**Encryption Tutorial**

Encrypting files using Linux terminal:

You can run (execute) “INSTALL.sh” file to encrypt any file or follow the steps below.

I will list all the commands you can use to encrypt files using terminal:

1. Install gpg package

$ sudo apt-get install gnupg

1. Generate keys

gpg --gen-key

1. Export the PUBLIC KEY

to export a public key into file public.key:

gpg --export -a "User Name" > public.key

1. Export the PRIVATE KEY

gpg --export-secret-key -a "User Name" > private.key

1. Import a public key:

gpg --import public.key

1. Import a private key:

gpg --allow-secret-key-import --import private.key

1. Encrypt and send the file

gpg -e -u "username" -r "send to" “file”

In the “send to” you can insert the username of the person you want to send the encrypted file to, you must be connected to the server to perform this action.

If for some reason it did not work, what I recommend is use your username in both sender and receiver places so it is like encrypting the file for your self, and then you can send the encrypted file in any way you feel comfortable with(using SSH secure shell is recommended)

1. Finally, you can decrypt the encrypted file using the private key by this command:

gpg -d “”theFile”

Screenshots:

Graphical user interface, application

Description automatically generated

A picture containing text, computer, screenshot

Description automatically generated

A computer screen capture

Description automatically generated with medium confidence

Graphical user interface

Description automatically generated

Encrypting Emails using Thunderbird

Please follow the following steps to send encrypted emails using thunderbird:

\*\*Requirements:

You will need Thunderbird, OpenPGP and the enigmail Addo-ons(extensions)

Download thunderbird:

[Thunderbird — Make Email Easier. — Thunderbird](https://www.thunderbird.net/en-US/)

Follow this link and install the version that matches your OS

[Gpg4win - Building Gpg4win under GNU/Linux](https://www.gpg4win.org/build-installer-gnulinux.html)

Download the enigmail:

[Enigmail - OpenPGP encryption for Thunderbird](https://enigmail.net/index.php/en/home)

* First we will generate the keys, Click on tools > key management

Check the image below, every key pair have expiry date, do not set the date more than 2 or 3 years for security reasons, then click Generate

Graphical user interface, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, application

Description automatically generated

You can easily revoke your key if it gets leaked or hacked, and the generate a new pair

Graphical user interface, text, application, email

Description automatically generated

Sending the public key attached with an email is one way of sharing the public key.

The second way is that you can upload your public key to online key server such as [OpenPGP Keyserver (ubuntu.com)](https://keyserver.ubuntu.com/) and your friends or whoever wants to send you an encrypted email can go to this link and find your key by searching for your name or email address.

Graphical user interface, application, Word

Description automatically generated

After generating the keys successfully you import the keys to your email(see the screenshot below) you can find the details and manage key acceptance after successfully importing your keys.

Graphical user interface, application

Description automatically generated

Unfortunately, since November 2021 the Enigma addon is not supported on the latest versions of Thunderbird, but some websites said they will develop new versions that would be able to work on Thunderbird again

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

After adding the Enigmail addon, you can go ahead and send an email but before sending you can select “Encrypt” and you will see your public key will be listed, go ahead and use it to send the encrypted email.

When the encrypted email is received the private key is used to decrypt the email.

It is straight forward when you open the email you can see the decrypt option on the bar click it and you will see the private key listed above.