

Login

Login to sunhalle1, the access machine:

```
ssh sunhalle1.informatik.tu-muenchen.de
```

Login to the Hitachi

```
ssh sr8000.lrz-muenchen.de -l h039ynn  
(nn=23..45)
```

Compilation

You compile OpenMP programs written in C with

```
cc -O2 -parallel -omp -o hello hello.c
```

Program execution

```
export JOBTYPED=E8S //Jobtype shared memory parallel  
export OMP_NUM_THREADS=n //Definition of the number of threads 1..8  
prun -p IAPAR -n 1 hello //Execute the program on a single node
```

Editor

You can use *emacs* and *vi* on the Hitachi.

Use *nedit* on hitcross. You have to enable X Windows tunneling through ssh

```
ssh -X sunhalle1.informatik.tu-muenchen.de  
ssh -X sr8000.lrz-muenchen.de -l h039ynn  
ssh -X hitcross.lrz-muenchen.de  
nedit
```

Prepare directories

You will find the file *openmp.tar* in your home directory Expand the file with the command:

```
tar xvf opemp.tar
```

A directory *openmp* is created with subdirectories for the individual exercises.

Secure Copy from your sunhalle home to Hitachi

```
scp file.ext h039ynn@sr8000.lrz-muenchen.de:.
```

Time measurements

Use the OpenMP function

```
double omp_get_wtime();
```

to measure wall clock execution time. It returns the time in seconds. A function prototype must be inserted into your code. **For time measurements you have to set the environment variable JOBTYPED to E8E.**

Information about the Hitachi is available at:

<http://www.lrz-muenchen.de/services/compute/hlr/>

The OpenMP standard can be found at

<http://www.openmp.org/specs/>

EXERCISES at: <http://www.lrr.in.tum.de/~kerekku/teaching.html>