

The Sixth Brazil School for Single Particle Cryo Electron Microscopy

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Brazil



Software installation

Ralf Schmidt

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Software installation for Linux (Ubuntu)

- IMAGIC
- tcsh/csh
- Java

Software via network drive

- In the **Files** menu bar click **File** and select **Connect to server**
- In the Server Address field type the network drives name

smb://ImScWDMMyCloud/school

- Click **Connect**
- When prompted, enter the username **brazil**
the password **school** and (optional) the
workgroup **ImSc**

Select installation files

- Browse the Software folder on the network drive and select the Imagic directory
- Depending on your computer architecture, select either the Linux32 or Linux64 directory

Note: To find out if your computer is running a 32-bit or 64-bit version of Linux, open a **Terminal** by clicking the **Search your computer** icon, enter „Terminal“ and then clicking the **Terminal** icon

In the **Terminal** enter the command „uname -m“. If the result is *i686*, you run a 32-bit operating system, if it is *x86_64* you run a 64-bit operating system

IMAGIC installation

- Copy the IMAGIC installation file `imagic_intel_FC10_<...>.tar.gz` to your **Home** folder using „drag-n-drop“
- Right-click the copied file in the **Home** folder and choose „Extract here“
- A new folder „`imagic_intel_FC10_<...>`“ should have been created
- Rename this new folder to „imagic“

IMAGIC installation

- Open a **Terminal** window

by clicking the **Search your computer** icon, enter „Terminal“ and then clicking the **Terminal** icon

- The following page is the tricky part. **If you need help – ask !**
- Check, if you're using the Bourne Again SHell (bash) or C-SHell (csh or tcsh)
e.g. if the command „set | grep SHELL“ will show a line like
SHELL=/bin/bash
then you're using the Bourne Again SHell (bash)
- If you're not using bash, skip the following page and continue with csh

Environment variables

Bourne Again SHell (bash) ONLY

- Edit your shell resource script or create one, e.g. using nano

```
nano ~/.bashrc
```

- Add the following lines to your shell resource script

```
# IMAGIC
export IMAGIC_ROOT=~/.imagic
alias i*magic=$IMAGIC_ROOT/imagic.e
alias disp=$IMAGIC_ROOT/display/display.e
alias plot=$IMAGIC_ROOT/plot/plotall.e
# OpenMPI
export MPIHOME=$IMAGIC_ROOT/openmpi
export MPIBIN=$MPIHOME/bin
export OPAL_PREFIX=$MPIHOME
export PATH=$MPIBIN:$PATH
```

Environment variables

C-SHell (csh or tcsh) ONLY

- Edit your shell resource script or create one, e.g. using nano

```
nano ~/.cshrc
```

- Add the following lines to your shell resource script

```
# IMAGIC
setenv IMAGIC_ROOT ~/imagic
alias i*magic $IMAGIC_ROOT/imagic.e
alias disp $IMAGIC_ROOT/display/display.e
alias plot $IMAGIC_ROOT/plot/plotall.e
# OpenMPI
setenv MPIHOME $IMAGIC_ROOT/openmpi
setenv MPIBIN $MPIHOME/bin
setenv OPAL_PREFIX $MPIHOME
set path = ($MPIBIN $path)
```


IMAGIC installation

- Activate the IMAGIC environment variables
 - (for bash) source ~/.bashrc
 - (for csh) source .cshrc
- Create a new folder for the IMAGIC installation by typing
`mkdir ~/imagic`
- Change to the new folder
`cd ~/imagic`

IMAGIC installation

- Start the IMAGIC installation

`./install.sh`

Follow the hints in the installation script

Note: If the installation script prompts, that there already is an installation available and wants to overwrite, answer YES

Post installation

- Installation of the **tcsh** or **csch** shell

`sudo apt-get install tcsh`

- Installation of the Java runtime environment

`sudo apt-get install openjdk-7-jre`

Work with IMAGIC

- Create a working folder
`mkdir ~/school`
- Change to the new working folder
`cd ~/school`
- Start IMAGIC by entering „i“ or „imagic“

Success

- You now have successfully installed the necessary software to work with IMAGIC
- Enjoy the 6th Brazil School for Single Particle Cryo-EM

