

CSGE602055 Operating Systems

CSF2600505 Sistem Operasi

LeftOver

Rahmat M. Samik-Ibrahim

University of Indonesia

<http://os.vlsm.org/>

Always check for the latest revision!

REV233 09-Sep-2020

Agenda

- 1 Start
- 2 Agenda
- 3 LeftOver
- 4 Resources
- 5 Bahan-bahan
- 6 Accounts
- 7 Week 00: Problems
- 8 Week 00: Check List
- 9 The End
- 10 Week 00: Self Service Assignments
- 11 Week 01: Problems
- 12 Week 02: Problems
- 13 07-fork
- 14 The End

- XXXX

• The Check List (Operating Systems)

- ☐ **Starting Point:** <http://os.vlsm.org/>
- ☐ **Text Book:** any recent/decent OS book but map it to **OSC10**.
- ☐ Create **public** project "os182" on your github.com account.
 - ☐ Create file "README.md" and add an extra line every week. For e.g.¹:
ZCZC Sistem Operasi 2018 Awal (1)
ZCZC W01 Have tried demo for week 01.
ZCZC W02 Week 02 is done.
ZCZC W03 Week 03 is done.
- ☐ Encode your **QRC** with image size of approximately 250x250 pixels:
"OS181 CLASS ID GITHUB-ACCOUNT SSO-ACCOUNT SIAK-Full-Name"
Special for Week 00: Mail your **embedded** QRC to:
operatingsystems@vlsm.org with Subject: [W00] CLASS ID
SIAK-NAME.
- ☐ Write your Memo (with QRC) **every week**.
- ☐ Using your **SSO** account, login to badak.cs.ui.ac.id via
kawung.cs.ui.ac.id.
 - ☐ Check folder badak:///extra/Week00/
 - ☐ Every week, copy the weekly demo files to your own home directory.
Eg. for Week00:

```
cp -r /extra/Week00/W00-demos/ W00-demos/
```

¹Week 00 line is optional. The following "ZCZC WXX" weekly tags are mandatory.

- Text Book: any recent/decent OS book. Eg. (**OSC10**) Abraham Silberschatz, Peter B. Galvin, Greg Gagne: Operating System Concepts, 10th Edition, 2018.
- (GITHUB)
<https://github.com/UI-FASILKOM-OS/SistemOperasi/>
 - (DEMO) — [demos/](#)
 - (SLIDE) — [pdf/](#)
- (UJIAN) — <http://rms46.vlsm.org/2/195.pdf> - [205.pdf](#)
- (BADAK) — [BADAK:///extra/](#)

Bahan Presentasi:

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

UI-FASILKOM-OS / **os181** Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Insights Settings

Branch: master pdf / Create new file Upload files Find file History

rms46 rmsbase pdf Latest commit 6ea3f4e 19 hours ago

..		
os00-181.pdf	rmsbase pdf	19 hours ago
os01-181.pdf	rmsbase pdf	19 hours ago
os02-181.pdf	rmsbase pdf	19 hours ago
os03-181.pdf	rmsbase pdf	19 hours ago
os04-181.pdf	rmsbase pdf	19 hours ago
os05-181.pdf	rmsbase pdf	19 hours ago
os06-181.pdf	rmsbase pdf	19 hours ago
os07-181.pdf	rmsbase pdf	19 hours ago
os08-181.pdf	rmsbase pdf	19 hours ago
os09-181.pdf	rmsbase pdf	19 hours ago
os10-181.pdf	rmsbase pdf	19 hours ago
osXX-181.pdf	rmsbase pdf	19 hours ago

© 2018 GitHub, Inc.
[Terms](#) [Privacy](#) [Security](#) [Status](#) [Help](#) [Contact GitHub](#) [API](#) [Training](#) [Shop](#) [Blog](#) [About](#)

Figure: <https://github.com/UI-FASILKOM-OS/os182/tree/master/pdf>

Bahan Demo

UI-FASILKOM-OS / **os181** Unwatch 1 Star 0 Fork 0

<> Code Issues 0 Pull requests 0 Projects 0 Wiki Insights Settings

Branch: master os181 / demos / Create new file Upload files Find file History



rms46 rmsbase Week00 Latest commit 2c3ee02 14 hours ago


..		
Week00	rmsbase Week00	14 hours ago
Week01	rmsbase demos	15 hours ago
Week02	rmsbase demos	15 hours ago
Week03	rmsbase demos	15 hours ago
Week04	rmsbase demos	15 hours ago
Week05	rmsbase demos	15 hours ago
Week06	rmsbase demos	15 hours ago
Week07	rmsbase demos	15 hours ago
Week08	rmsbase demos	15 hours ago
Week09	rmsbase demos	15 hours ago
Week10	rmsbase demos	15 hours ago



© 2018 GitHub, Inc. Terms Privacy Security Status Help Contact GitHub API Training Shop Blog About

Figure: <https://github.com/UI-FASILKOM-OS/os182/tree/master/demos>

My courses > LAIN-LAIN > Arsip RMS > General > ARSIP

 **Clock** 



 Server: Tue 9:56:21

 **Calendar** 

August 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

EVENTS KEY

-  Hide global events
-  Hide course events

ARSIP

- 010_OS162
- 013_DEMOS
- 015_Video
- 017_BAHAN-AJAR-LAMA
- 030_Arsip-Ujian
- 040_EXTRA-RMS
- 041_Suplemen
- 050_OSC-Silberschatz
- 060_UJIAN-INTERNASIONAL
- 070_KULIAH-INTERNASIONAL
- 075_ETC-Video
- 080_eDOCs
- 090_KUNYUKS
- 100_Infrastruktur_IT_Modern_2012
- 110_ITIM-REF
- 120_ITIM-Video
- 200_Pemrograman_Sistem

Figure: [Lihat juga BADAK.cs.ui.ac.id:///extra/](http://BADAK.cs.ui.ac.id:///extra/)

Github (New) Account 1



Figure: Start a new project by "rms46".

Github (New) Account 2

Create a new repository

A repository contains all the files for your project, including the revision history.

Owner

Repository name

 rms46 / os181 

Great repository names are short and memorable. Need inspiration? How about **verbose-garbanzo**.

Description (optional)

ZCZC Sistem Operasi 2018 Awal (1)

☒ Public

Anyone can see this repository. You choose who can commit.

☐ Private

You choose who can see and commit to this repository.

☒ Initialize this repository with a README

This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: **C** Add a license: **None** 

Create repository

© 2018 GitHub, Inc. [Terms](#) [Privacy](#) [Security](#) [Status](#) [Help](#)  [Contact GitHub](#) [API](#) [Training](#) [Shop](#) [Blog](#) [About](#)

Figure: Create public repository "os182" with a README.md file

Github (New) Account 3

The screenshot shows the GitHub interface for a public repository named 'os181' by user 'rms46'. At the top, the repository name is displayed with icons for 'Unwatch' (1), 'Star' (0), and 'Fork' (0). Below this is a navigation bar with links for 'Code', 'Issues' (0), 'Pull requests' (0), 'Projects' (0), 'Wiki', 'Insights', and 'Settings'. The main heading is 'ZCZC Sistem Operasi 2018 Awal (1)' with an 'Edit' button. Below the heading is a section for repository statistics: '1 commit', '1 branch', '0 releases', and '1 contributor'. A row of buttons includes 'Branch: master', 'New pull request', 'Create new file', 'Upload files', 'Find file', and 'Clone or download'. The commit history table shows two entries: '.gitignore' and 'README.md', both by 'rms46' as 'Initial commit' at 'just now'. Below the table is a preview of the 'README.md' file, showing the repository name 'os181' and the title 'ZCZC Sistem Operasi 2018 Awal (1)'.

rms46 / os181

Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Insights Settings

ZCZC Sistem Operasi 2018 Awal (1) Edit

Add topics

1 commit 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

File	Commit	Time
.gitignore	Initial commit	just now
README.md	Initial commit	just now

README.md

os181

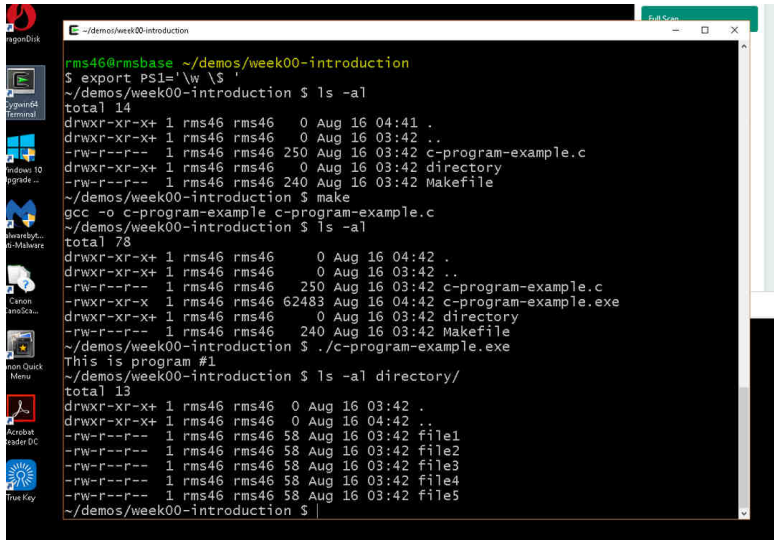
ZCZC Sistem Operasi 2018 Awal (1)

Figure: Public project "os182" by "rms46" at <https://github.com/rms46/os182>

WSL: Windows Subsystem for Linux



Figure: WSL: Windows Subsystem for Linux



The screenshot shows a Cygwin terminal window with the following commands and output:

```
~/demos/week00-introduction
rms46@rmsbase ~/demos/week00-introduction
$ export PS1='\w \$ '
~/demos/week00-introduction $ ls -al
total 14
drwxr-xr-x+ 1 rms46 rms46  0 Aug 16 04:41 .
drwxr-xr-x+ 1 rms46 rms46  0 Aug 16 03:42 ..
-rw-r--r-- 1 rms46 rms46 250 Aug 16 03:42 c-program-example.c
drwxr-xr-x+ 1 rms46 rms46  0 Aug 16 03:42 directory
-rw-r--r-- 1 rms46 rms46 240 Aug 16 03:42 Makefile
~/demos/week00-introduction $ make
gcc -o c-program-example c-program-example.c
~/demos/week00-introduction $ ls -al
total 78
drwxr-xr-x+ 1 rms46 rms46  0 Aug 16 04:42 .
drwxr-xr-x+ 1 rms46 rms46  0 Aug 16 03:42 ..
-rw-r--r-- 1 rms46 rms46 250 Aug 16 03:42 c-program-example.c
-rwxr-xr-x 1 rms46 rms46 62483 Aug 16 04:42 c-program-example.exe
drwxr-xr-x+ 1 rms46 rms46  0 Aug 16 03:42 directory
-rw-r--r-- 1 rms46 rms46 240 Aug 16 03:42 Makefile
~/demos/week00-introduction $ ./c-program-example.exe
This is program #1
~/demos/week00-introduction $ ls -al directory/
total 13
drwxr-xr-x+ 1 rms46 rms46  0 Aug 16 03:42 .
drwxr-xr-x+ 1 rms46 rms46  0 Aug 16 04:42 ..
-rw-r--r-- 1 rms46 rms46 58 Aug 16 03:42 file1
-rw-r--r-- 1 rms46 rms46 58 Aug 16 03:42 file2
-rw-r--r-- 1 rms46 rms46 58 Aug 16 03:42 file3
-rw-r--r-- 1 rms46 rms46 58 Aug 16 03:42 file4
-rw-r--r-- 1 rms46 rms46 58 Aug 16 03:42 file5
~/demos/week00-introduction $
```

Figure: Cygwin

Week 00: Problems

- Tugas Minggu 00 (Week 00) ada dua:
 - membuat QRC dan mengirimkannya via email.
 - membuat Memo Minggu 00 yang ada QRC, serta ditunjukkan pada saat istirahat kuliah hari ke dua.
- "TANDA PETIK" BUKAN merupakan bagian dari QRC!
- Jangan mencantumkan ".git" dan ".sso", jika bukan bagian dari nama akun anda!
- Tanpa header [W00] pada Subject; email anda mungkin akan nyasar entah kemana... Ingat: [W00] (We-Nol-Nol) tidak sama dengan [WOO] (We-O-O)!
- Ukuran QRC cukup sekitar 256 x 256 pixel: jangan terlalu besar atau terlalu kecil.
- QRC ditanam (embedded) dalam email; jangan menggunakan attachment!
- Jangan mengirim MEMO dalam format PDF!

Week 00: Check List

- ☐ Starting **Week 01**: TABULA RASA is not accepted anymore!
- ☐ Find/copy this document from <http://os.vlsm.org/>
- ☐ Find/read a recent/decent OS Book and map it to **OSC10**.
- ☐ Using your **SSO** account, login to `badak.cs.ui.ac.id` via `kawung.cs.ui.ac.id`.
- ☐ Check folder `badak:///extra/Week00/`
 - ☐ Try to copy and compile `c-program-example.c`.
- ☐ QR Code: (Eg) "0S182 X 1253755125 demo Demo Suremo"
- ☐ Mailto: `operatingsystems@vlsm.org`
(Eg.) Subject: 0S182 X 1253755125 demo Demo Suremo
- ☐ Write "Memo Week00" + your QRC.
- ☐ **How to improve this document?**

The End

- ☐ This is the end of the presentation.
- ☒ This is the end of the presentation.
 - This is the end of the presentation.

Week 00: Self Service Assignments

- Create project (**PUBLIC**) "os182" on your new (or existing) github.com account.
- (Week 00) QRCode¹: "OS182
CLASS ID GITHUB-ACCOUNT SSO-ACCOUNT SIAK-Full-Name"
- (Weekly) Memo.
- Informasi Kuliah, Arsip Ujian, dan Demo
 - badak.cs.ui.ac.id:/extra/
 - <https://github.com/UI-FASILKOM-OS/os182>
 - <https://rms46.vlsm.org/2/195.pdf> — [195.pdf - 205.pdf].
- Which BASH Account?
 - Virtual Ubuntu: badak.cs.ui.ac.id (SSO)
 - Ubuntu (BYOD)
 - WSL: Windows 10 Subsystem for Linux
 - Cygwin (Windows)

¹"QR Code" is a registered trademark and wordmark of Denso Wave Inc.

Week 01: Problems

- Tugas Minggu 01 (Week 01) ada dua:
 - Memo Week01: to be checked at break of the first lecture of WEEK 01.
 - Try Demo Week01 and write in "README.md" (os181), something like: "ZCZC W01 Telah mencoba demo Week01".

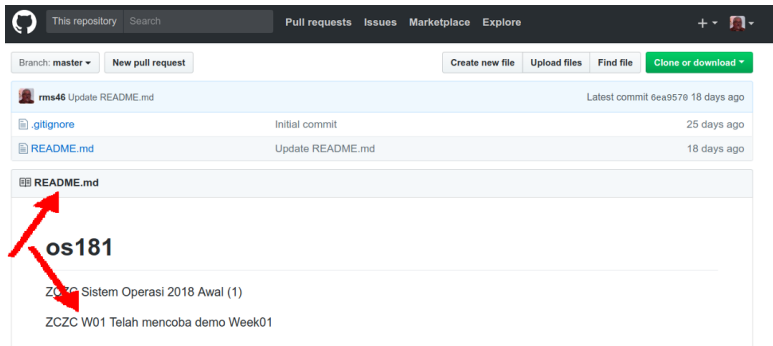


Figure: README.md: ZCZC W01 ...

Week 02: Problems

- Tugas Minggu 02 (Week 02) ada dua:
 - Memo Week02: to be checked at break of the first lecture of WEEK 01.
 - Try Demo Week02 and write in "README.md" (os181), something like: "ZCZC W02 Demo: done!".



Figure: README.md: ZCZC W02 Demo: done!

07-fork

```
>>>> $ cat 07-fork.c
/*
 * (c) 2005-2017 Rahmat M. Samik-Ibrahim
 * https://rahmatm.samik-ibrahim.vlsm.org/
 * This is free software.
 * REV05 Mon Oct 30 10:57:02 WIB 2017
 * REV02 Mon Oct 24 10:43:00 WIB 2016
 * REV01 Sun Feb 27 08:31:46 WIB 2011
 * START 2005
 */

#include <sys/types.h>
#include <sys/wait.h>
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#define DISPLAY1 "START * PARENT *** ** PID (%4d) ** *****\n"
#define DISPLAY2 "RANDOM: val1(%4d) -- val2(%4d) -- val3(%4d)\n"
/***** main ** */
void main(void) {
    pid_t val1, val2, val3;
    printf(DISPLAY1, getpid());
    val1 = fork();
    val2 = fork();
    val3 = fork();
    printf(DISPLAY2, val1, val2, val3);
    wait(NULL);
    wait(NULL);
    wait(NULL);
    /* ***** START BLOCK ***
     ***** END * BLOCK *** */
}
```

07-fork (2)

```
>>>>> $ 07-fork
START * PARENT *** ** PID (6160) ** *****
RANDOM: val1(6161) -- val2(6162) -- val3(6163)
RANDOM: val1(6161) -- val2(6162) -- val3( 0)
RANDOM: val1(6161) -- val2( 0) -- val3(6165)
RANDOM: val1(6161) -- val2( 0) -- val3( 0)
RANDOM: val1( 0) -- val2(6164) -- val3(6166)
RANDOM: val1( 0) -- val2(6164) -- val3( 0)
RANDOM: val1( 0) -- val2( 0) -- val3(6167)
RANDOM: val1( 0) -- val2( 0) -- val3( 0)
>>>>> $ 07-fork
START * PARENT *** ** PID (6168) ** *****
RANDOM: val1(6169) -- val2(6170) -- val3(6172)
RANDOM: val1(6169) -- val2( 0) -- val3(6173)
RANDOM: val1(6169) -- val2(6170) -- val3( 0)
RANDOM: val1( 0) -- val2(6171) -- val3(6174)
RANDOM: val1(6169) -- val2( 0) -- val3( 0)
RANDOM: val1( 0) -- val2( 0) -- val3(6175)
RANDOM: val1( 0) -- val2( 0) -- val3( 0)
RANDOM: val1( 0) -- val2(6171) -- val3( 0)
>>>>> $ 07-fork
START * PARENT *** ** PID (6176) ** *****
RANDOM: val1(6177) -- val2(6178) -- val3(6181)
RANDOM: val1( 0) -- val2(6179) -- val3(6180)
RANDOM: val1( 0) -- val2(6179) -- val3( 0)
RANDOM: val1( 0) -- val2( 0) -- val3(6182)
RANDOM: val1(6177) -- val2( 0) -- val3(6183)
RANDOM: val1(6177) -- val2( 0) -- val3( 0)
RANDOM: val1(6177) -- val2(6178) -- val3( 0)
RANDOM: val1( 0) -- val2( 0) -- val3( 0)
>>>>> $
```

The End

- ☐ This is the end of the presentation.
- ☒ This is the end of the presentation.
 - This is the end of the presentation.