

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin  ~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
[joe@mail-thegummibear:~$ echo "Configure exim to send from remote clients, if au
thenticated"
Configure exim to send from remote clients, if authenticated
joe@mail-thegummibear:~$ █
```



joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24

~ — joe@mail-thegummibear: ~ — ssh • ssh yavin

~ — atlas@ns1: /etc/bind — ssh • ssh yavin



```
joe@mail-thegummibear:~$ sudo apt-get install exim4-daemon-heavy
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
joe@mail-thegummibear:~$ echo "We need to create a general certificate"
We need to create a general certificate
joe@mail-thegummibear:~$ sudo /usr/share/doc/exim4-base/examples/exim-gencert
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +

This may be sufficient to establish encrypted connections but for
secure identification you need to buy a real certificate!

Please enter the hostname of your MTA at the Common Name (CN) prompt!

Generating a 2048 bit RSA private key
.....+++
.....
.....
.....+++
writing new private key to '/etc/exim4/exim.key'
-----
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
[Country Code (2 letters) [US]:
[State or Province Name (full name) []:UT
[Locality Name (eg, city) []:St. George
[Organization Name (eg, company; recommended) []:The Gummi Bear
[Organizational Unit Name (eg, section) []:Widgets
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
.....
.....+++
writing new private key to '/etc/exim4/exim.key'
-----
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
[Country Code (2 letters) [US]:
[State or Province Name (full name) []:UT
[Locality Name (eg, city) []:St. George
[Organization Name (eg, company; recommended) []:The Gummi Bear
[Organizational Unit Name (eg, section) []:Widgets
[Server name (eg. ssl.domain.tld; required!!!) []:mail.thegummibear.com
[Email Address []:joe@thegummibear.com
[*] Done generating self signed certificates for exim!
    Refer to the documentation and example configuration files
    over at /usr/share/doc/exim4-base/ for an idea on how to enable TLS
    support in your mail transfer agent.
joe@mail-thegummibear:~$ █
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
joe@mail-thegummibear:~$ echo "Install secure authentication service"
Install secure authentication service
joe@mail-thegummibear:~$ █
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
[joe@mail-thegummibear:~$ echo "Install secure authentication service"
Install secure authentication service
joe@mail-thegummibear:~$ sudo apt-get install sasl2-bin
```

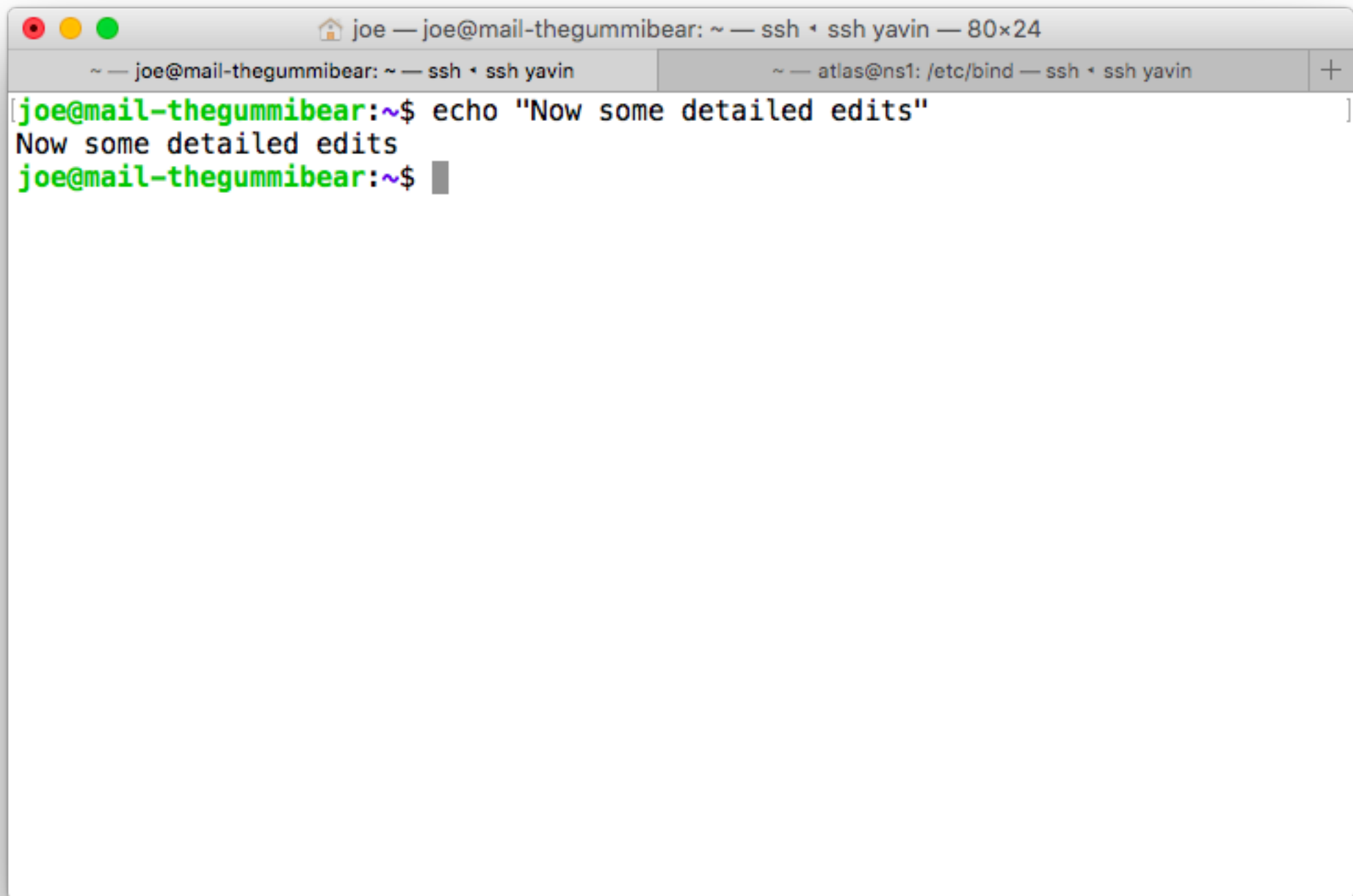


The image shows a terminal window with a title bar containing window control buttons (red, yellow, green) and the text "joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24". Below the title bar, there are two tabs: the first is labeled "~ — joe@mail-thegummibear: ~ — ssh • ssh yavin" and the second is labeled "~ — atlas@ns1: /etc/bind — ssh • ssh yavin". The main content area of the terminal displays the prompt "joe@mail-thegummibear:~\$" followed by the command "sudo vi /etc/default/saslauthd" and a cursor.

```
joe@mail-thegummibear:~$ sudo vi /etc/default/saslauthd
```



```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin  ~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
[joe@mail-thegummibear:~$ sudo service saslauthd restart
[joe@mail-thegummibear:~$ ps aux | grep sasl
root      30655  0.0  0.5  89800  2748 ?        Ss   17:19   0:00 /usr/sbin/saslauthd -a pam -c -m /var/run/saslauthd -n 5
root      30656  0.0  0.1  89800   972 ?        S    17:19   0:00 /usr/sbin/saslauthd -a pam -c -m /var/run/saslauthd -n 5
root      30657  0.0  0.1  89800   972 ?        S    17:19   0:00 /usr/sbin/saslauthd -a pam -c -m /var/run/saslauthd -n 5
root      30658  0.0  0.1  89800   972 ?        S    17:19   0:00 /usr/sbin/saslauthd -a pam -c -m /var/run/saslauthd -n 5
root      30659  0.0  0.1  89800   972 ?        S    17:19   0:00 /usr/sbin/saslauthd -a pam -c -m /var/run/saslauthd -n 5
joe       30661  0.0  0.1  12944   944 pts/0    S+   17:19   0:00 grep --color=auto sasl
joe@mail-thegummibear:~$ █
```



The image shows a terminal window with a title bar containing a home icon, the name 'joe', and the path 'joe@mail-thegummibear: ~'. Below the title bar are two tabs: the first is 'joe@mail-thegummibear: ~' and the second is 'atlas@ns1: /etc/bind'. The terminal content shows a green prompt 'joe@mail-thegummibear:~\$' followed by the command 'echo "Now some detailed edits"'. The output 'Now some detailed edits' is displayed on the next line. A second green prompt 'joe@mail-thegummibear:~\$' is shown on the following line with a black cursor block.

```
joe@mail-thegummibear:~$ echo "Now some detailed edits"  
Now some detailed edits  
joe@mail-thegummibear:~$ █
```



joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24

~ — joe@mail-thegummibear: ~ — ssh • ssh yavin

~ — atlas@ns1: /etc/bind — ssh • ssh yavin



```
joe@mail-thegummibear:~$ sudo vi /etc/exim4/exim4.conf.template █
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin  ~ — atlas@ns1: /etc/bind — ssh • ssh yavin +

#####
#####
### main/03_exim4-config_tlsoptions
#####

### main/03_exim4-config_tlsoptions
#####

# ADDED TO ENABLE TLS AUTH
MAIN_TLS_ENABLE = yes
# END ADD

# TLS/SSL configuration for exim as an SMTP server.
# See /usr/share/doc/exim4-base/README.Debian.gz for explanations.

.ifdef MAIN_TLS_ENABLE
# Defines what hosts to 'advertise' STARTTLS functionality to. The
# default, *, will advertise to all hosts that connect with EHLO.
.ifndef MAIN_TLS_ADVERTISE_HOSTS
MAIN_TLS_ADVERTISE_HOSTS = *
.endif
tls_advertise_hosts = MAIN_TLS_ADVERTISE_HOSTS

-- INSERT --                                     340,10      16%
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin  ~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
#####
#####
### main/03_exim4-config_tlsoptions
#####

### main/03_exim4-config_tlsoptions
#####

# ADDED TO ENABLE TLS AUTH
MAIN_TLS_ENABLE = yes
# END ADD
# ADDED TO ENABLE STANDARD TLS SMTP PORTS
daemon_smtp_ports = 25 : 465 : 587
tls_on_connect_ports = 465
# END ADD

# TLS/SSL configuration for exim as an SMTP server.
# See /usr/share/doc/exim4-base/README.Debian.gz for explanations.

.ifdef MAIN_TLS_ENABLE
# Defines what hosts to 'advertise' STARTTLS functionality to. The
# default, *, will advertise to all hosts that connect with EHLO.
.ifndef MAIN_TLS_ADVERTISE_HOSTS
"/etc/exim4/exim4.conf.template" 2083L, 77805C written          343,3          15%
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin  ~ — atlas@ns1: /etc/bind — ssh • ssh yavin +

#####
#####
### main/03_exim4-config_tlsoptions
#####

### main/03_exim4-config_tlsoptions
#####

# ADDED TO ENABLE TLS AUTH
MAIN_TLS_ENABLE = yes
# END ADD
# ADDED TO ENABLE STANDARD TLS SMTP PORTS
daemon_smtp_ports = 25 : 465 : 587
tls_on_connect_ports = 465
# END ADD
# ADDED TO FORCE ENCRYPTION BEFORE ALLOWING AUTH
auth_advertise_hosts = ${if eq{$tls_cipher}{*}}{*}
# END ADD

# TLS/SSL configuration for exim as an SMTP server.
# See /usr/share/doc/exim4-base/README.Debian.gz for explanations.

.ifdef MAIN_TLS_ENABLE
-- INSERT --
```

346,26

15%


```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin  ~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
# Here is an example of CRAM-MD5 authentication against PostgreSQL:
#
# psqldb_auth_server:
#   driver = cram_md5
#   public_name = CRAM-MD5
#   server_secret = ${lookup pgsqldb{SELECT pw FROM users WHERE username = '${quot
e_pgsqldb:$auth1}'}${$value}fail}
#   server_set_id = $auth1

# Authenticate against local passwords using sasl2-bin
# Requires exim_uid to be a member of sasl group, see README.Debian.gz
# UNCOMMENTED THE FOLLOWING TO ALLOW LOGIN
plain_saslauthd_server:
  driver = plaintext
  public_name = PLAIN
  server_condition = ${if saslauthd{${$auth2}${$auth3}}{1}{0}}
  server_set_id = $auth2
  server_prompts = :
  .ifndef AUTH_SERVER_ALLOW_NOTLS_PASSWORDS
  server_advertise_condition = ${if eq{${$tls_in_cipher}}{*}}
  .endif
#
# login_saslauthd_server:
"/etc/exim4/exim4.conf.template" 2087L, 77950C written          1902,42          91%
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
joe@mail-thegummibear:~$ echo "NOW to allow exim to use SASL service"
NOW to allow exim to use SASL service
joe@mail-thegummibear:~$ █
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
joe@mail-thegummibear:~$ sudo adduser Debian-exim sasl
Adding user `Debian-exim' to group `sasl' ...
Adding user Debian-exim to group sasl
Done.
joe@mail-thegummibear:~$ █
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
[joe@mail-thegummibear:~$ echo "apply the template changes to actual configuration files"
apply the template changes to actual configuration files
joe@mail-thegummibear:~$ █
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
[joe@mail-thegummibear:~$ echo "apply the template changes to actual configuration files"
apply the template changes to actual configuration files
[joe@mail-thegummibear:~$ sudo update-exim4.conf
joe@mail-thegummibear:~$ █
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
[joe@mail-thegummibear:~$ echo "Restart MTA to use these settings"
Restart MTA to use these settings
joe@mail-thegummibear:~$ █
```



The image shows a terminal window with a title bar containing window control buttons (red, yellow, green) and the text "joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24". Below the title bar, there are two tabs: the first is "joe@mail-thegummibear: ~ — ssh • ssh yavin" and the second is "atlas@ns1: /etc/bind — ssh • ssh yavin". The main content of the terminal shows a command being executed: "joe@mail-thegummibear:~\$ echo "Check open ports"". The output of the command is "Check open ports". The prompt "joe@mail-thegummibear:~\$" is shown again on the next line, followed by a cursor.

```
joe@mail-thegummibear:~$ echo "Check open ports"
Check open ports
joe@mail-thegummibear:~$
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
joe@mail-thegummibear:~$ sudo netstat -ntl
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp      0      0 0.0.0.0:22              0.0.0.0:*              LISTEN
tcp      0      0 144.38.199.164:25      0.0.0.0:*              LISTEN
tcp      0      0 127.0.0.1:25           0.0.0.0:*              LISTEN
tcp      0      0 0.0.0.0:993            0.0.0.0:*              LISTEN
tcp6     0      0 :::22                  :::*                    LISTEN
tcp6     0      0 :::1:25                 :::*                    LISTEN
tcp6     0      0 :::993                  :::*                    LISTEN
joe@mail-thegummibear:~$ █
```



```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin
~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
[joe@mail-thegummibear:~$ echo "not there"
not there
joe@mail-thegummibear:~$ █
```

```
joe — joe@mail-thegummibear: ~ — ssh • ssh yavin — 80x24
~ — joe@mail-thegummibear: ~ — ssh • ssh yavin  ~ — atlas@ns1: /etc/bind — ssh • ssh yavin +
joe@mail-thegummibear:~$ sudo service exim4 restart
joe@mail-thegummibear:~$ sudo netstat -ntl
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp      0      0 144.38.199.164:587     0.0.0.0:*               LISTEN
tcp      0      0 127.0.0.1:587         0.0.0.0:*               LISTEN
tcp      0      0 144.38.199.164:465     0.0.0.0:*               LISTEN
tcp      0      0 127.0.0.1:465         0.0.0.0:*               LISTEN
tcp      0      0 0.0.0.0:22            0.0.0.0:*               LISTEN
tcp      0      0 144.38.199.164:25     0.0.0.0:*               LISTEN
tcp      0      0 127.0.0.1:25          0.0.0.0:*               LISTEN
tcp      0      0 0.0.0.0:993           0.0.0.0:*               LISTEN
tcp6     0      0 :::1:587              :::*                    LISTEN
tcp6     0      0 :::1:465              :::*                    LISTEN
tcp6     0      0 :::22                 :::*                    LISTEN
tcp6     0      0 :::1:25                :::*                    LISTEN
tcp6     0      0 :::993                 :::*                    LISTEN
joe@mail-thegummibear:~$ echo "Yay it is there now"█
```