



Operating System Concepts

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Homework 2 – Compile the Linux Kernel

Process for Compiling Kernel

- ▶ Install Required Tools and Packages
 - e.g., build-essential, fakeroot, ...
- ▶ Download the Linux Kernel Source Code
 - from the Linux distribution you used or from
 - <https://www.kernel.org/>
- ▶ Extract the Downloaded Source Code
- ▶ Configured the Linux Kernel
- ▶ Compile the Linux Kernel
- ▶ Install the New Kernel

Requirements

- ▶ Use “uname -r” to check your kernel version
- ▶ Download the source code of your current kernel
- ▶ Compile and install it
- ▶ Use uname -r to show the new kernel

Report

1. The steps for your implementation
2. The problem you met, and how you solved it
3. **The reference of this homework**

► The report is limited within 4 pages in PDF

Grading

- ▶ Implementation
 - The screenshots of the compiling process 30%
 - Boot the new kernel 30%
- ▶ Report
 - 20%
- ▶ Bonus
 - Study your bootloader, e.g., GRUB 2
 - Modify the default kernel for booting 5%
 - Modify the list of kernels in the GRUB menu 5%
 - Download, compile and install Linux kernel 6.17.5 10%
- ▶ Demo Q&A
 - 20%

Submission

- ▶ Homework 2 deadline: at 23:00 on 2025-11-11
→NO DELAY!
- ▶ Upload to e-learning system
- ▶ The title of the report: OSHomework2StudentID
- ▶ **Point deduction for wrong format: 10%**

→ DEMO will be arranged!