IT Infrastructure

Remote Login, IPA Account, Cluster, …

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Admins

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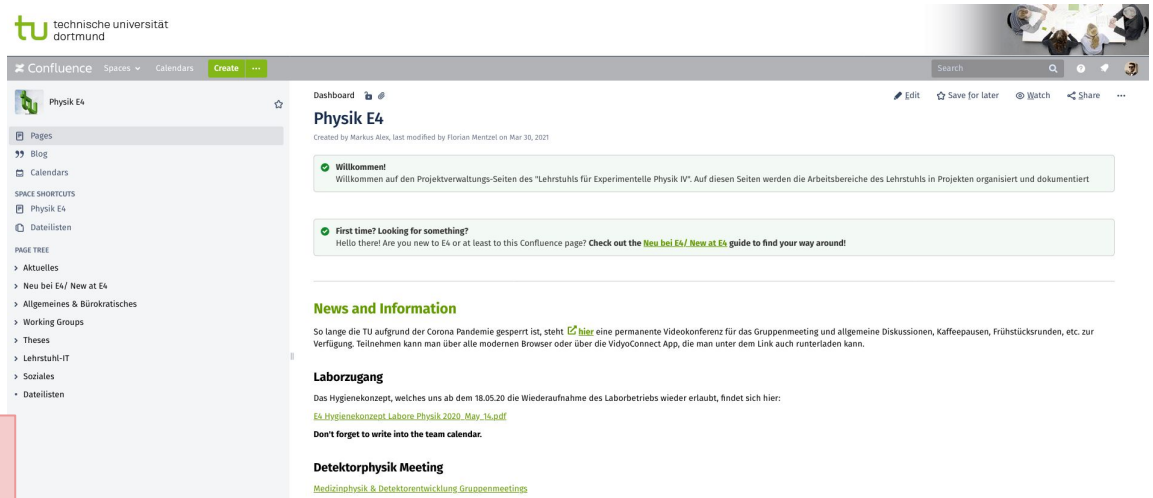
Christopher

Lucas

Confluence

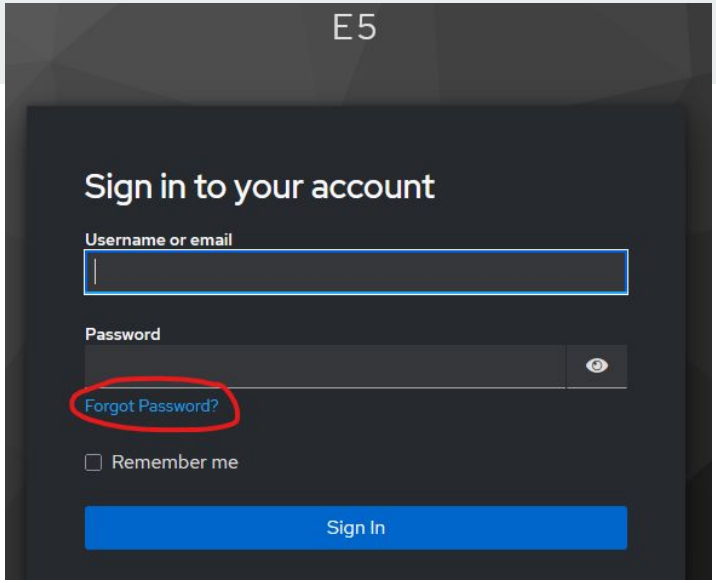
E4 confluence: Documentation, Information, Meeting Material, …

- Onboarding:
  → “Neu bei E4/New at E4”
- Computing Tutorial
- Various other tutorials



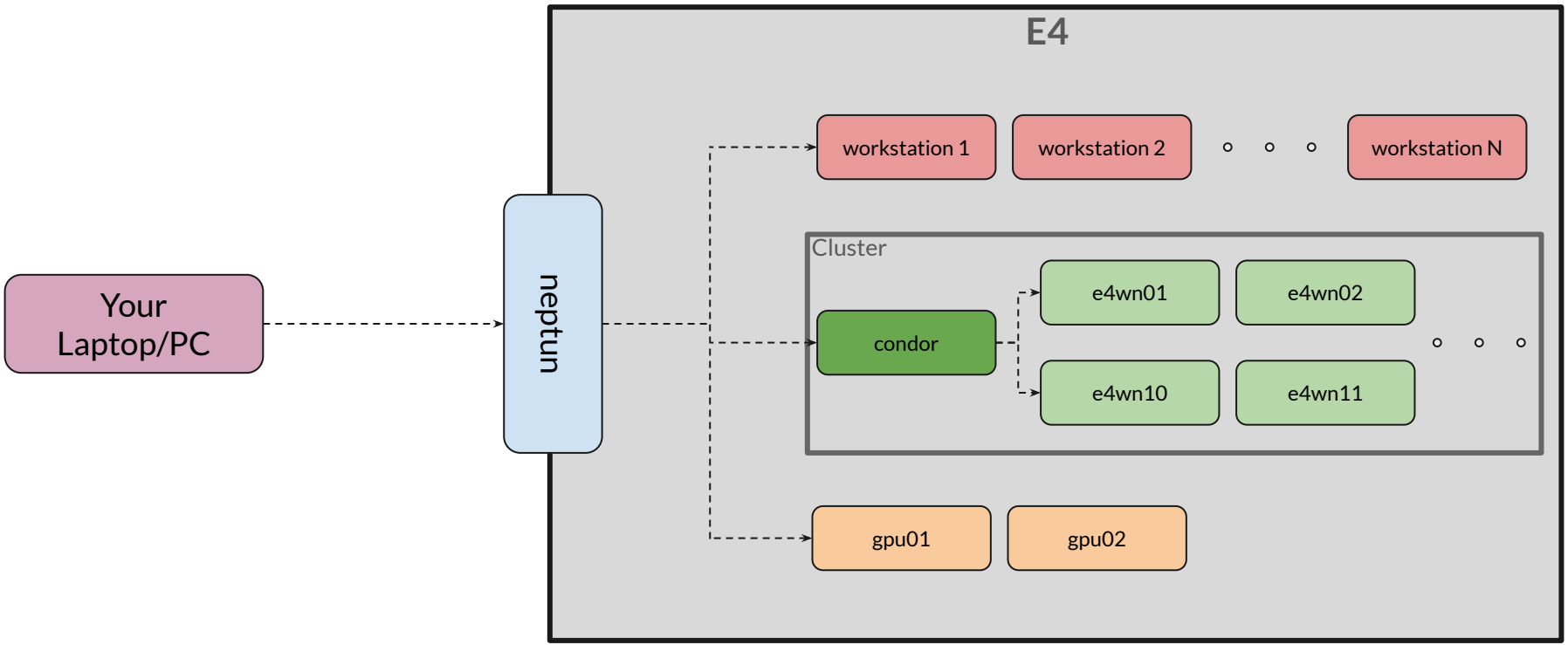
Disclaimer
Might be outdated atm, due to recent changes to our IT

IPA Accounts



- account to use our infrastructure
  (Mattermost, Workstations, Gitlab, ...)
- we will create one for you, then go to
  https://keycloak.e5.physik.tu-dortmund.de/realms/E5/account/applications
  and click “Forgot password”
- provide you username and you will get an email to reset your password
- while you are inside our intranet (e.g. your PC is connected via Ethernet) you can manage your account on https://ipa.epp.physik.tu-dortmund.de
  (e.g. add a ssh key)

Overview Infrastructure



Filesystems

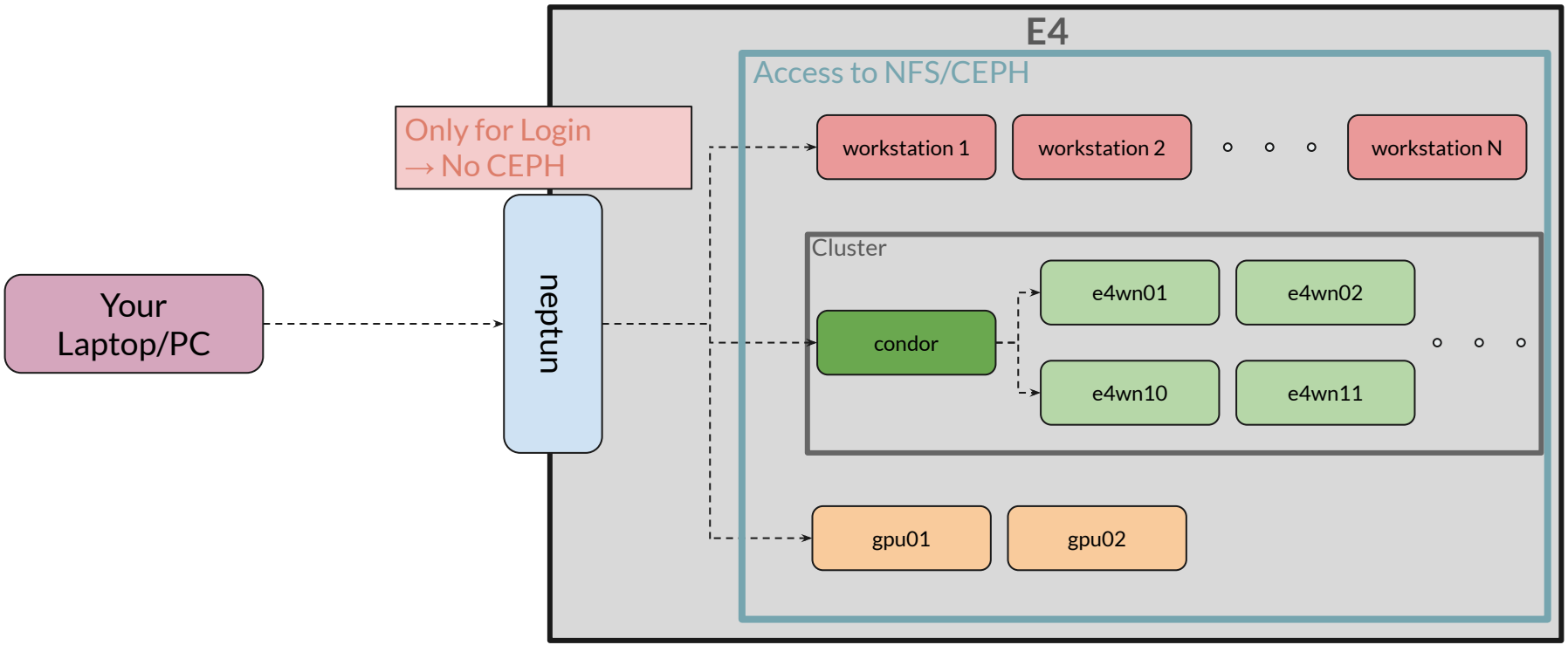
All of your files are stored on a server and managed by 2 filesystems. These are then “mounted” on all of our machines → you can access your files on each machine and any changes are synchronized by the server

- NFS: /nfs/homes/yourusername
  Each of you has an own NFS home associated with your IPA account, Limited Space but faster (100-500GB)

- CEPH: /ceph/e4/users/yourusername
  You can request a folder in the CEPH, (More or less) unlimited space but slower

Idea: Develop and store your scripts in NFS, store larger data files in the CEPH

Overview Infrastructure



Software

- CVMFS:
  software stack from CERN (lcg releases)
- mamba environments:
  Created and maintained by us, centrally provided

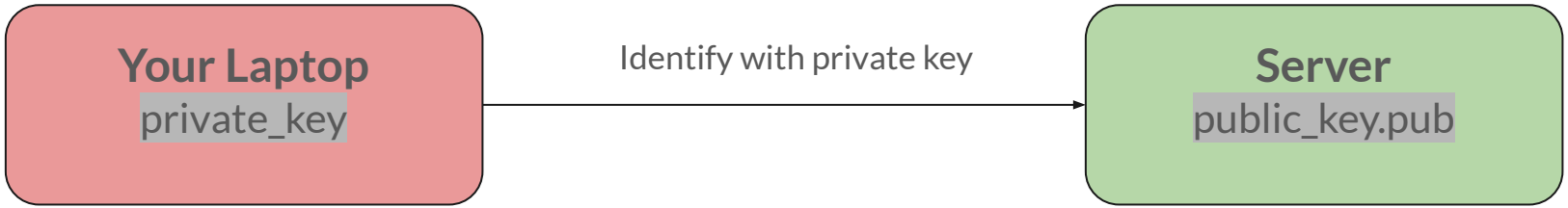
For details on setup: ask us or your supervisors

Remote Login: SSH

Concept of SSH:

Pairs of private and public key

You will create a pair and send us the public key and we will put it on our server associated with your account. (or you can set it yourself, see slide on IPA accounts). Then you can always use your private key to log into your account



Remote Login: SSH

- Generate ssh key pair: Tutorial
  `ssh-keygen -t ed25519 -C "Max Mustermann LDAP key"`
- keys are just plain text files → you can just copy them to new machines if you need to
- Create a config
- Now login with
  `ssh neptun/your_ws_name`

Remote Login: SSH

config

C: > Users > lucas > .ssh > config

```
Host neptun
    HostName neptun.e4.physik.tu-dortmund.de
    User lcremer
    IdentityFile ~/.ssh/id_LDAP
    ForwardX11 yes
    ForwardX11Trusted yes
    IdentitiesOnly yes
    ServerAliveInterval 15

Host arrakis
    HostName arrakis
    User lcremer
    IdentityFile ~/.ssh/id_LDAP
    ForwardX11 yes
    ForwardX11Trusted yes
    ProxyJump neptun
    IdentitiesOnly yes
    ServerAliveInterval 15
```

`DAP key"`

em to new machines if you

Remote Login: SSH

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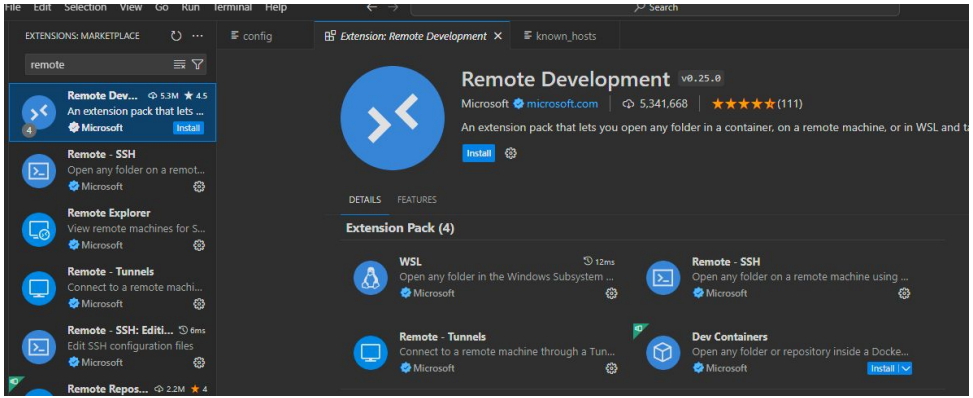
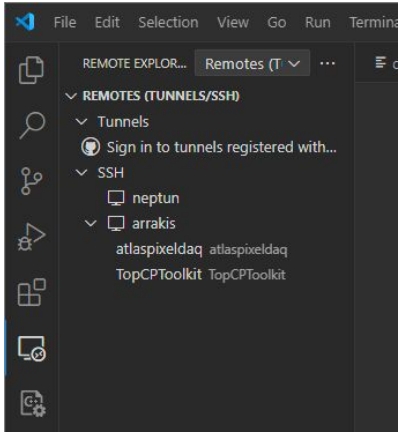
Remote Login: VSCode

1. Download VSCode
2. Install Remote Extension
3. Open Remote Session on your workstation
4. Done!





Services

Overview: https://cloud.e5.physik.tu-dortmund.de/

- **Gitlab** (use: “Sign in with keycloak”):
  important to back up your data (you should always do) and to manage group projects
- **Mattermost** (use: “Sign in with Gitlab”):
  communication, groups to ask questions
- …

Thesis Exit Strategy

- talk to your supervisor what should happen to your data
- back-up your code (ideally already done with git)
- please notify us that we can delete your NFS/CEPH folder
- you can also ask us in case of any questions

Concluding Remarks

- always feel free to ask if you have any questions
- notify us if some documentation is missing or any machines, etc is not working (Mattermost Channel)
- use resources only if you need them, not just because they are there → there are also other people which might need them
- try to keep your home and CEPH folders cleaned up and prevent unnecessary blocking of storage