BTS – MBDS – Big Data Security

Assignment 2:

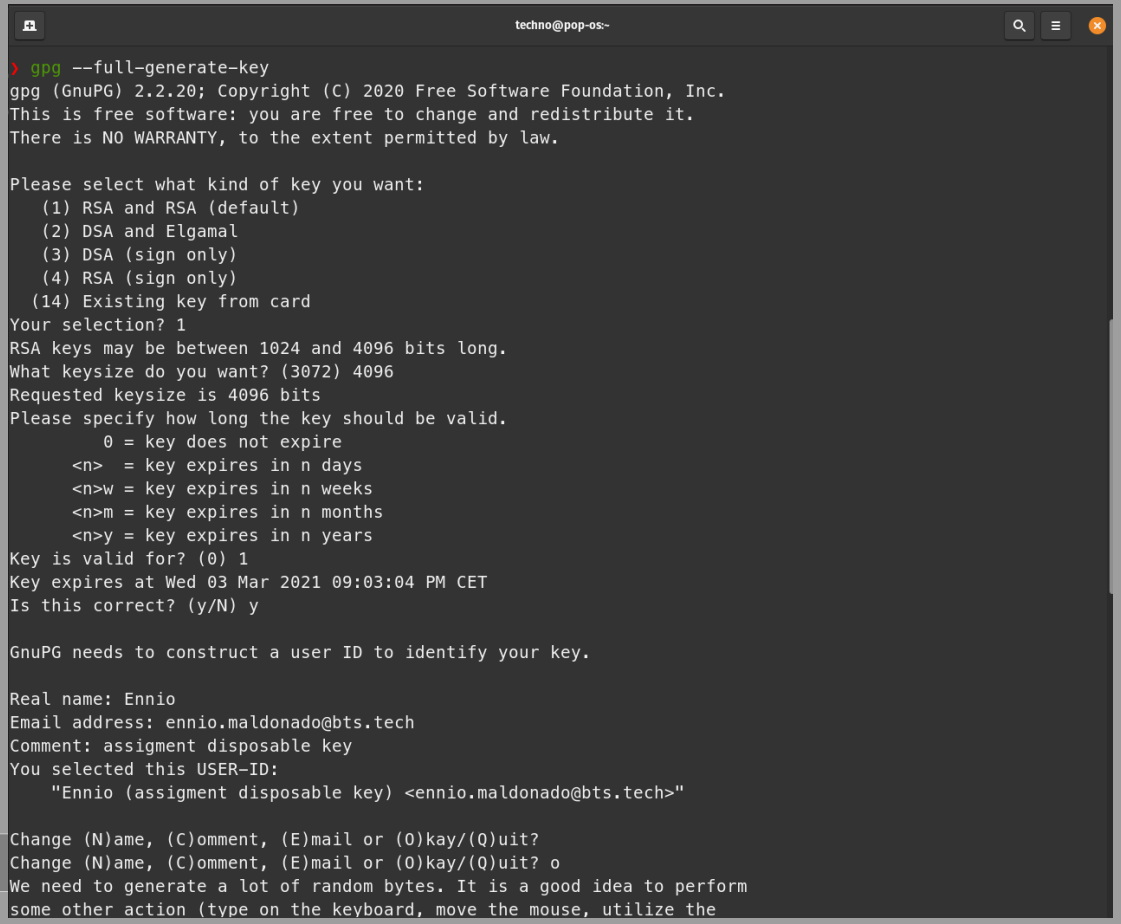
1.- GPG – Key generation
2.- Role A: Encrypt / Role B: Decrypt
3.- Sign

01 March, 2021

Ennio Maldonado

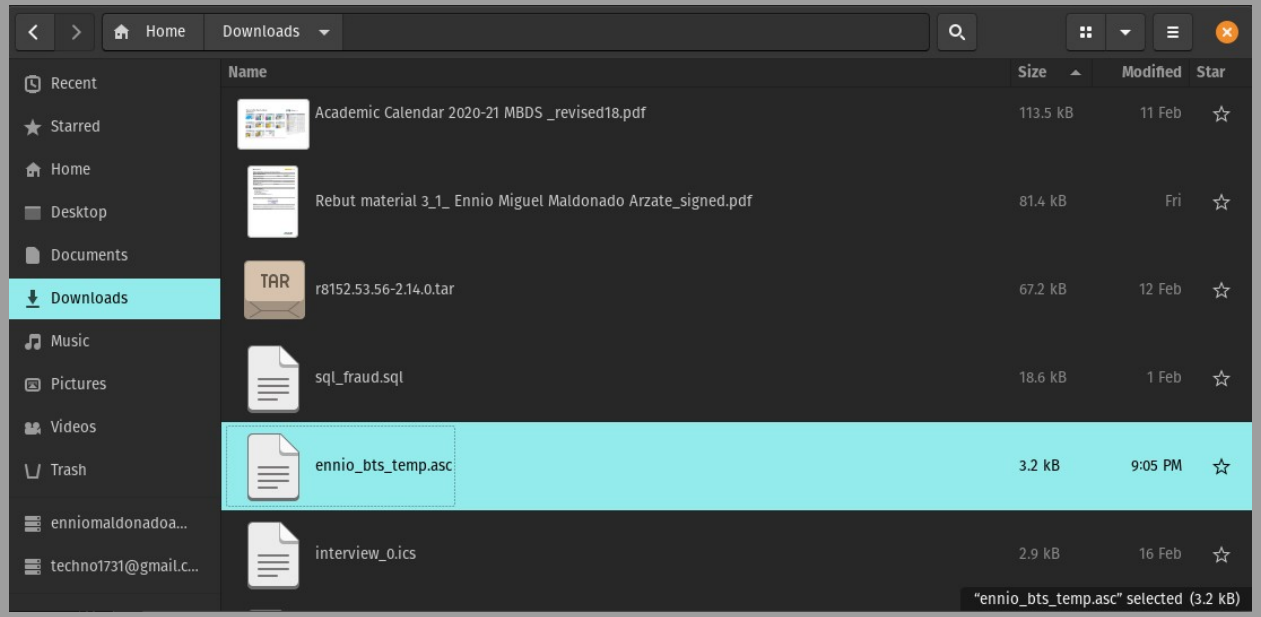
1: GPG – Key generation

```
❯ gpg --full-generate-key
```



1: GPG – Key generation

```
❯ gpg --armor --export ennio.maldonado@bts.tech > ennio_bts_temp.asc
```



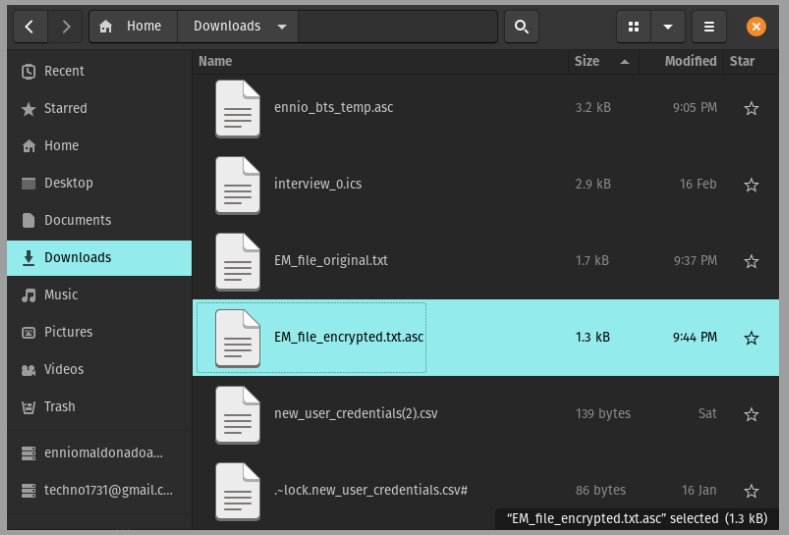
2: Role A – Encrypt - Decrypt

```
❯ gpg --import khaldounkey.asc
❯ gpg -k
/home/techno/.gnupg/pubring.kbx
-------------------------------
pub   rsa4096 2019-09-18 [SC] [expires: 2023-09-17]
      FB5DB77FD5C118B80511ADA8A6310ACC4672475C
uid           [ unknown] AWS CLI Team <aws-cli@amazon.com>

pub   rsa4096 2021-03-02 [SC] [expires: 2021-03-03]
      29A09EB36C8ECEDCF7BE4B3B580FAB2056E96CB5
uid           [ultimate] Ennio (assigment disposable key) <ennio.maldonado@bts.tech>
sub   rsa4096 2021-03-02 [E] [expires: 2021-03-03]

pub   rsa3072 2021-03-02 [SC] [expires: 2023-03-02]
      68D4E7154C58AC2F12FA344014618DC86DEC178F
uid           [ unknown] khaldoun <k.alnaierat@gmail.com>
sub   rsa3072 2021-03-02 [E] [expires: 2023-03-02]
```

2: Role A – Encrypt

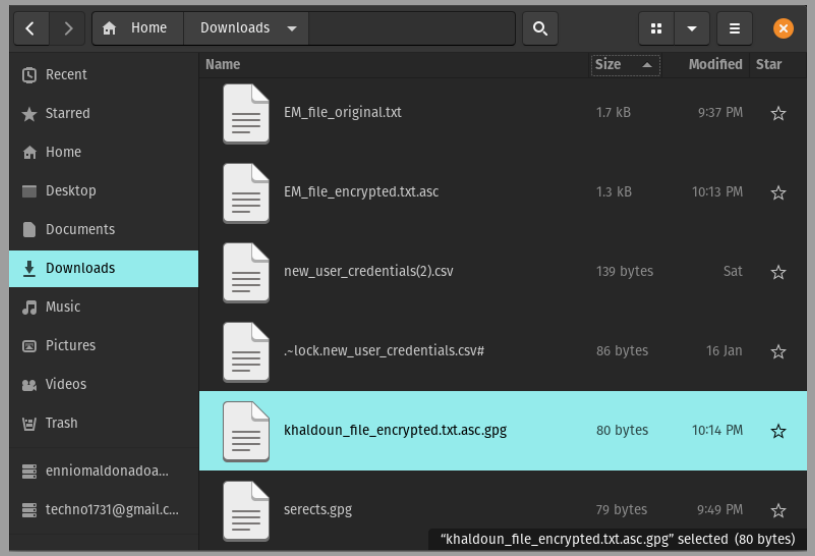
```
❯ gpg --encrypt --recipient 'k.alnaierat@gmail.com' --output EM_file_encrypted.txt.asc EM_file_original.t
xt
```

```
gpg: 930F0C2DDC81FFA9: There is no assurance this key belongs to the named user

sub  rsa3072/930F0C2DDC81FFA9 2021-03-02 khaldoun <k.alnaierat@gmail.com>
 Primary key fingerprint: BBA6 71C1 67DD 9DE5 1A53  D203 C401 0013 6195 AE9D
      Subkey fingerprint: 275D 128A DA3E CE14 7FC9  1644 930F 0C2D DC81 FFA9

It is NOT certain that the key belongs to the person named
in the user ID.  If you *really* know what you are doing,
you may answer the next question with yes.

Use this key anyway? (y/N) y
```

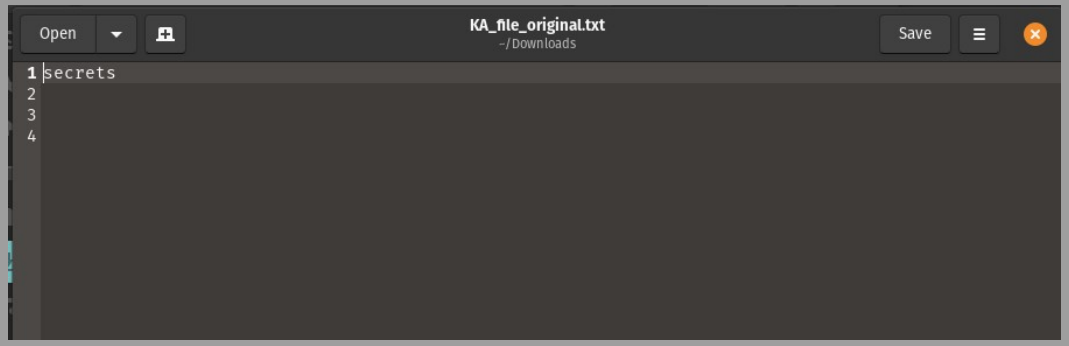


2: Role B – Decrypt

```
❯ gpg --decrypt khaldoun_file_encrypted.txt.asc.gpg > KA_file_original.txt
gpg: AES256 encrypted data
gpg: encrypted with 1 passphrase
```




```
❯ cat KA_file_original.txt
secrets
```



3: Sign Role A

```
❯ gpg --sign --default-key ennio.maldonado@bts.tech EM_file_original.txt
```

```
❯ mv EM_file_original.txt.gpg EM_file_SIGNED.txt.gpg
```

```
❯ gpg --verify EM_file_SIGNED.txt.gpg
gpg: Signature made Wed 03 Mar 2021 07:48:33 AM CET
gpg:                using RSA key 29A09EB36C8ECEDCF7BE4B3B580FAB2056E96CB5
gpg:                issuer "ennio.maldonado@bts.tech"
gpg: Good signature from "Ennio (assigment disposable key) <ennio.maldonado@bts.
tech>" [ultimate]
```

3: Sign Role B

```
❯ gpg --verify --default-key k.alnaierat@gmail.com KA_file_original.txt.gpg
```

```
gpg: Signature made Wed 03 Mar 2021 11:35:25 AM CET
gpg:                using RSA key 42B3E427895AE141DE297C2FF2A01524B7C74C18
gpg:                issuer "k.alnaierat@gmail.com"
gpg: Good signature from "khaldoun <k.alnaierat@gmail.com>" [unknown]
gpg: WARNING: This key is not certified with a trusted signature!
gpg:          There is no indication that the signature belongs to the owner.
Primary key fingerprint: 42B3 E427 895A E141 DE29  7C2F F2A0 1524 B7C7 4C18
```