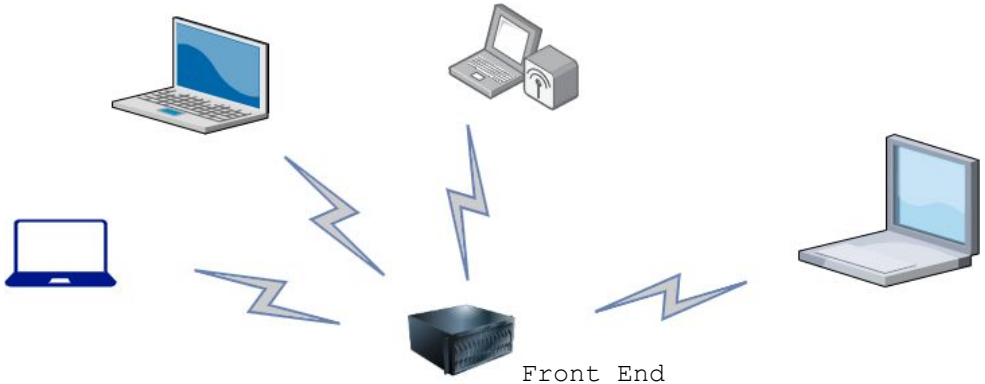
KSCC 2020 Miscellaneous v1.1

Warat Puengtambol

Architecture



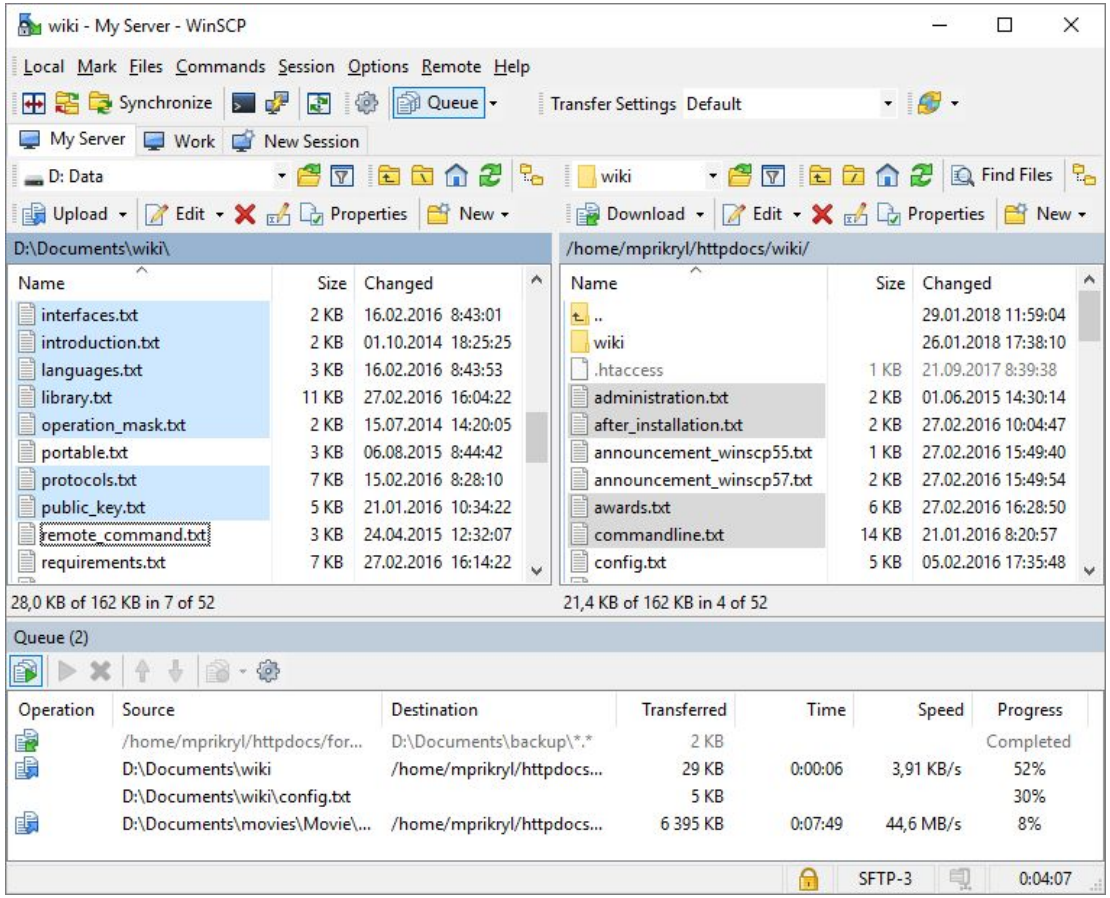
Specification:
Processor 12 core
RAM 16 GB

Compute Node-0-0 Compute Node-0-1 Compute Node-0-2

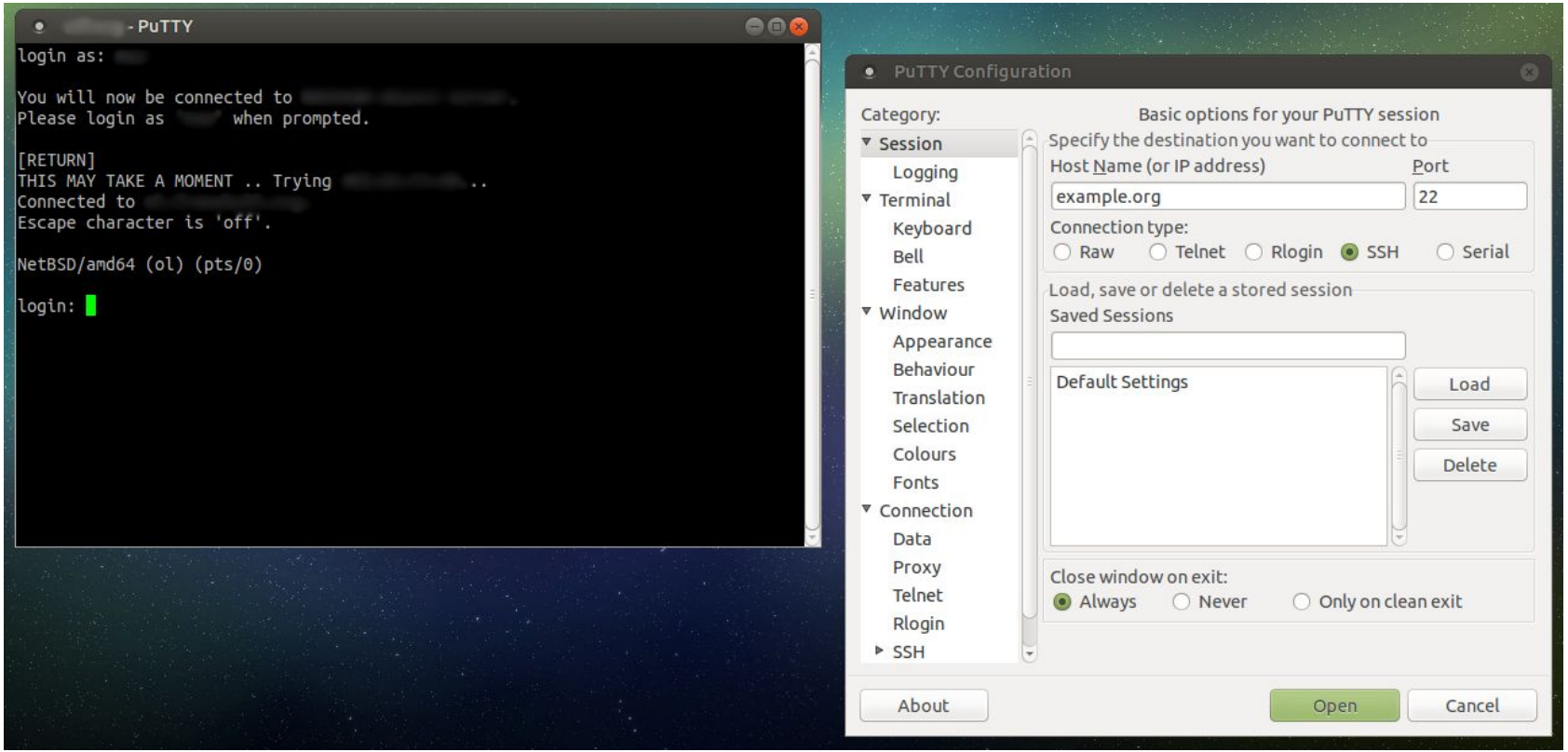
Practice
Compute Node: 3
Processor: 4 x 3

Source Code Verification
Compute Node: 3
Processor: 12 x 3

WinSCP


wiki - My Server - WinSCP
Local Mark Files Commands Session Options Remote Help
Synchronize
Queue
Transfer Settings Default
My Server
Work
New Session
D: Data
wiki
Find Files
Upload
Edit
Properties
New
Download
Edit
Properties
New
D:\Documents\wiki\
/home/mprikryl/httpdocs/wiki/
Name
Size
Changed
interfaces.txt 2 KB 16.02.2016 8:43:01
introduction.txt 2 KB 01.10.2014 18:25:25
languages.txt 3 KB 16.02.2016 8:43:53
library.txt 11 KB 27.02.2016 16:04:22
operation_mask.txt 2 KB 15.07.2014 14:20:05
portable.txt 3 KB 06.08.2015 8:44:42
protocols.txt 7 KB 15.02.2016 8:28:10
public_key.txt 5 KB 21.01.2016 10:34:22
remote_command.txt 3 KB 24.04.2015 12:32:07
requirements.txt 7 KB 27.02.2016 16:14:22
.. 29.01.2018 11:59:04
wiki 26.01.2018 17:38:10
.htaccess 1 KB 21.09.2017 8:39:38
administration.txt 2 KB 01.06.2015 14:30:14
after_installation.txt 2 KB 27.02.2016 10:04:47
announcement_winscp55.txt 1 KB 27.02.2016 15:49:40
announcement_winscp57.txt 2 KB 27.02.2016 15:49:54
awards.txt 6 KB 27.02.2016 16:28:50
commandline.txt 14 KB 21.01.2016 8:20:57
config.txt 5 KB 05.02.2016 17:35:48
28,0 KB of 162 KB in 7 of 52
21,4 KB of 162 KB in 4 of 52
Queue (2)
Operation Source Destination Transferred Time Speed Progress
/home/mprikryl/httpdocs/for... D:\Documents\backup*.* 2 KB Completed
D:\Documents\wiki /home/mprikryl/httpdocs... 29 KB 0:00:06 3,91 KB/s 52%
D:\Documents\wiki\config.txt 5 KB 30%
D:\Documents\movies\Movie\... /home/mprikryl/httpdocs... 6 395 KB 0:07:49 44,6 MB/s 8%
SFTP-3
0:04:07

Putty


- PuTTY
login as:
You will now be connected to
Please login as when prompted.
[RETURN]
THIS MAY TAKE A MOMENT .. Trying ..
Connected to
Escape character is 'off'.
NetBSD/amd64 (ol) (pts/0)
login:
PuTTY Configuration
Category:
Session
Logging
Terminal
Keyboard
Bell
Features
Window
Appearance
Behaviour
Translation
Selection
Colours
Fonts
Connection
Data
Proxy
Telnet
Rlogin
SSH
Basic options for your PuTTY session
Specify the destination you want to connect to
Host Name (or IP address)
Port
example.org
22
Connection type:
Raw
Telnet
Rlogin
SSH
Serial
Load, save or delete a stored session
Saved Sessions
Default Settings
Load
Save
Delete
Close window on exit:
Always
Never
Only on clean exit
About
Open
Cancel

Compile c

```
$ gcc <.c file> -o <output filename> <include lib>
```

```
$gcc virus.c -o virus -lm
```

```
$./virus
```

MPI

```
$ mpicc <.c file> -o <output filename> <include lib>
```

```
$mpicc virus.c -o virus -lm
```

```
$mpirun -np <number of processor> <output filename>
```

```
$mpirun -np 2 virus
```

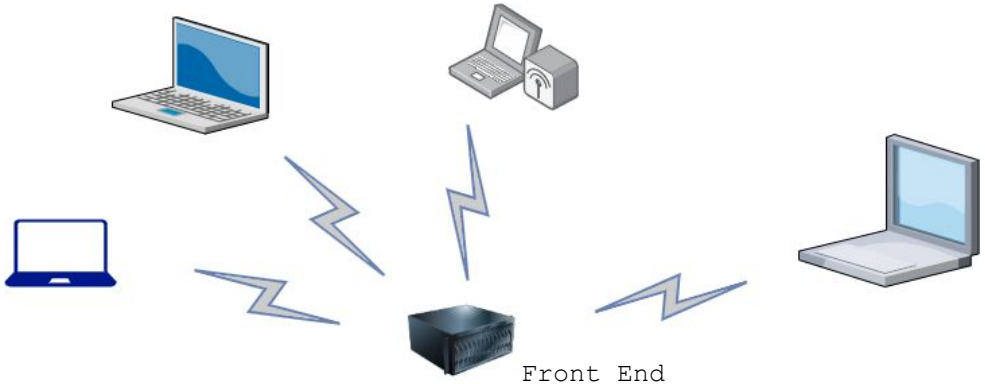
Open MP

```
$gcc -o <output filename> -fopenmp <.c file> <include lib>

$gcc -o virus hello -fopen virus.c -lm
```

```
$export OMP_NUM_THREADS=2

$./virus
```

Job File

Architecture



Specification:
Processor 12 core
RAM 16 GB

Compute Node-0-0 Compute Node-0-1 Compute Node-0-2

Practice
Compute Node: 3
Processor: 4 x 3

Source Code Verification
Compute Node: 3
Processor: 12 x 3

Job File

```
#!/bin/bash

#$ -cwd

#$ -N [your_job_name]

#$ -q [queue_name.q]


[your_program] [argv1] [argv2] [argv3] ...
```

Job File

```
#!/bin/bash

#$ -cwd

#$ -N Normal Virus

#$ -q kscc.q


./virus < seed.txt
```

Job File mpi

```
#!/bin/bash

#$ -cwd

#$ -N [your_job_name]

#$ -q [queue_name]

#$ -pe mpi [number_of_slots]


mpirun -np $NSLOTS [your_program] [argv1] [argv2] [argv3] ...
```

Job File mpi

```
#!/bin/bash

#$ -cwd

#$ -N mpi_virus

#$ -q kscc.q

#$ -pe mpi 2

mpirun -np $NSLOTS ./virus < seed.txt
```

Job File OpenMP

```
#!/bin/bash

#$ -cwd

#$ -N [your_job_name]

#$ -q [queue_name]

#$ -pe mpi [number_of_slots]


export OMP_NUM_THREADS=$NSLOTS && [your_program] [argv1] [argv2]
```

Job File OpenMP

```
#!/bin/bash

#$ -cwd

#$ -N OpenMP_Virus

#$ -q kscc.q

#$ -pe mpi 2


export OMP_NUM_THREADS=$NSLOTS && ./virus < seed.txt
```

Job File OpenMP with MPI

```
#!/bin/bash

#$ -cwd

#$ -N [your_job_name]

#$ -q [queue_name]

#$ -pe mpi [number_of_slots]


export OMP_NUM_THREADS=[processor per computenode] && mpirun -n [number of compute node] -x
OMP_NUM_SLOTS -pernode  [your_program]
```

Job File OpenMP with MPI

```
#!/bin/bash

#$ -cwd

#$ -N OpenMP_MPI

#$ -q kscc.q

#$ -pe mpi 12


export OMP_NUM_THREADS=4 && mpirun -n 3 -x OMP_NUM_SLOTS -pernode  ./virus < seed.txt
```

Submit job

```
$ qsub <job file name>
```

```
$ qsub jobfile.txt
```

Job complete detial

```
$ qacct -j <job id>
```

```
$ qacct -j 5827
```

Happy Coding!!