

# Shell / Bash

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Bash Guide for Beginners

# Secure Shell

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The definitive guide, also available at SafariOnline

- Public/private keys, pass phrases
- Trusted hosts
- Port forwarding
- X11 forwarding
- **ssh** agent

# Working with files

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- **rm, rmdir**
- **ls, file**
- **find / locate**
- **touch**
- **chmod / chown**
- **head, tail**
- **grep**

# Gathering network related information

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- **ifconfig**
- **dig (nslookup)**
- **ping**
- **route**
- **traceroute**

# Handle processes

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- **ps**
- **kill**
- **top / htop**
- **nice**

# vim text editor introduction

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Vim Introduction and Tutorial

# Creating a ssh public/private key pair

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ssh-keygen

Generating public/private rsa key pair.

Enter file in which to save the key (/home/gok/.ssh/id\_rsa):

Created directory '/home/gok/.ssh'.

Enter passphrase (empty for no passphrase):

Enter same passphrase again:

Your identification has been saved in /home/gok/.ssh/id\_rsa.

Your public key has been saved in /home/gok/.ssh/id\_rsa.pub.

The key fingerprint is:

SHA256: mi/5CaYsND/Dc+qr8CJ9Yji/zzP1SwuES/OnlnqvK0 gok@bwlehrpool

The key's randomart image is:

+--- [RSA 2048] ----+

```
|
|
|          .
|       + . S
|    o. =. o
|. + +. oOo.
|=o=+&*+=. o
|. =*%E#oo*.
|
```

+---- [SHA256] -----+

# Configuration file permissions on windows network file systems

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cd .ssh ❶

touch known\_hosts ❷

cp id\_rsa.pub authorized\_keys ❸

setfacl -R --remove-all . \* ❹

chmod go-w . \* ❺

chmod ugo-x \* ❻

chmod go-r id\_rsa ❼



# Resulting permissions and configuration test

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```
ls -al
```

```
drwxr-xr-x+  2 goi k fb1prof    0 Oct 13 16:03 .
drwxr-xr-x+ 30 goi k fb1prof    0 Oct 13 16:04 ..
-rw-r--r--+  1 goi k fb1prof  398 Oct 13 16:02 authorized_keys
-rw-----+  1 goi k fb1prof 1675 Oct 13 16:02 id_rsa
-rw-r--r--+  1 goi k fb1prof  398 Oct 13 16:02 id_rsa.pub
-rw-r--r--+  1 goi k fb1prof  222 Oct 13 16:03 known_hosts
```

Testing **ssh** private key based logins to your local system:

```
~> ssh local host
```

```
Welcome to Ubuntu 18.04.3 LTS ...
```

## Related exercises

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Exercise 1: Enabling index based file search

Exercise 2: Using the **tail** - f command