

CSGE602055 Operating Systems

CSF2600505 Sistem Operasi

Minggu 06: Concurrency: Processes & Threads

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<http://rms46.vlsm.org/2/207.html>

REV087 12-Oct-2017

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|-----------|----------------------|--|
| Minggu 00 | 29 Aug - 05 Sep 2017 | Intro & Review |
| Minggu 01 | 07 Sep - 12 Sep 2017 | IPR, SED, AWK, REGEX, & Scripting |
| Minggu 02 | 14 Sep - 19 Sep 2017 | Protection, Security, Privacy, & C-language |
| Minggu 03 | 26 Sep - 30 Sep 2017 | BIOS, Loader, Systemd, & I/O |
| Minggu 04 | 03 Okt - 07 Okt 2017 | Addressing, Shared Lib, Pointer & I/O Programming |
| Minggu 05 | 10 Okt - 14 Okt 2017 | Virtual Memory |
| Ming. UTS | 15 Okt - 24 Okt 2017 | |
| Minggu 06 | 26 Okt - 31 Okt 2017 | Concurrency: Processes & Threads |
| Minggu 07 | 02 Nov - 07 Nov 2017 | Synchronization |
| Minggu 08 | 09 Nov - 14 Nov 2017 | Scheduling & Network Sockets Programming |
| Minggu 09 | 16 Nov - 21 Nov 2017 | File System & Persistent Storage |
| Minggu 10 | 23 Nov - 28 Nov 2017 | Special Topic: Blockchain |
| Cadangan | 30 Nov - 09 Des 2017 | |
| Ming. UAS | 10 Des - 23 Des 2017 | |

Agenda

- 1 Start
- 2 Agenda
- 3 Week 06
- 4 The End

Week 06: Processes & Threads

- Reference: (OSCE2e ch3/4) (UCB 02 03) (UDA P2L1/2/3) (OLD 03)
- Process Concept
 - Program (passive) \leftrightarrow Process (active)
 - Process in Memory: | *Stack* \cdots *Head* | *Data* | *Text* |
 - Process State: | *running* | *waiting* | *ready* |
 - `fork()` and `exec1p()`
- The Multi-process Synchronization Problem
 - Producer-Consumer (Bounded Buffer)
 - Readers-Writers
 - Dining Philosopher
- Communication
 - Pipes
 - Sockets
 - RPC

Thread

- Multicore Programming
- Multithreading Models
- Threading Issues
- Benefits
 - Responsiveness
 - Resource Sharing
 - Economy
 - Scalability
- Concurrency vs. Parallelism
- Multithreading Models
 - Many to One
 - One to One
 - Many to Many
 - Multilevel Models
- Pthreads
- Lab
 - `fork()`

The End

- This is the end of the presentation.