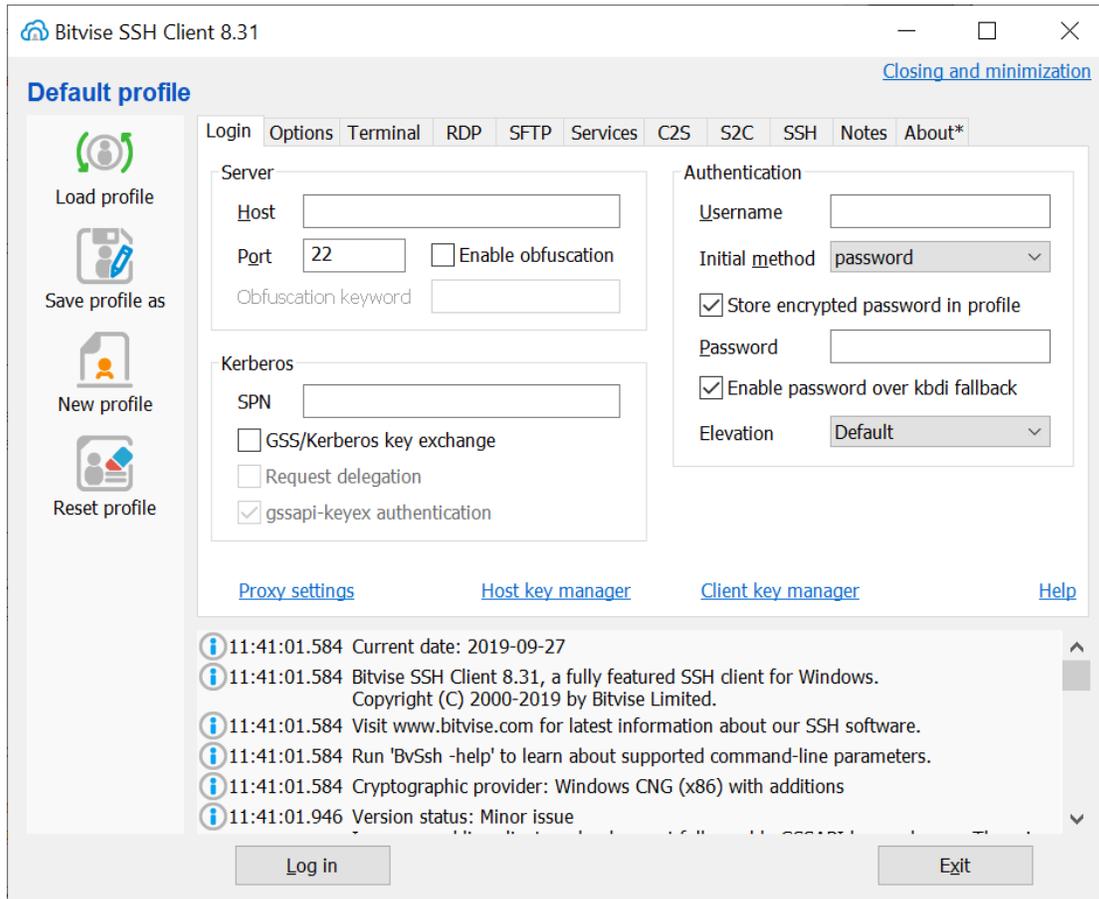


Connecting to Euler and Working from a Windows PC

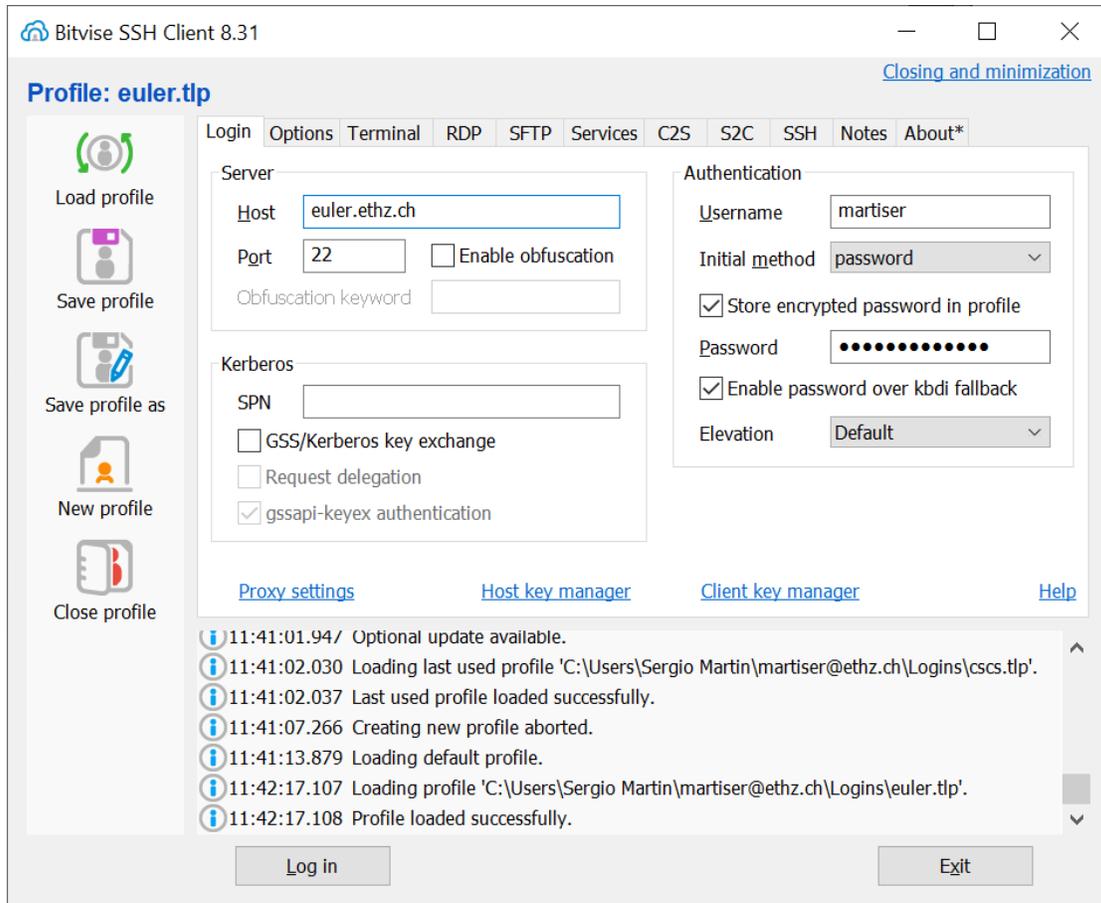
This tutorial contains instructions to set up a work environment to connect to Euler and work from a Windows PC. This tutorial describes only one of the many ways you can work remotely from a Windows OS, none of which is necessarily better than the other. This is neither an endorsement of any of the software tools used herein.

Using an SSH Client. You should first download an SSH client for windows, for example Bitvise: <https://www.bitvise.com/ssh-client-download>

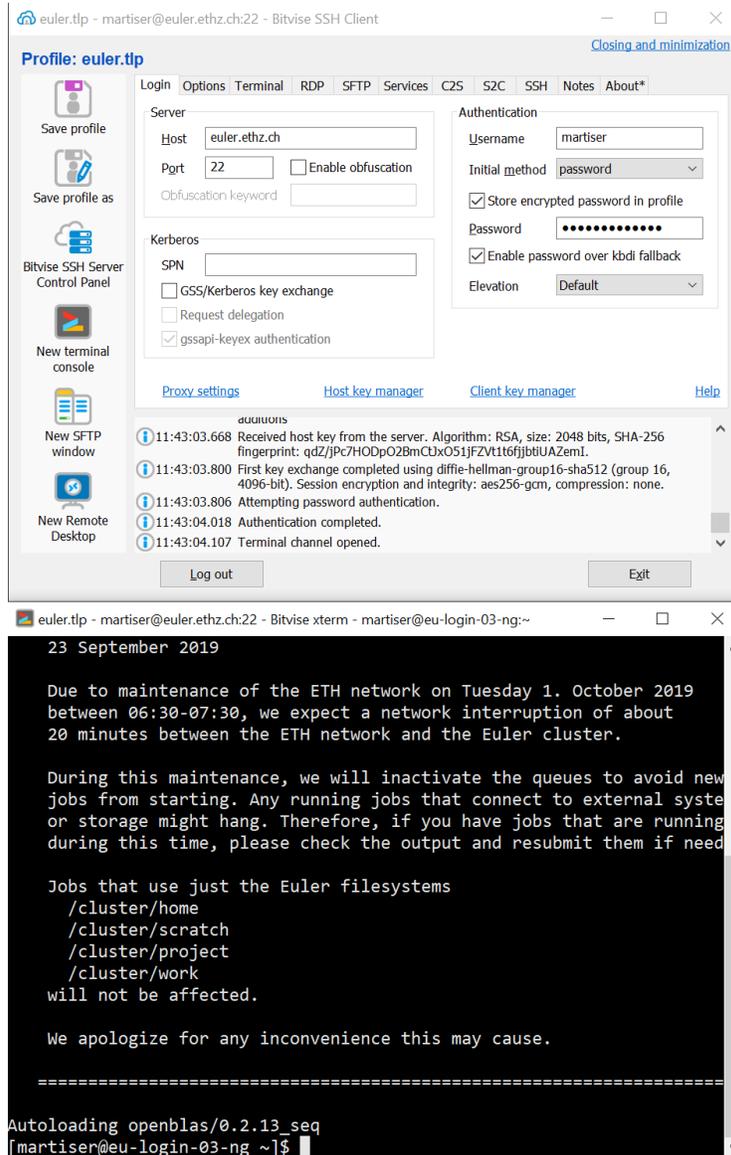
Once you install it, open it to see its connection interface:



Now set euler as host: **euler.ethz.ch**, type your username and password (or use ssh keys).

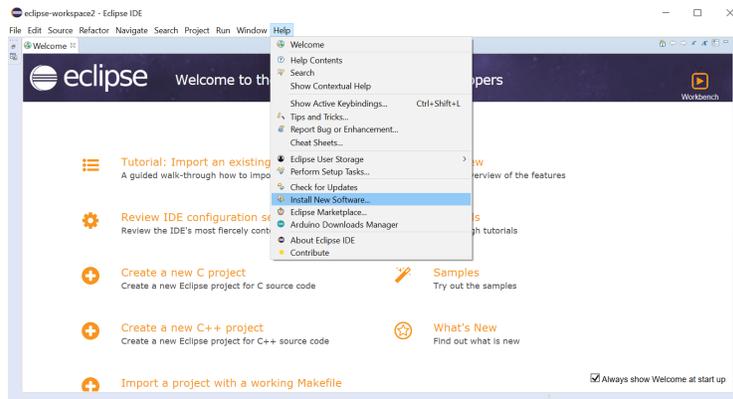


After logging in to Euler, the ssh client will open a terminal (pro tip: you can open multiple terminals from a single connection).

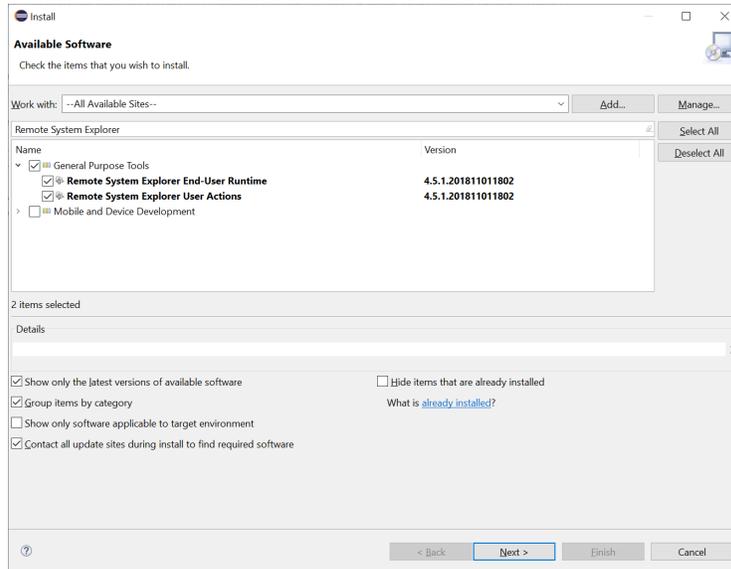


Remote Edition with Eclipse IDE. If you would like work directly on Euler, yet use an IDE on your local computer, you can use Eclipse's Remote System Explorer.

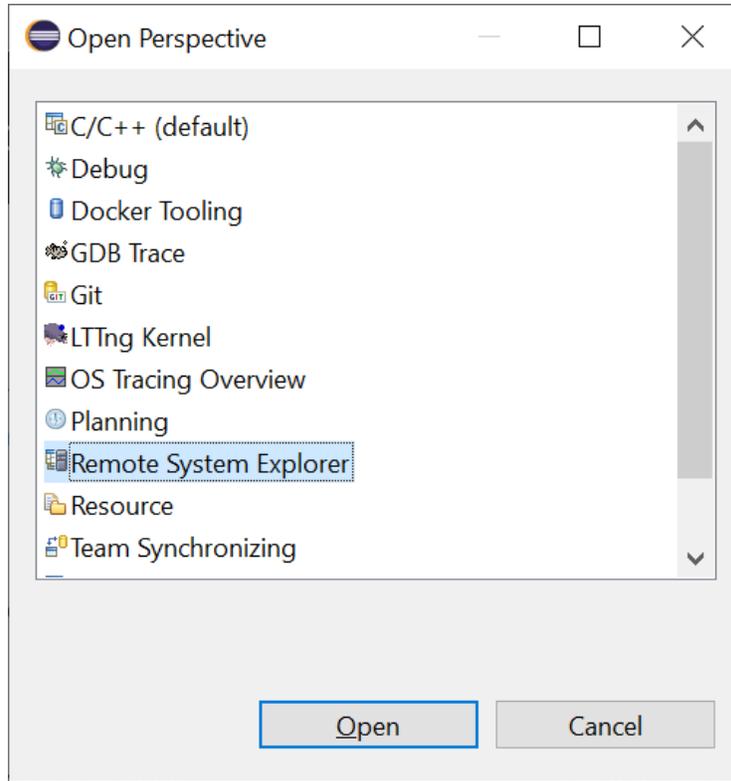
First, download the latest version of Eclipse C++ IDE: <https://www.eclipse.org/downloads/packages/>
Once installed, go to Help > Install New Software...



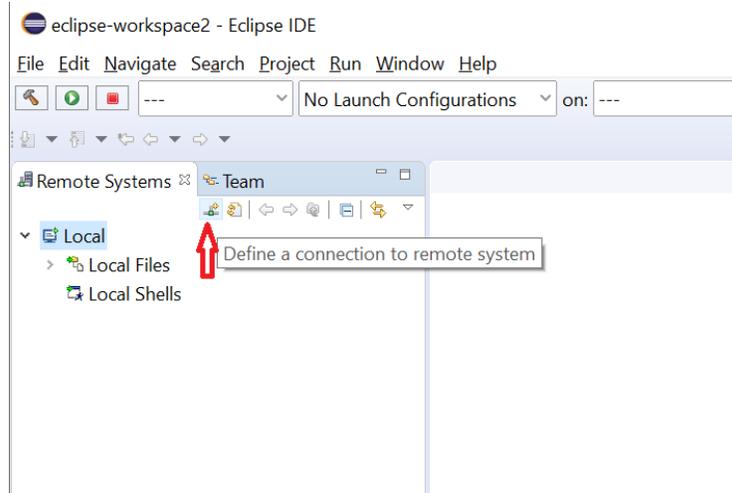
Where it says "*Work With:*", select *-All Available Sites-*, and look for "Remote System Explorer"



Install the packages shown above and restart Eclipse. Once restarted, go to Window > Perspective > Open Perspective > Other > Remote System Explorer



Close the welcome page (if still showing) and add a new ssh connection by clicking on the symbol shown below:



Select system type "SSH-Only" and, in the host name field, write "euler.ethz.ch" and click "Finish".

New Connection

Local System Connection

Define connection information

Parent profile: DESKTOP-H8A69H2

Host name: euler.ethz.ch

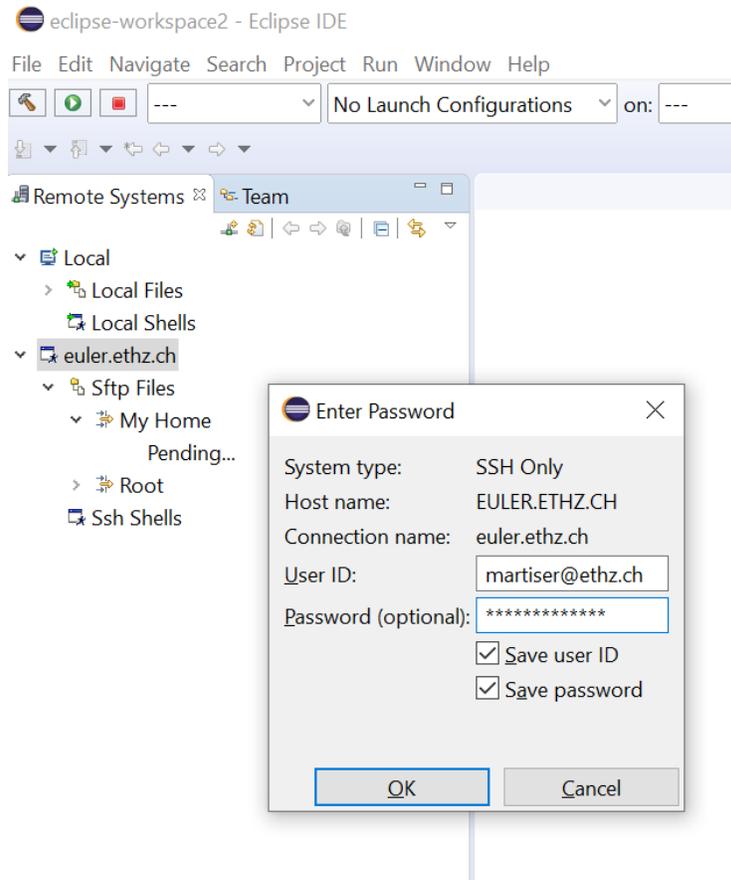
Connection name: euler.ethz.ch

Description:

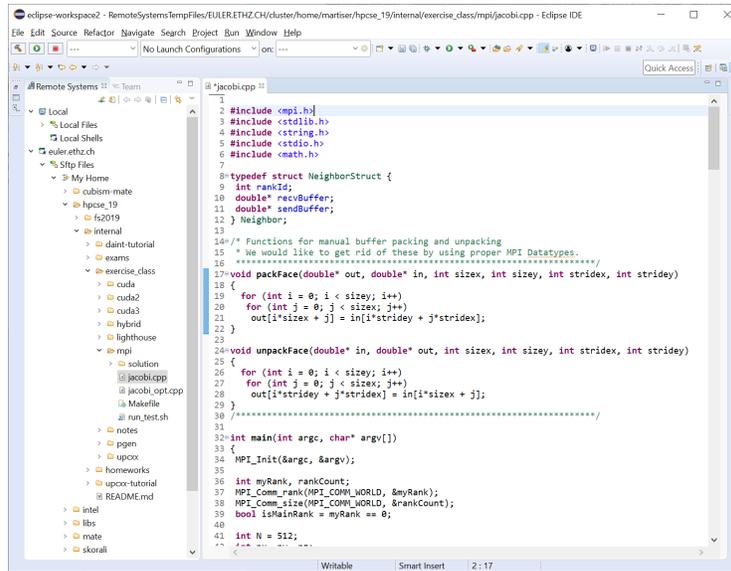
Verify host name
[Configure proxy settings](#)

? < Back Next > Finish Cancel

Open "Sftp Files" and open "My Home". After you insert your credentials, you will now be able to navigate your home folder.



Opening a file will open a new editor tab and, when you make a modification and save, the changes will automatically be reflected in Euler.



```
1 #include <mpi.h>
2 #include <stdlib.h>
3 #include <string.h>
4 #include <stdio.h>
5 #include <math.h>
6 #include <math.h>
7
8 typedef struct NeighborStruct {
9     int rankId;
10    double* recvBuffer;
11    double* sendBuffer;
12 } Neighbor;
13
14 /* Functions for manual buffer packing and unpacking
15  * We would like to get rid of these by using proper MPI Datatypes.
16  * =====*/
17 void packFace(double* out, double* in, int sizeX, int sizeY, int stridex, int stridey)
18 {
19     for (int i = 0; i < sizeY; i++)
20         for (int j = 0; j < sizeX; j++)
21             out[i*sizeY + j] = in[i*stridex + j*stridey];
22 }
23
24 void unpackFace(double* in, double* out, int sizeX, int sizeY, int stridex, int stridey)
25 {
26     for (int i = 0; i < sizeY; i++)
27         for (int j = 0; j < sizeX; j++)
28             out[i*stridex + j*stridey] = in[i*sizeY + j];
29 }
30 /* =====*/
31
32 int main(int argc, char* argv[])
33 {
34     MPI_Init(&argc, &argv);
35
36     int myRank, rankCount;
37     MPI_Comm_rank(MPI_COMM_WORLD, &myRank);
38     MPI_Comm_size(MPI_COMM_WORLD, &rankCount);
39     bool isMainRank = myRank == 0;
40
41     int N = 512;
42     // ...
43 }
```