

# Screen (& Tmux)

J Fass | September 2018

# What is 'screen'?

**Screen manages multiple *sets* of terminal windows (panes), allowing you to switch between them while keeping them all running.**

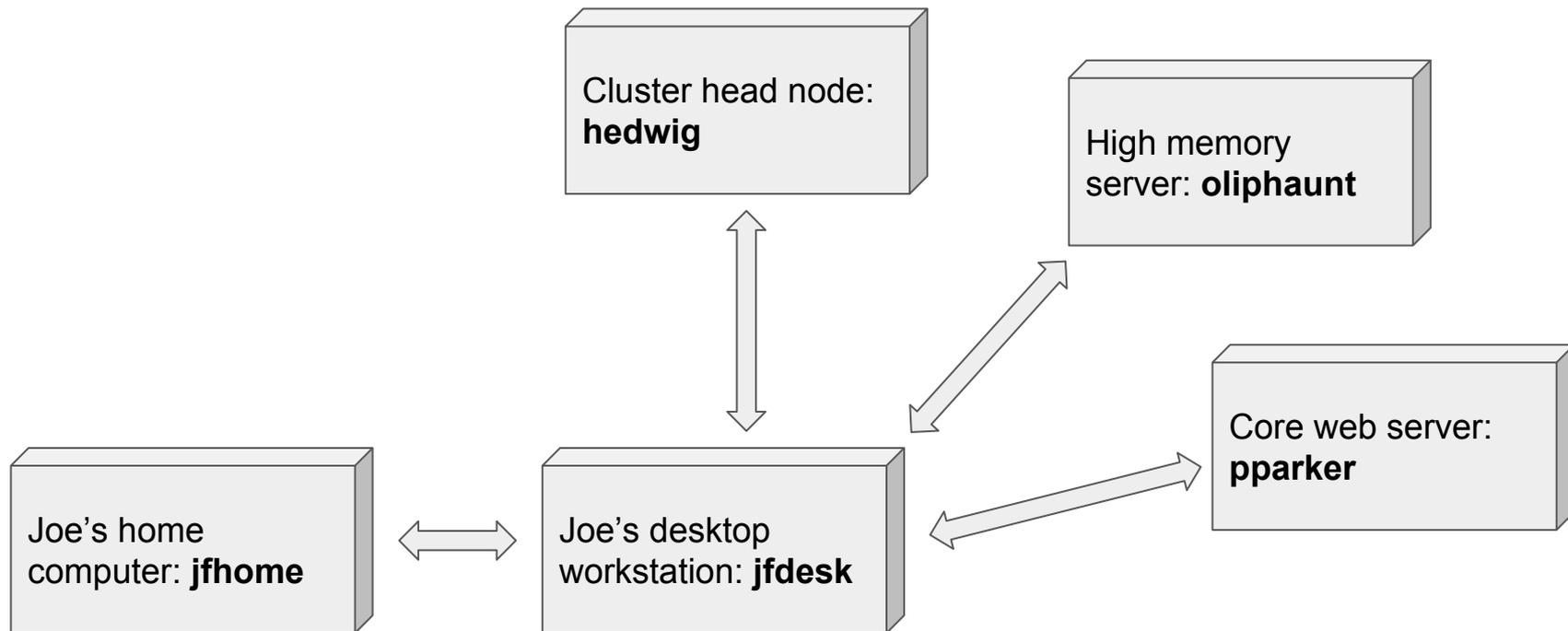
**You can also run multiple screen sessions, each with their own set of panes, and switch between sessions while keeping them all running.**

**It's like having multiple desktops, but only for terminal windows.**

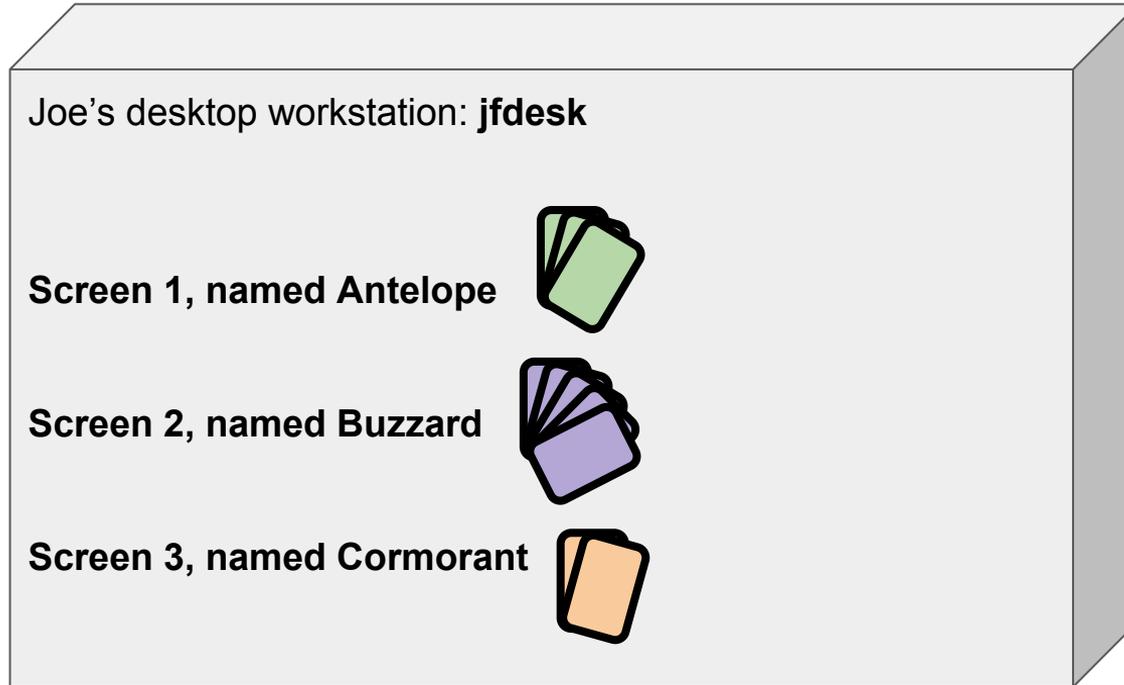
# What is 'screen'?

**Each screen process runs on the server where you started it (you cannot migrate these processes to other servers). But “panes” within the screen can maintain SSH connections to other servers, and stay open even when you're not looking at them.**

# Screen example - the network



# Screen example - screens already running



# Screen example - ssh into machine running screens

Joe's home computer:  
**jfhome**

```
~$ ssh jfdesk@gc.ucd.edu
```

```
Welcome to Ubuntu blah  
blah blah ...
```

```
~$
```

Joe's desktop workstation: **jfdesk**

**Screen 1, named Antelope**



**Screen 2, named Buzzard**



**Screen 3, named Cormorant**



# Screen example - list screens {screen -list}

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
~$ screen -list
```

There are screens on:

```
##.Antelope (Detached)
```

```
##.Buzzard (Detached)
```

```
##.Cormorant (Detached)
```

```
3 sockets in blah blah
```

```
~$
```

Joe's desktop workstation: **jfdesk**

**Screen 1, named Antelope**



**Screen 2, named Buzzard**



**Screen 3, named Cormorant**



# Screen example - reattach screen {`screen -r name`}

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
~$ screen -r Antelope
```

Joe's desktop workstation: **jfdesk**

Screen 1, named Antelope



Screen 2, named Buzzard



Screen 3, named Cormorant



# Screen example - switch between panes {C-a #}

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
0$*bash 1$bash 2$bash
```

```
~$ <ctrl-a>1
```

Joe's desktop workstation: **jfdesk**

**Screen 1, named Antelope**



**Screen 2, named Buzzard**



**Screen 3, named Cormorant**



# Screen example - rename pane {C-a A}

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
0$bash 1$*bash 2$bash
```

```
~$ ssh oliphant  
Welcome to oliphant ...  
~$ cd /tmp  
/tmp$ <ctrl-a>A  
Set window's title to: hi
```

Joe's desktop workstation: **jfdesk**

Screen 1, named Antelope



Screen 2, named Buzzard



Screen 3, named Cormorant



# Screen example - switch panes again

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
0$bash 1$*hi 2$bash
```

```
/tmp$ <ctrl-a>2
```

Joe's desktop workstation: **jfdesk**

**Screen 1, named Antelope**



**Screen 2, named Buzzard**



**Screen 3, named Cormorant**



# Screen example - leave process running!

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
0$bash 1$hi 2$*bash
```

```
~$ samtools [...]
Indexing blah blah ...
```

```
<ctrl-a>1
```

Joe's desktop workstation: **jfdesk**

Screen 1, named Antelope



Screen 2, named Buzzard



Screen 3, named Cormorant



# Screen example - detach screen {C-a d}

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
0$bash 1$*hi 2$bash
```

```
/tmp$ <ctrl-a>d
```

Joe's desktop workstation: **jfdesk**

**Screen 1, named Antelope**



**Screen 2, named Buzzard**



**Screen 3, named Cormorant**



# Screen example - reattach screen {`screen -r name`}

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
~$ screen -list
There are screens on:
  ##.Antelope  (Detached)
  ##.Buzzard   (Detached)
  ##.Cormorant (Detached)
3 sockets in blah blah
~$ screen -r Cormorant
```

Joe's desktop workstation: **jfdesk**

**Screen 1, named Antelope**



**Screen 2, named Buzzard**



**Screen 3, named Cormorant**



# Screen example - create pane {C-a c}

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
0$*scripts 1$jobs
```

```
/home/jfass/sandbox$  
<ctrl-a>c
```

```
0$scripts 1$jobs 2$*bash
```

```
~$ sleep 3d
```

```
<ctrl-a>d
```

Joe's desktop workstation: **jfdesk**

**Screen 1, named Antelope**



**Screen 2, named Buzzard**



**Screen 3, named Cormorant**



# Screen example - reattach, switch panes

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
~$ screen -r Antelope
```

```
0$bash 1$*hi 2$bash
```

```
~$ <ctrl-a>2
```

```
0$bash 1$hi 2$*bash
```

Joe's desktop workstation: **jfdesk**

**Screen 1, named Antelope**



**Screen 2, named Buzzard**



**Screen 3, named Cormorant**



# Screen example - kill pane {C-a k, then y}

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
~$ samtools [...]  
Indexing blah blah ...  
10%..20%..30%..40%..50%
```

```
<ctrl-k> ... y
```

```
0$bash 1$*bash
```

```
~$ <ctrl-a>d
```

Joe's desktop workstation: **jfdesk**

Screen 1, named Antelope



Screen 2, named Buzzard



Screen 3, named Cormorant



# Screen example - new screen {screen -S *name*}

Joe's home computer:  
**jfhome (ssh to jfdesk)**

```
~$ screen -S Dingo
```

```
0$*bash
```

```
~$
```

Joe's desktop workstation: **jfdesk**

Screen 1, named Antelope



Screen 2, named Buzzard



Screen 3, named Cormorant



Screen 4, named Dingo



# Screen example - exit server, screens still running!

Joe's home computer:

**jfhome**

~\$ `<ctrl-a>d`

~\$ `exit`

Joe's desktop workstation: **jfdesk**

Screen 1, named **Antelope**



Screen 2, named **Buzzard**



Screen 3, named **Cormorant**



Screen 4, named **Dingo**



*Questions ... comments ... confusion?*