

Uni Software Defined Infrastructure Notes

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Contents

1	Introduction	2
1.1	Contributing	2
1.2	License	2
2	User	3
3	SSH	3
4	UFW	3
5	APT	3
6	Cockpit	4
7	Caddy	4

1 Introduction

1.1 Contributing

These study materials are heavily based on [professor Goik's "Software Defined Infrastructure" lecture at HdM Stuttgart](#).

Found an error or have a suggestion? Please open an issue on GitHub (github.com/pojntfx/uni-sdi-notes):



Figure 1: QR code to source repository

If you like the study materials, a GitHub star is always appreciated :)

1.2 License



Figure 2: AGPL-3.0 license badge

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SPDX-License-Identifier: AGPL-3.0

2 User

```
ssh root@138.68.70.72
adduser pojntfx
usermod -aG sudo pojntfx
su pojntfx
```

3 SSH

```
sudo apt update
sudo apt install -y openssh-server
sudo systemctl enable --now ssh
mkdir -p ~/.ssh
chmod 700 ~/.ssh
curl 'https://github.com/pojntfx.keys' | tee -a ~/.ssh/authorized_keys
chmod 600 ~/.ssh/authorized_keys
exit
```

4 UFW

```
ssh pojntfx@138.68.70.72
sudo apt update
sudo apt install -y ufw
sudo systemctl enable --now ufw
sudo ufw default deny incoming
sudo ufw default allow outgoing
sudo ufw allow OpenSSH
sudo ufw enable
```

5 APT

```
sudo apt update
sudo apt install -y unattended-upgrades

sudo vi /etc/apt/apt.conf.d/50unattended-upgrades # Now replace/add the following:
Unattended-Upgrade::Origins-Pattern {
    "origin=*";
}
Unattended-Upgrade::Automatic-Reboot "true";
Unattended-Upgrade::Automatic-Reboot-Time "02:00";

sudo dpkg-reconfigure unattended-upgrades # Answer with yes
sudo systemctl enable --now unattended-upgrades
```

```
sudo unattended-upgrades --debug # Test the configuration; this will install the available updates
sudo reboot # If required
```

6 Cockpit

```
echo 'deb http://deb.debian.org/debian bullseye-backports main' | sudo tee /etc/apt/sources.list.d/backports.list
sudo apt update
sudo apt install -t bullseye-backports -y cockpit
```

7 Caddy

```
curl -L 'https://dl.cloudsmith.io/public/caddy/stable/gpg.key' | sudo tee /etc/apt/trusted.gpg.asc
curl -L 'https://dl.cloudsmith.io/public/caddy/stable/debian.deb.txt' | sudo tee /etc/apt/sources.list.d/caddy.list
sudo apt update
sudo apt install -y caddy
sudo tee /etc/caddy/Caddyfile <<EOT
{
    email felix@pojtinger.com
}

cockpit.felixs-sdi1.alphahorizon.io {
    reverse_proxy https://localhost:9090 {
        transport http {
            tls_insecure_skip_verify
        }
    }
}
EOT
sudo systemctl enable --now caddy
sudo systemctl reload caddy # Now visit https://cockpit.felixs-sdi1.alphahorizon.io/
```