
VE482 - Lab 3

Introduction to Operating Systems

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2 Working with source code

2.1 The rsync command

- In Minix 3 install the `rsync` software

```
1 pkgin install rsync
```

- Install `rsync` on your Linux system

```
1 sudo apt-get install rsync
```

- Read `rsync` manpage

```
1 man rsync
```

- Create an exact copy of the directory `/usr/src` into the directory `/usr/src_orig`

```
1 cp -r /usr/src /usr/src_orig
```

- Create an exact copy of the Minix 3 directory `/usr/src` into your Linux system, using `rsync` and `ssh`

```
1 rsync -avz minix:/usr/src_orig ~
```

2.2 The `diff` and `patch` commands

- Read the manpages of `diff` and `patch`

```
1 man diff
2 man patch
```

- Edit a file of your choice in `/usr/src_orig`

```
1 echo hello > /usr/src/temp
2 echo hello world > /usr/src_orig/temp
```

- Using the `diff` command, create a patch corresponding to the above changes `diff -acrN /usr/src_orig /usr/src > patch`

- Retrieve your patch on your Linux system

```
1 rsync -avz minix:~/patch ~
```

- Apply your patch to the copy of `/usr/src_orig` on your Linux system

```
1 echo hello > /usr/src/temp
2 patch -p3 /usr/src/temp < patch
```

- Revert the patch

```
1 patch -RE -p3 < patch
```

2.4 Basic git usage

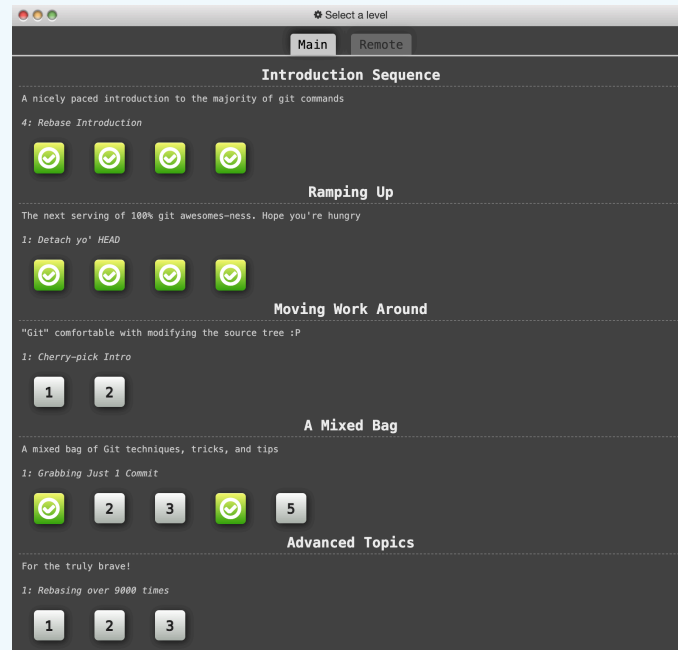


Figure 1: main exercise



Figure 2: remote exercise

3 Scripting and regular expressions

3.1 Shanghai air quality

```
1 curl "https://aqicn.org/?city=Shanghai&widgetscript&size=large&id=52b39d71decf07.20261781" 2> /dev/null | sed -rn 's/. *title =\\.*\\">([[:digit:]]{1,3})<.*hdrt.*>([-]?[[:digit:]]{1,5})<.* /AQ: \\1 Temp: \\2 °C/p'
```

3.2 ip address

```
1 ifconfig | awk '{for(i=1;i<=NF;i++){if($i=="inet"){print $(i+1)}}}'
```