_node/Quoting.html) manual page for more information.

echo ‘#!/bin/bash’ > semester

echo “curl –-head –silent <https://missing.semester.csail.mit.edu>” >> semester

1. Try to execute the file, i.e. type the path to the script (./semester) into your shell and press enter. Understand why it doesn’t work by consulting the output of ls (hint: look at the permission bits of the file).

./semester

ls -l

-bash: ./semester: Permission denied

Akses untuk membuka file semester ditolak

1. Run the command by explicitly starting the sh interpreter, and giving it the file semester as the first argument, i.e. sh semester. Why does this work, while ./semester didn’t?

Karena ketika memangil file semester dengan sh, maka file akan di baca sebagai sh. Maka dari itu file semester dapat dijalankan tapi melalui sh

1. Look up the chmod program (e.g. use man chmod).

man chmod

1. Use chmod to make it possible to run the command ./semester rather than having to type sh semester. How does your shell know that the file is supposed to be interpreted using sh? See this page on the [shebang](https://en.wikipedia.org/wiki/Shebang_(Unix)) line for more information.

Tambah code ini

echo ‘#!/bin/sh’ > semester

berguna agar file dapat di baca menjadi sh, lalu gunakan code ini untuk mengganti hak akses:

chmod 744 semester

chmod berguna untuk menganti hak akses pada file, jadi sekarang pada file semester memiliki hak akses :

owner = 7 = rwx = read, write, execute

group = 4 = r = read

other = 4 = r = read

1. Use | and > to write the “last modified” date output by semester into a file called last-modified.txt in your home directory.

ls -l semester | cut -f2-4 > ~/last-modified.txt

1. Write a command that reads out your laptop battery’s power level or your desktop machine’s CPU temperature from /sys. Note: if you’re a macOS user, your OS doesn’t have sysfs, so you can skip this exercise.