

[544] Deploying on Linux

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Learning Objectives

- navigate a Linux file system
- operate within a Linux shell
- automate repeated tasks
- chain multiple Linux programs together into a pipeline
- redirect process output to a file

A Shell: the most helpful program?

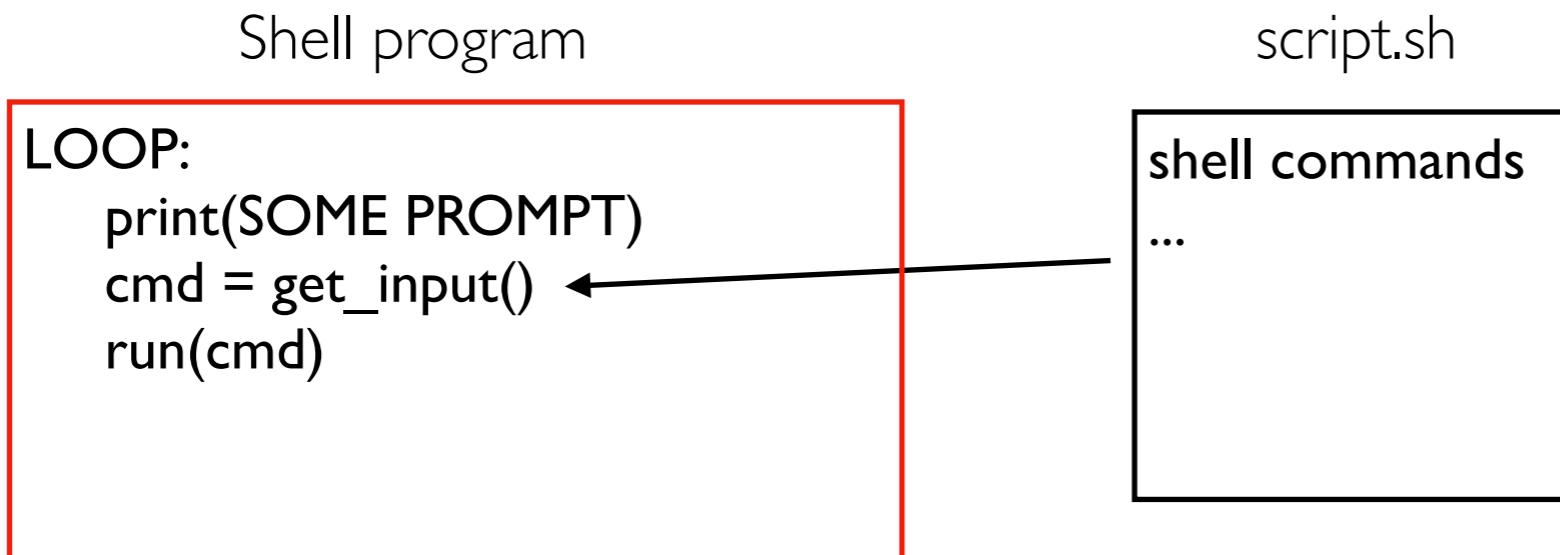
Shell program

LOOP:

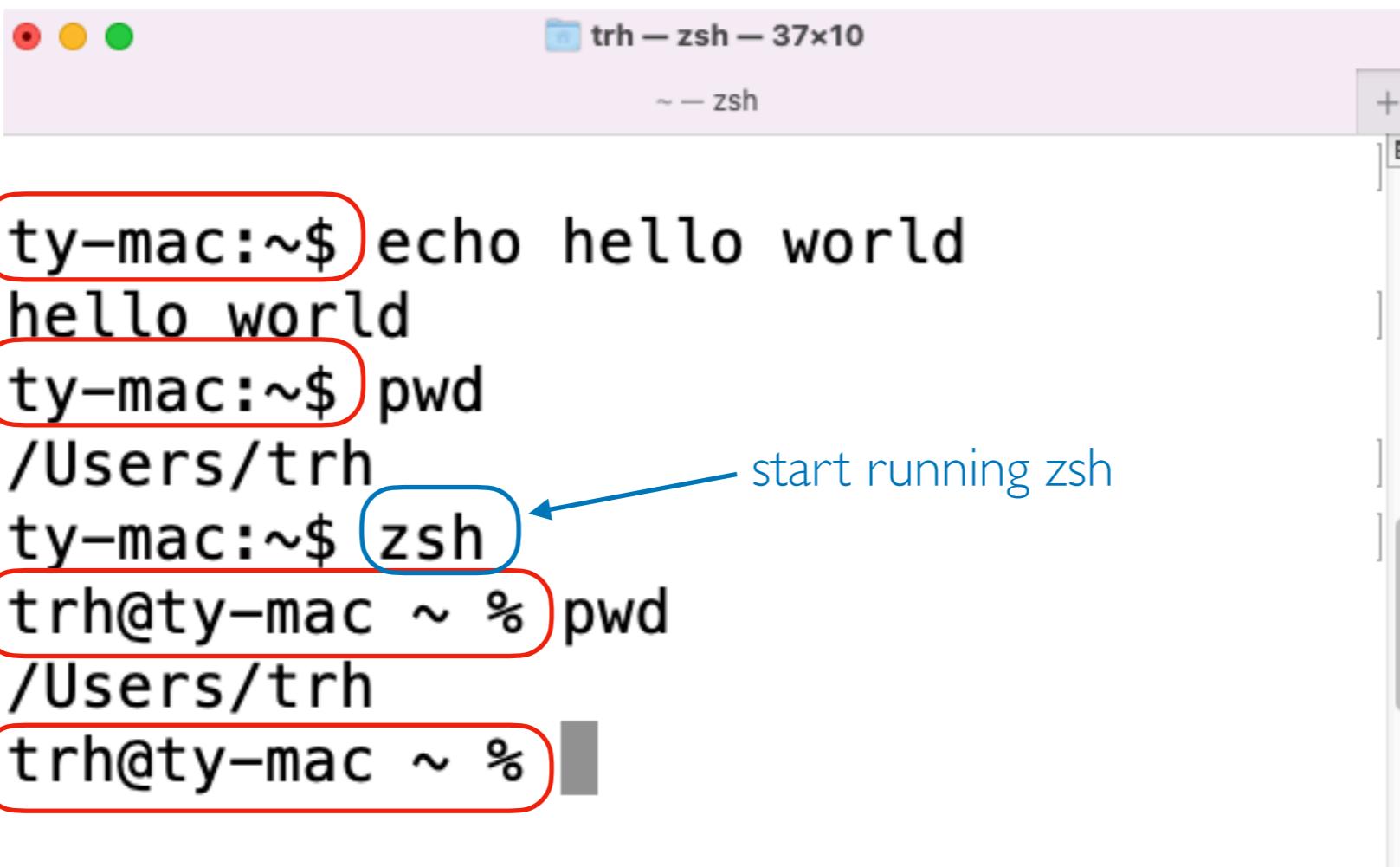
```
print(SOME PROMPT)
cmd = get_input() ←
run(cmd)
```



If you can type it, you can automate it.



You can start running a shell inside a shell



A screenshot of a macOS terminal window titled "trh — zsh — 37x10". The window contains the following text:

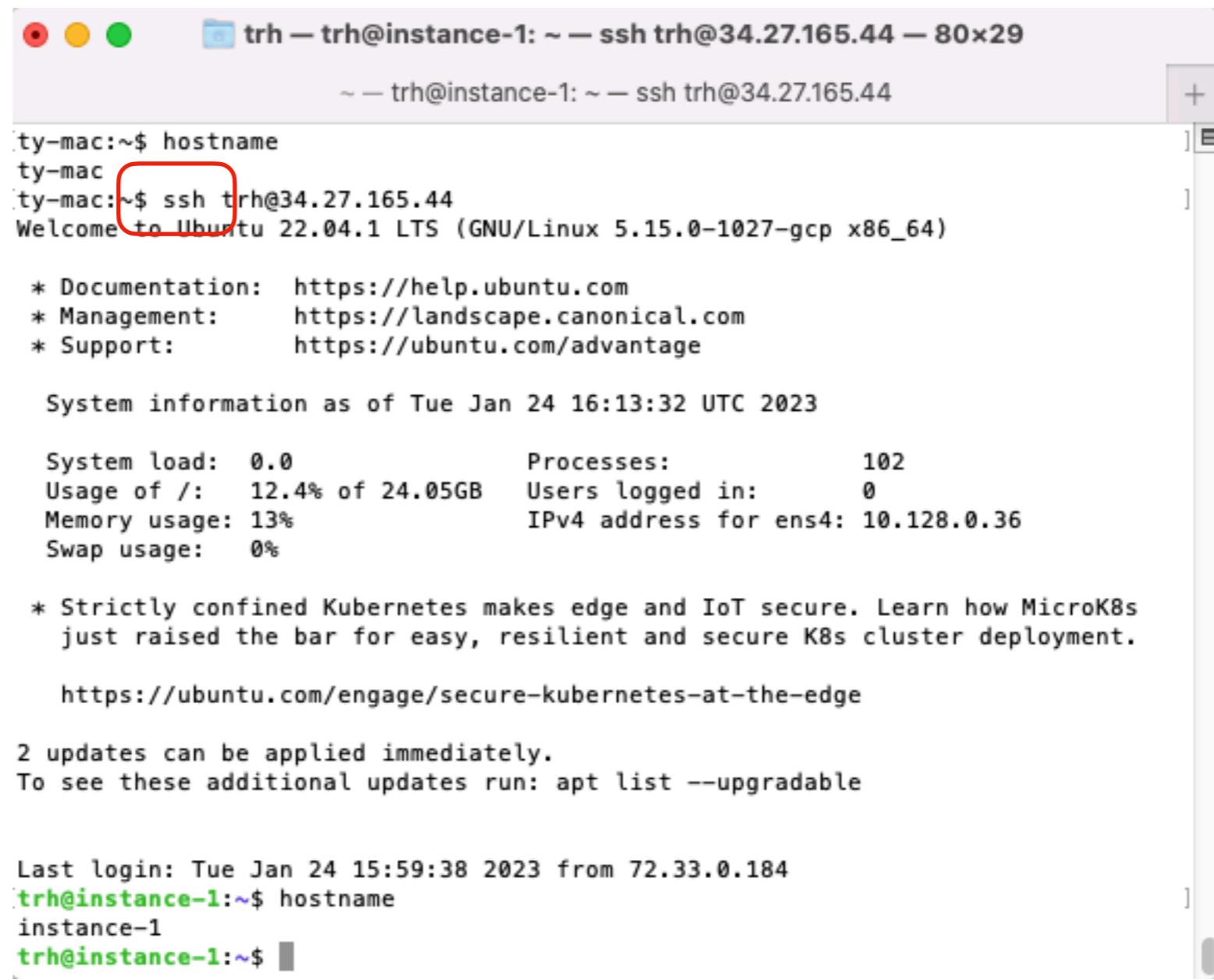
```
ty-mac:~$ echo hello world
hello world
ty-mac:~$ pwd
/Users/trh
ty-mac:~$ zsh
trh@ty-mac ~ %
trh@ty-mac ~ %
```

Annotations highlight specific parts of the session:

- The first two lines ("ty-mac:~\$ echo hello world" and "hello world") are circled in red and connected by a red arrow labeled "bash prompt".
- The line "ty-mac:~\$ zsh" is circled in red and connected by a blue arrow labeled "start running zsh".
- The last two lines ("trh@ty-mac ~ %" and "trh@ty-mac ~ %") are circled in red and connected by a red arrow labeled "zsh prompt".

SSH: Secure Shell

running on
my laptop



trh — trh@instance-1: ~ — ssh trh@34.27.165.44 — 80x29

~ — trh@instance-1: ~ — ssh trh@34.27.165.44

```
ty-mac:~$ hostname
ty-mac
ty-mac:~$ ssh trh@34.27.165.44
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-1027-gcp x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

 System information as of Tue Jan 24 16:13:32 UTC 2023

 System load:  0.0          Processes:           102
 Usage of /:   12.4% of 24.05GB  Users logged in:    0
 Memory usage: 13%          IPv4 address for ens4: 10.128.0.36
 Swap usage:   0%

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
 just raised the bar for easy, resilient and secure K8s cluster deployment.

 https://ubuntu.com/engage/secure-kubernetes-at-the-edge

2 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Last login: Tue Jan 24 15:59:38 2023 from 72.33.0.184
trh@instance-1:~$ hostname
instance-1
trh@instance-1:~$
```

running on
my VM

Demos...