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- -01-24 1032244581

System, VCS) . (Version Control

$$\left(\begin{array}{c} \bullet \\ \end{array} \right)$$

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(), , (.

VCS Bazaar, Mercurial.	CVS, Subversion, ,	— Git,
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- git.

1. - , *git gh*, *dnf install git dnf install gh*


```
root@vbox:~# gpg --full-generate-key
gpg (GnuPG) 2.4.5; Copyright (C) 2024 g10 Code GmbH
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

Please select what kind of key you want:
  (1) RSA and RSA
  (2) DSA and Elgamal
  (3) DSA (sign only)
  (4) RSA (sign only)
  (9) ECC (sign and encrypt) *default*
 (10) ECC (sign only)
 (14) Existing key from card
Your selection? 1
RSA keys may be between 1024 and 4096 bits long.
What keysize do you want? (3072) 4096
Requested keysize is 4096 bits
Please specify how long the key should be valid.
    0 = key does not expire
    <n> = key expires in n days
    <n>w = key expires in n weeks
    <n>m = key expires in n months
```

Screenshot 3

4. *pgp github*

```

We need to generate a lot of random bytes. It is a good idea to perform
some other action (type on the keyboard, move the mouse, utilize the
disks) during the prime generation; this gives the random number
generator a better chance to gain enough entropy.
We need to generate a lot of random bytes. It is a good idea to perform
some other action (type on the keyboard, move the mouse, utilize the
disks) during the prime generation; this gives the random number
generator a better chance to gain enough entropy.
gpg: /root/.gnupg/trustdb.gpg: trustdb created
gpg: directory '/root/.gnupg/openpgp-revocs.d' created
gpg: revocation certificate stored as '/root/.gnupg/openpgp-revocs.d/0E9F96A906BAF43
16C1D8D28E27DFA4588FD67F8.rev'
public and secret key created and signed.

pub   rsa4096 2025-03-02 [SC]
       0E9F96A906BAF4316C1D8D28E27DFA4588FD67F8
uid           Michael <omotole47@gmail.com>
sub   rsa4096 2025-03-02 [E]

root@vbox:~# gpg --list-secret-keys --keyid-format LONG
gpg: checking the trustdb
gpg: marginals needed: 3  completes needed: 1  trust model: pgp
gpg: depth: 0  valid:   1  signed:   0  trust: 0-, 0q, 0n, 0m, 0f, 1u
[keyboxd]
-----
sec   rsa4096/E27DFA4588FD67F8 2025-03-02 [SC]

```

SCScreenshot 4

```

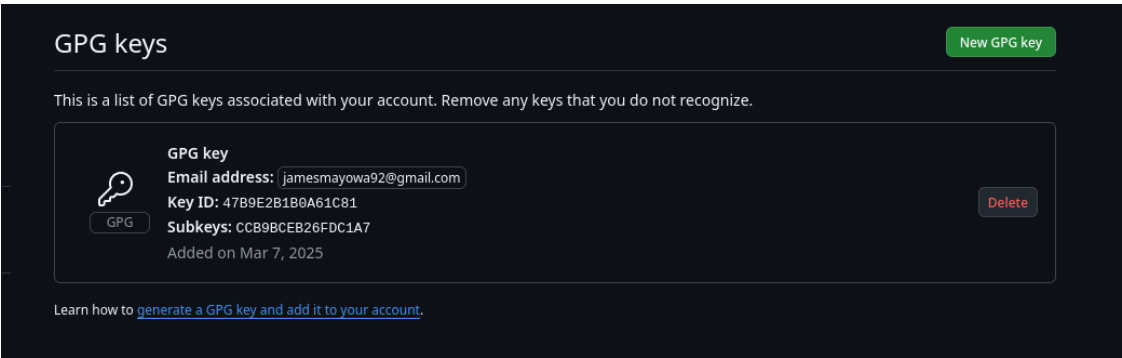
pub   rsa4096 2025-03-02 [SC]
      0E9F96A906BAF4316C1D8D28E27DFA4588FD67F8
uid           Michael <omotole47@gmail.com>
sub   rsa4096 2025-03-02 [E]

root@vbox:~# gpg --list-secret-keys --keyid-format LONG
gpg: checking the trustdb
gpg: marginals needed: 3  completes needed: 1  trust model: pgp
gpg: depth: 0  valid: 1  signed: 0  trust: 0-, 0q, 0n, 0m, 0f, 1u
[keyboxd]
-----
sec   rsa4096/E27DFA4588FD67F8 2025-03-02 [SC]
      0E9F96A906BAF4316C1D8D28E27DFA4588FD67F8
uid           [ultimate] Michael <omotole47@gmail.com>
ssb   rsa4096/29A1F451E7B997DF 2025-03-02 [E]

root@vbox:~# gpg --armor --export <PGP Fingerprint> | xclip -sel clip
-bash: syntax error near unexpected token `|'
root@vbox:~# sudo apt install xclip
sudo: apt: command not found
root@vbox:~# gpg --armor --export E27DFA4588FD67F8
bash: gpg: command not found...
root@vbox:~# gpg --armor --export E27DFA4588FD67F8
-----BEGIN PGP PUBLIC KEY BLOCK-----
mQTNBGF50ggBEADfTc6zw0vEx3DdEXV30EHWst176gKuMbST7u5MdeoEgnToRiAN

```

Screenshot 5



Screenshot 6

5. `git git config --global user.signingkey git config --global commit.gpgsign true git config --global gpg.program $(which gpg2)`

```

james@fedora:~$ git config --global user.signingkey 7B9E2B1B0A61C81
james@fedora:~$ git config --global commit.gpgsign true
james@fedora:~$ git config --global gpg.program $(which gpg2)
git: 'config' is not a git command. See 'git --help'.

The most similar command is
  config
james@fedora:~$ git config --global gpg.program $(which gpg2)
james@fedora:~$ gh auth login
? Where do you use GitHub? GitHub.com

? What is your preferred protocol for Git operations on this host? SSH

? Upload your SSH public key to your GitHub account? /home/james/.ssh/id_ed25519.pub

? Title for your SSH key: SSH key james

? How would you like to authenticate GitHub CLI? Login with a web browser

error connecting to github.com

check your internet connection or https://githubstatus.com

james@fedora:~$ gh auth login
? Where do you use GitHub? GitHub.com

? What is your preferred protocol for Git operations on this host? SSH

? Upload your SSH public key to your GitHub account? /home/james/.ssh/id_ed25519.pub

```

Screenshot 7

6.

```

[ERROR] FAILED to sign it
gpg: signing failed: No secret key

fatal: failed to write commit object
james@fedora:~/study/2024-2025/Operations Systems/study_2024-2025_os-intro$ git config commit.gpgsign false
james@fedora:~/study/2024-2025/Operations Systems/study_2024-2025_os-intro$ git config --global commit.gpgsign false
james@fedora:~/study/2024-2025/Operations Systems/study_2024-2025_os-intro$ git commit -am 'feat(main): make course structure'
[master 1f68358] feat(main): make course structure
 2 files changed, 1 insertion(+), 14 deletions(-)
 delete mode 100644 package.json
james@fedora:~/study/2024-2025/Operations Systems/study_2024-2025_os-intro$ git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 291 bytes | 291.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:James-4321/study_2024-2025_os-intro.git
 fb0d655..1f68358 master -> master
james@fedora:~/study/2024-2025/Operations Systems/study_2024-2025_os-intro$

```

Screenshot 8

ssh- pgn- . , git. github

1. (VCS) ? (VCS) , , , . , , , .
2. VCS : , commit, , . : , , . : , , . : , , .
3. VCS? VCS .
(CVCS): Subversion (SVN), Perforce. (DVCS): : Git, Mercurial.
4. VCS .
5. VCS Shared Storage
Clone/pull the latest version. Make changes and commit them locally. Push changes to the shared repository. Resolve conflicts if necessary.
6. , Git
7. Git
Developers: Write and commit code. Maintainers: Review and merge changes. Release Managers: Manage versions and releases.
8. - :
git init
git add .
git commit -m "Initial commit"
• :
git remote add origin <repo_url>
git push origin main
git pull origin main
9. : , .
git branch feature-branch
git checkout feature-branch
10. Git

```
node_modules/  
*.log
```

This prevents unnecessary files from being committed.