



# Easy Lab Verwaltung

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Bei der Präsentations geht es um Automatisierung der Laborverwaltung.

Zielgruppe für diese Präsentation sind alle Laborleitern und Laborbeauftragten, die mehrere Gruppen von Studenten im Labor verwalten.

## Version Management

- » Gitlab
- » SVN

## Build Server

- » Jenkins

## User Authentication

- » LDAP

## Password Manager

- » PWM

## Skriptsprachen

- » Bash
- » Python

## Hochschuleauthentifizierung

- » Shibboleth

≡ LaborAufgaben



This group Search



Group Activity Milestones Issues 0 Merge Requests 0 Members



@LaborAufgaben

🔔 Global

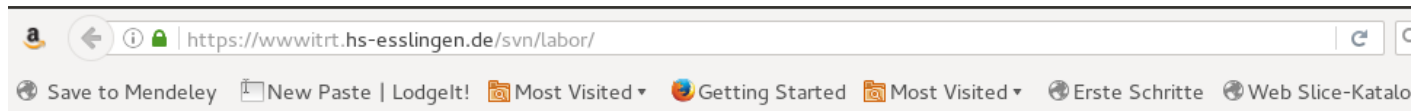
All Projects

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Last updated


New Project

S	sarepo25	🔒
S	sarepo24	🔒
S	sarepo23	🔒
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S	sarepo20	🔒
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S	sarepo18	🔒
S	sarepo17	🔒
S	sarepo16	🔒



## Collection of Repositories

- [ezsrepo1/](#)
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- [ezsrepo12/](#)
- [ezsrepo13/](#)
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- [sarepo13/](#)


**Jenkins**
search

Jenkins

- New Item
- People
- Build History
- Manage Jenkins
- My Views
- Credentials

Build Queue

No builds in the queue.

Build Executor Status

1 Idle  
2 Idle

All

S	W	Name ↓	Last Success	Last Failure	Last Duration
		<a href="#">ezsjob1</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob10</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob11</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob12</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob13</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob14</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob15</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob16</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob17</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob18</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob19</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob2</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob20</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob21</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob22</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob23</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob24</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob25</a>	N/A	23 hr - <a href="#">#288</a>	8 ms
		<a href="#">ezsjob3</a>	N/A	23 hr - <a href="#">#288</a>	8 ms

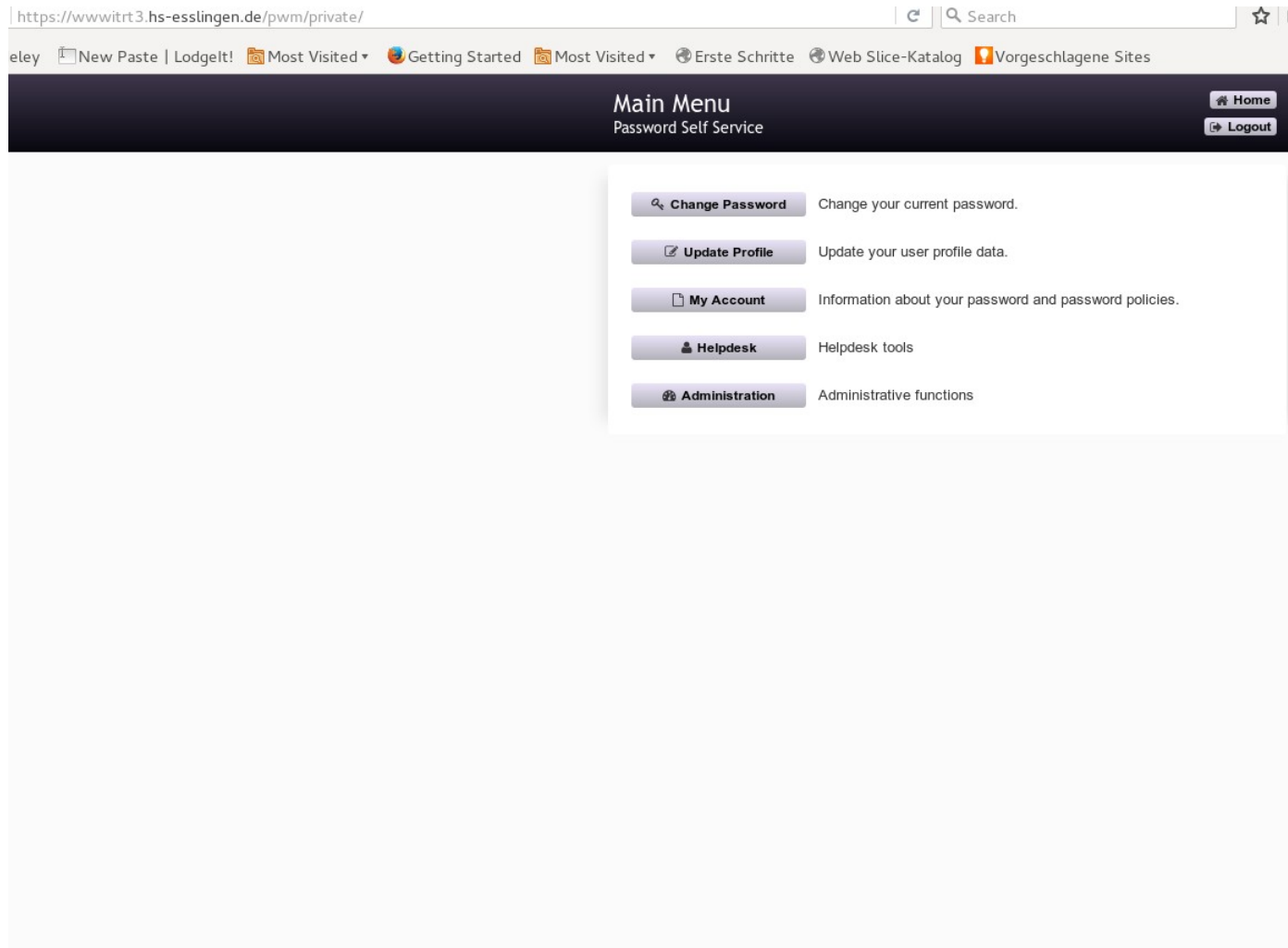
The screenshot shows the LDAP Browser application interface. On the left, a directory tree is displayed under 'DIT'. The tree structure is as follows:

- Root DSE (2)
  - dc=hs-esslingen,dc=de (5)
    - cn=admin
    - ou=admins
    - ou=staff
    - ou=groups (55)
      - cn=ezsgroup1** (selected)
      - cn=ezsgroup10
      - cn=ezsgroup11
      - cn=ezsgroup12
      - cn=ezsgroup13
      - cn=ezsgroup14
      - cn=ezsgroup15
      - cn=ezsgroup16
      - cn=ezsgroup17
      - cn=ezsgroup18
      - cn=ezsgroup19
      - cn=ezsgroup2
      - cn=ezsgroup20
      - cn=ezsgroup21
      - cn=ezsgroup22

On the right, the detailed view for the selected entry 'cn=ezsgroup1,ou=groups,dc=hs-esslingen,dc=de' is shown. The DN is 'cn=ezsgroup1,ou=groups,dc=hs-esslingen,dc=de'. Below this, a table lists the attributes and their values:

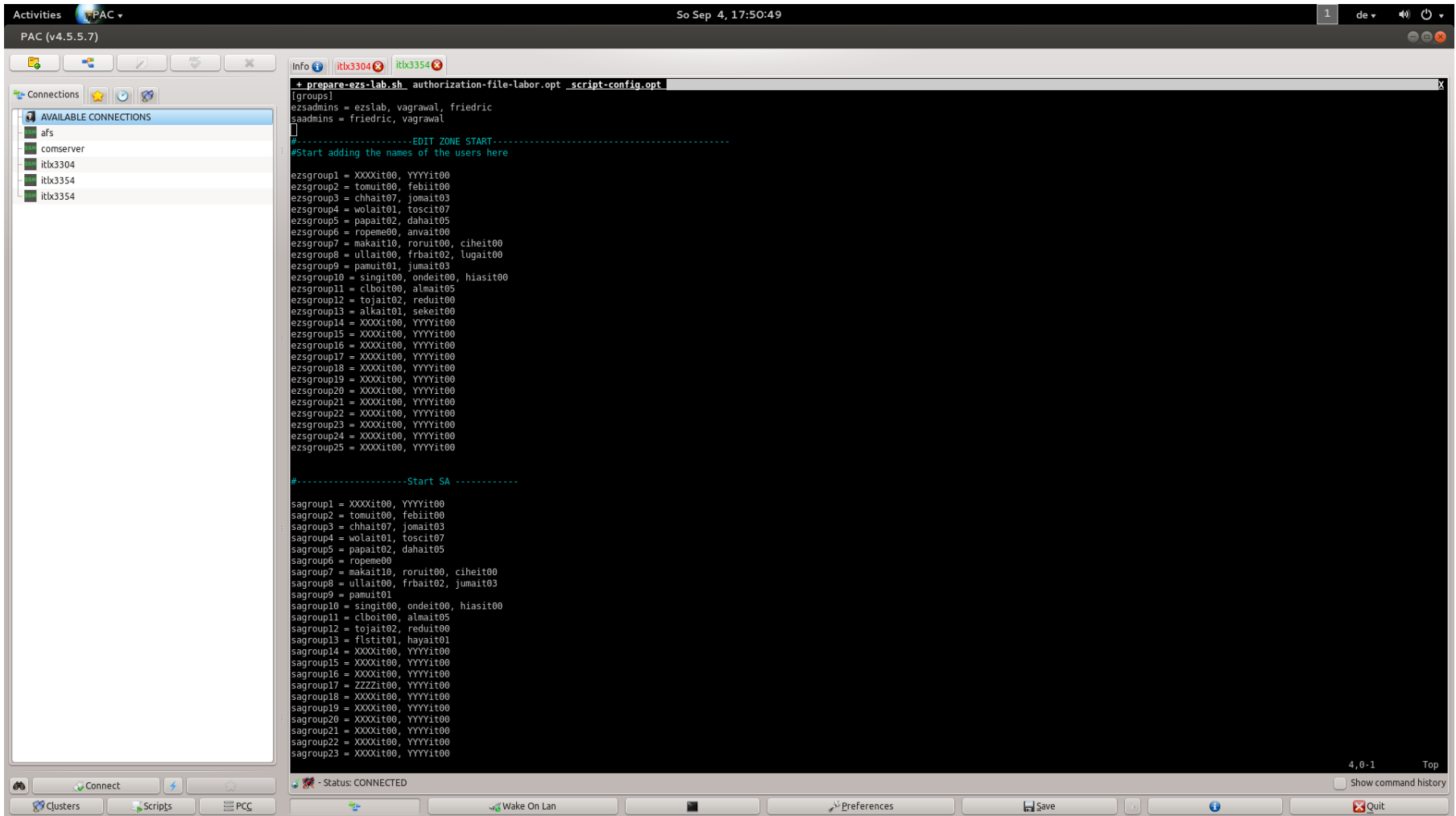
Attribute	Description	Value
objectClass		top (abstract)
objectClass		groupOfNames (structural)
cn		ezsgroup1
member		cn=YYYYit00,ou=labor,ou=people,dc=hs-esslingen,dc=de
member		cn=XXXXit00,ou=labor,ou=people,dc=hs-esslingen,dc=de
description		group of lab students

# Password Manager





# Einstellung Access Rights



The screenshot shows the PAC (v4.5.5.7) interface. On the left, the 'Connections' panel lists 'AVAILABLE CONNECTIONS' including 'afs', 'comserver', 'itbx3304', 'itbx3354', and 'itbx3354'. The main terminal window displays the output of the 'prepare-ezs-lab.sh' script, showing the configuration of groups and users. The terminal output is as follows:

```
Info [itbx3304] [itbx3354]
+ prepare-ezs-lab.sh authorization-file-labor.opt _script-config.opt
[groups]
ezsadmins = ezs-lab, vagrawal, friedric
saadmins = friedric, vagrawal

#-----EDIT ZONE START-----
#Start adding the names of the users here

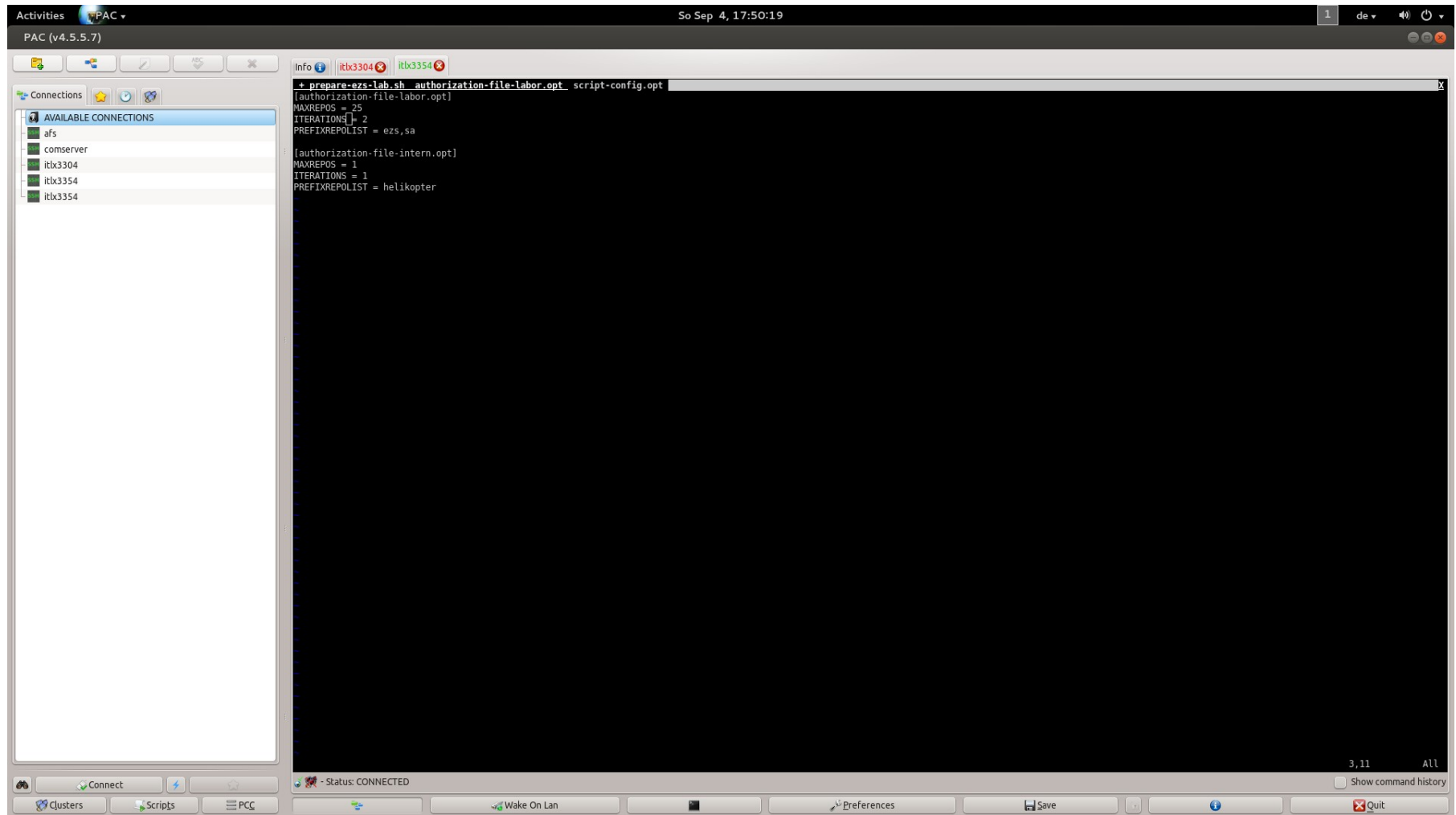
ezsgroup1 = XXXXit00, YYYYit00
ezsgroup2 = tomuit00, febiit00
ezsgroup3 = chhait07, jomait03
ezsgroup4 = wolait01, toscit07
ezsgroup5 = papait02, dahait05
ezsgroup6 = ropeme00, anvait00
ezsgroup7 = makait10, roruit00, ciheit00
ezsgroup8 = ullait00, frbait02, lugait00
ezsgroup9 = pamuit01, jumait03
ezsgroup10 = singit00, ondeit00, hasit00
ezsgroup11 = clboit00, almat05
ezsgroup12 = tojait02, reduit00
ezsgroup13 = alkait01, sekeit00
ezsgroup14 = XXXXit00, YYYYit00
ezsgroup15 = XXXXit00, YYYYit00
ezsgroup16 = XXXXit00, YYYYit00
ezsgroup17 = XXXXit00, YYYYit00
ezsgroup18 = XXXXit00, YYYYit00
ezsgroup19 = XXXXit00, YYYYit00
ezsgroup20 = XXXXit00, YYYYit00
ezsgroup21 = XXXXit00, YYYYit00
ezsgroup22 = XXXXit00, YYYYit00
ezsgroup23 = XXXXit00, YYYYit00
ezsgroup24 = XXXXit00, YYYYit00
ezsgroup25 = XXXXit00, YYYYit00

#-----Start SA -----

sagroup1 = XXXXit00, YYYYit00
sagroup2 = tomuit00, febiit00
sagroup3 = chhait07, jomait03
sagroup4 = wolait01, toscit07
sagroup5 = papait02, dahait05
sagroup6 = ropeme00
sagroup7 = makait10, roruit00, ciheit00
sagroup8 = ullait00, frbait02, jumait03
sagroup9 = pamuit01
sagroup10 = singit00, ondeit00, hasit00
sagroup11 = clboit00, almat05
sagroup12 = tojait02, reduit00
sagroup13 = flstait01, hayait01
sagroup14 = XXXXit00, YYYYit00
sagroup15 = XXXXit00, YYYYit00
sagroup16 = XXXXit00, YYYYit00
sagroup17 = ZZZZit00, YYYYit00
sagroup18 = XXXXit00, YYYYit00
sagroup19 = XXXXit00, YYYYit00
sagroup20 = XXXXit00, YYYYit00
sagroup21 = XXXXit00, YYYYit00
sagroup22 = XXXXit00, YYYYit00
sagroup23 = XXXXit00, YYYYit00
```

The terminal window also shows the status 'Status: CONNECTED' and a 'Show command history' checkbox. The bottom of the interface includes buttons for 'Connect', 'Clusters', 'Scripts', 'PCC', 'Wake On Lan', 'Preferences', 'Save', and 'Quit'.

# Einstellung Anzahl der Repositorien



Die Automatisierung der Bereitstellung der Laboraufgaben vereinfacht sich viele Aufwände.

Die Laborbetriebern müssen nun nur noch die Gruppenname und dazugehörigen Studenten in einer Konfigurationsdatei festlegen und dann ein Skript ausführen.

Das Skript liest die Konfigurationsdatei und dann erstellt Jenkins Jobs, LDAP Einträge, GIT, SVN Repos und auch verbindet die erzeugte Komponenten mit einander.

Anschließend, kann die Dateien über den Browser verwaltbar werden.

Martin Schmid ( [Martin.Schmid@hs-esslingen.de](mailto:Martin.Schmid@hs-esslingen.de) ) hat bei der gesamten Umsetzung mich wesentlich unterstützt und gezielte Fragen hinsicht Shibboleth, Zertifikaten, Firewalls, Servereinstellungen kann nach ihm gerichtet werden.



Danke Schön

Bei Fragen bitte eine Email an  
[vagrawal@hs-esslingen.de](mailto:vagrawal@hs-esslingen.de) oder  
unter 07113974182 anrufen.