EXPERIMENT-10

STUDY OF NETWORK SECURITY

Explore GPG tool to implement email security

Date of Performance:
Date of Submission:

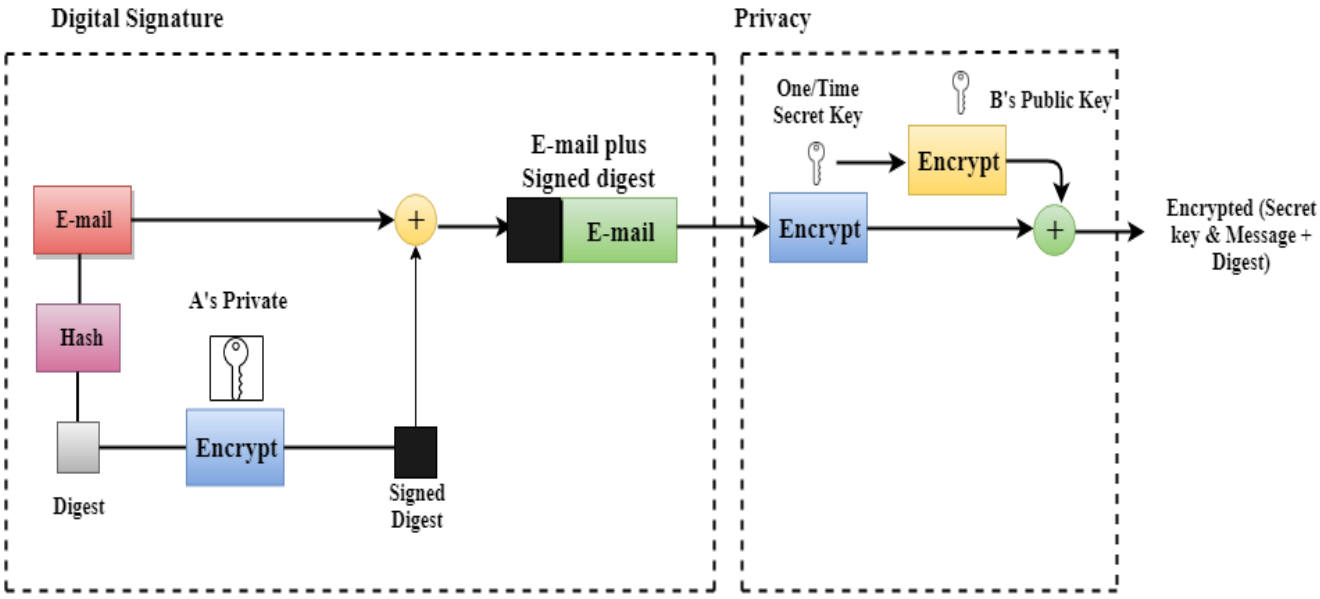
Aim:

" WRITE THE AIM"

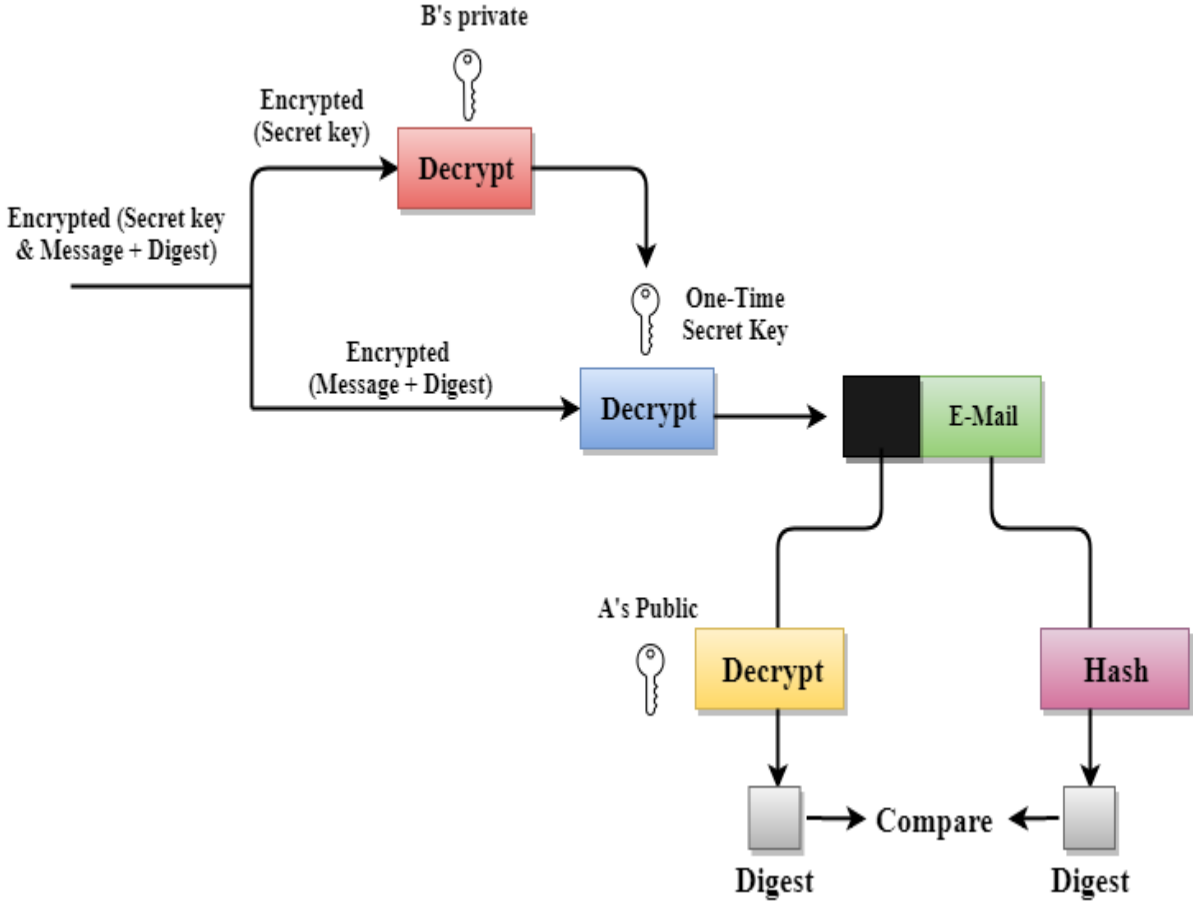
Theory:

- PGP stands for Pretty Good Privacy (PGP) which is invented by Phil Zimmermann.
- PGP was designed to provide all four aspects of security, i.e., privacy, integrity, authentication, and non-repudiation in the sending of email.
- PGP uses a digital signature (a combination of hashing and public key encryption) to provide integrity, authentication, and non-repudiation. PGP uses a combination of secret key encryption and public key encryption to provide privacy. Therefore, we can say that the digital signature uses one hash function, one secret key, and two private-public key pairs.
- PGP is an open source and freely available software package for email security.
- PGP provides authentication through the use of Digital Signature.
- It provides confidentiality through the use of symmetric block encryption.
- It provides compression by using the ZIP algorithm, and EMAIL compatibility using the radix-64 encoding scheme.

PGP at Sender Site:



PGP at Receiver Site:

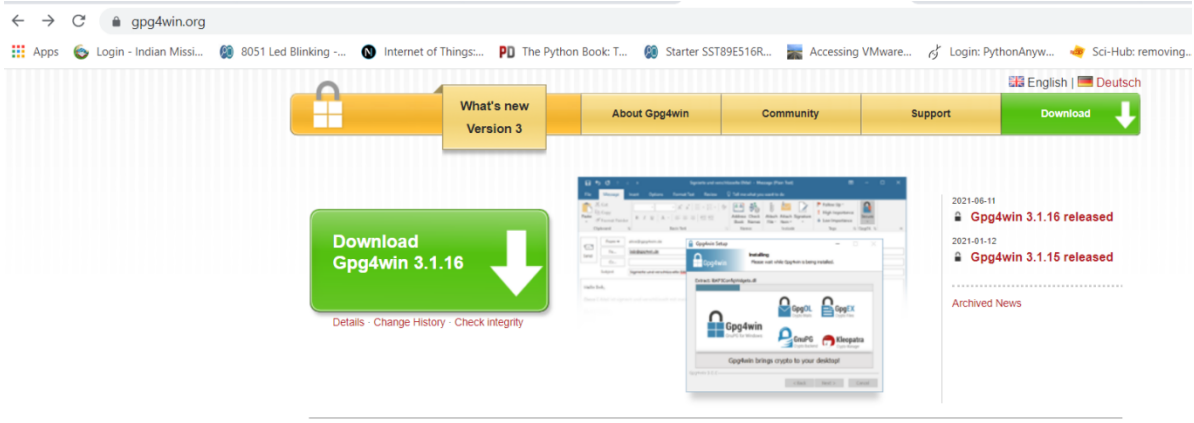


Procedure:

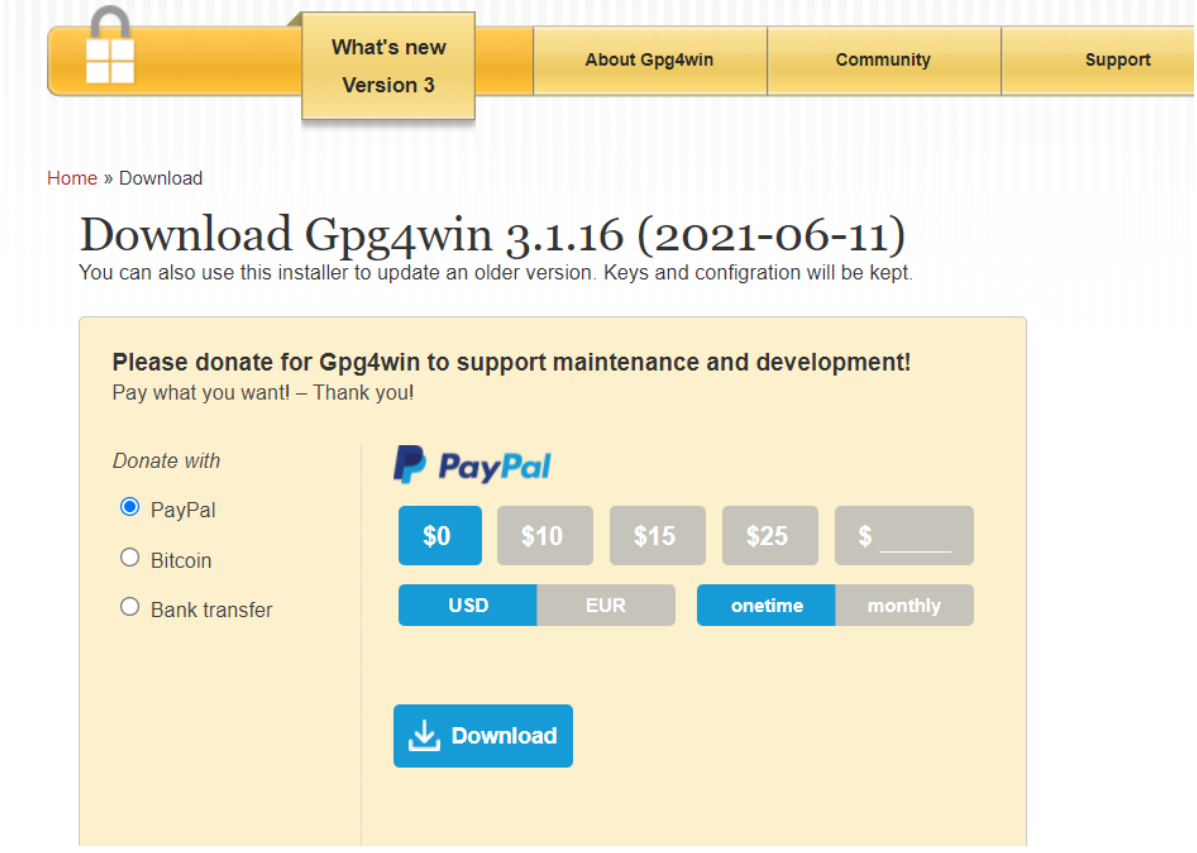
Step 1:

Install gPg4win Tool by clicking the link (https://www.gpg4win.org/thanks-for-download.html)

Click Download



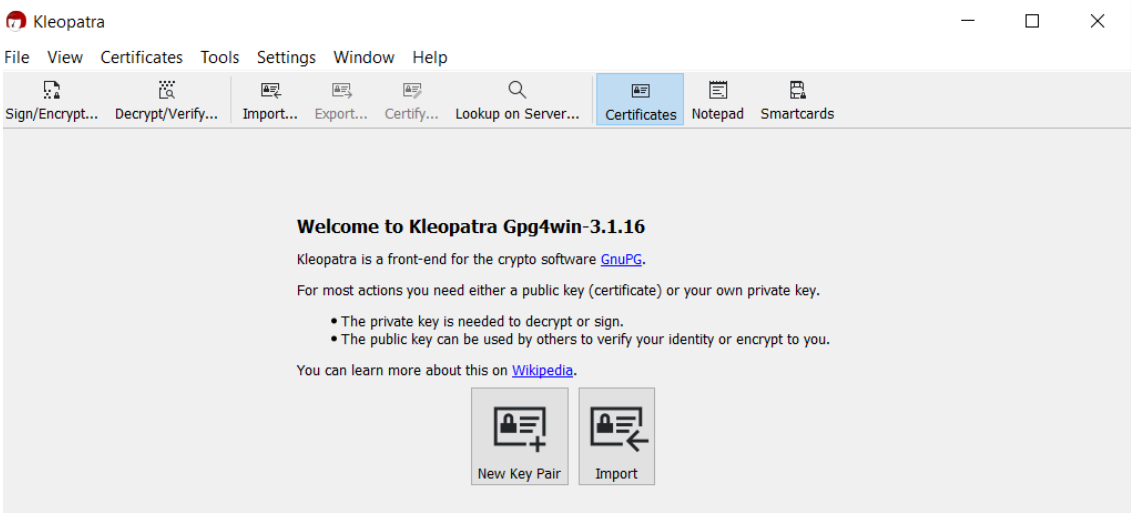
Click on 0 dollar and download



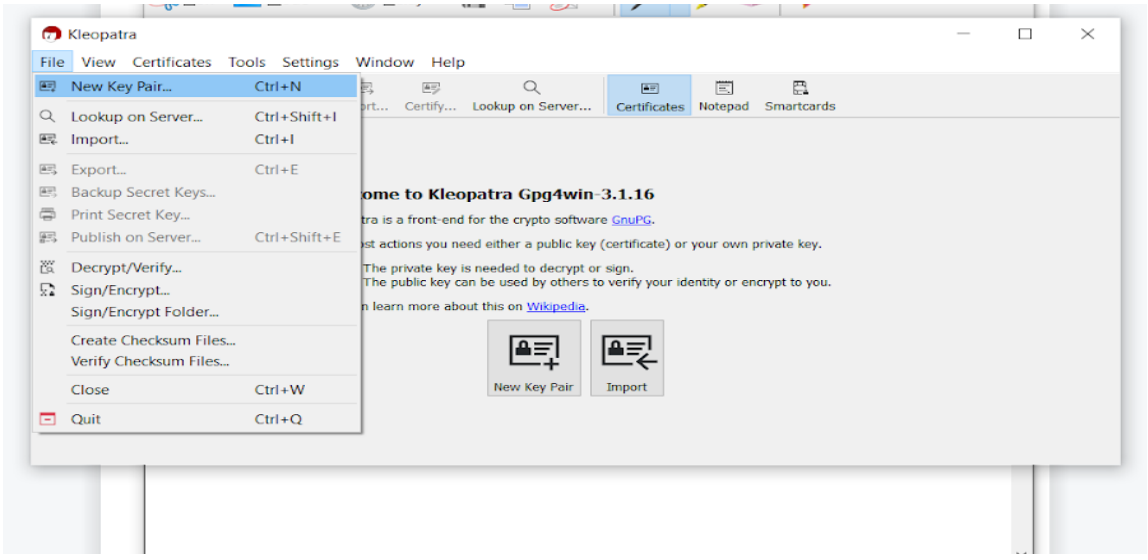
Click ok ------> Next ------> Select GPA and Browser Integration -----> Install -----> Finish

Step 2:

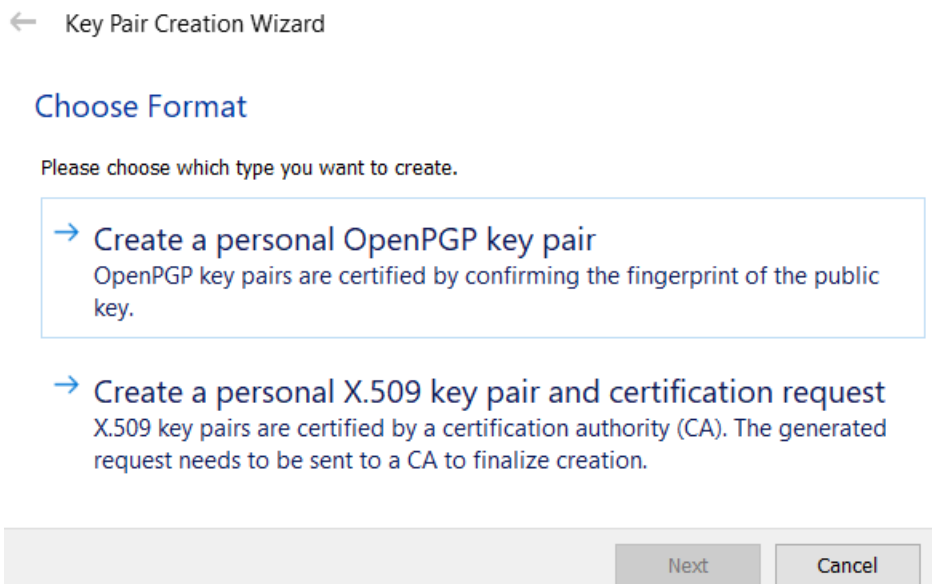
Click Kleopatra Software



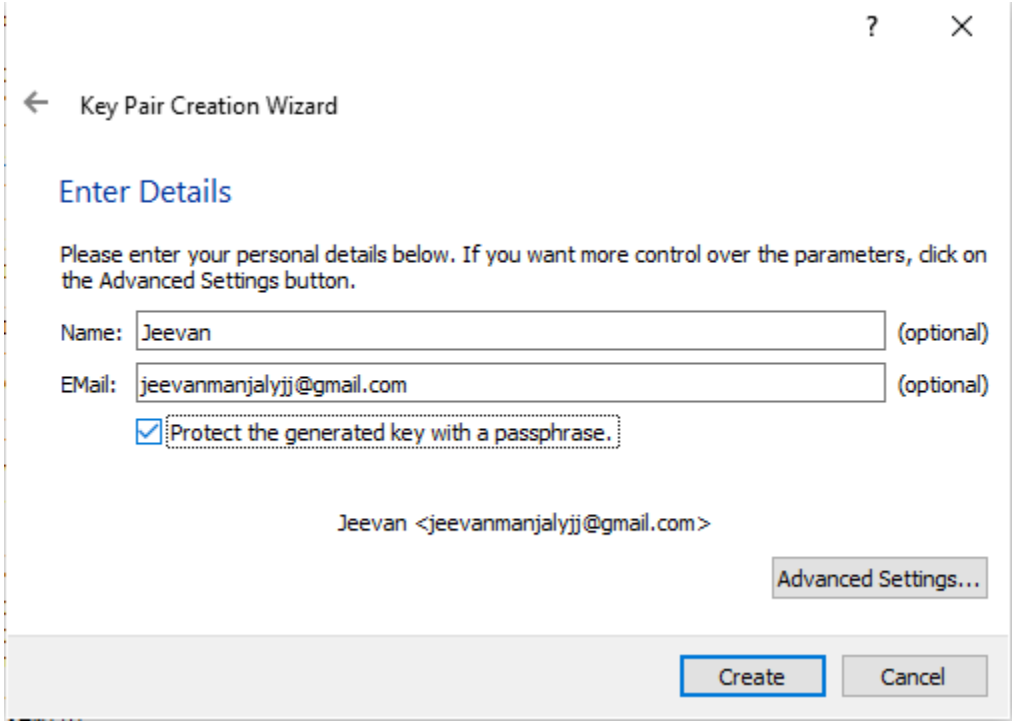
Click on File ------> New Key Pair



Select Create a OpenPGP Key Pair

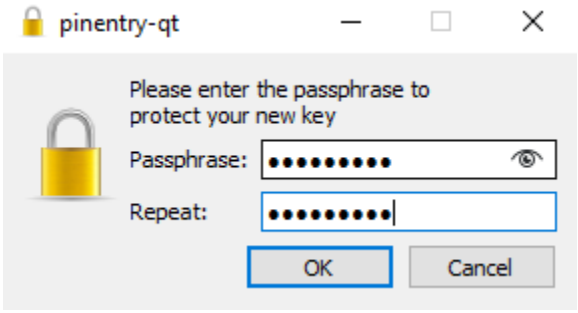


Click Next and give User name “your name”
Mail as “yourname@gamail.com”



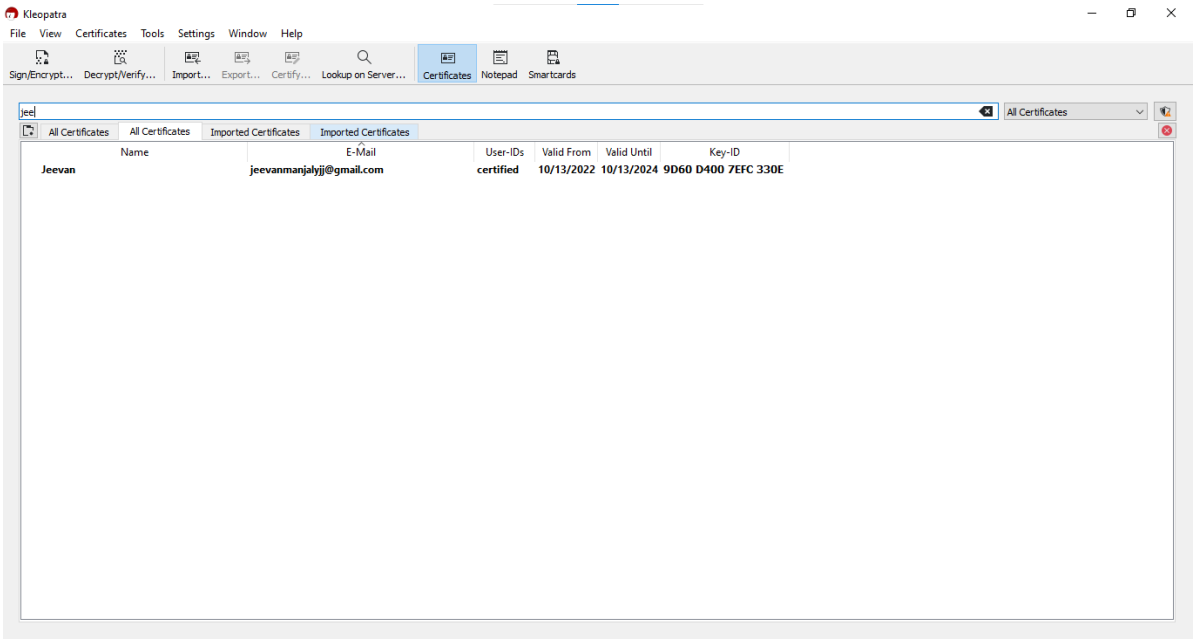
Click on **Protect the generated key with a passphrase**

Give the password

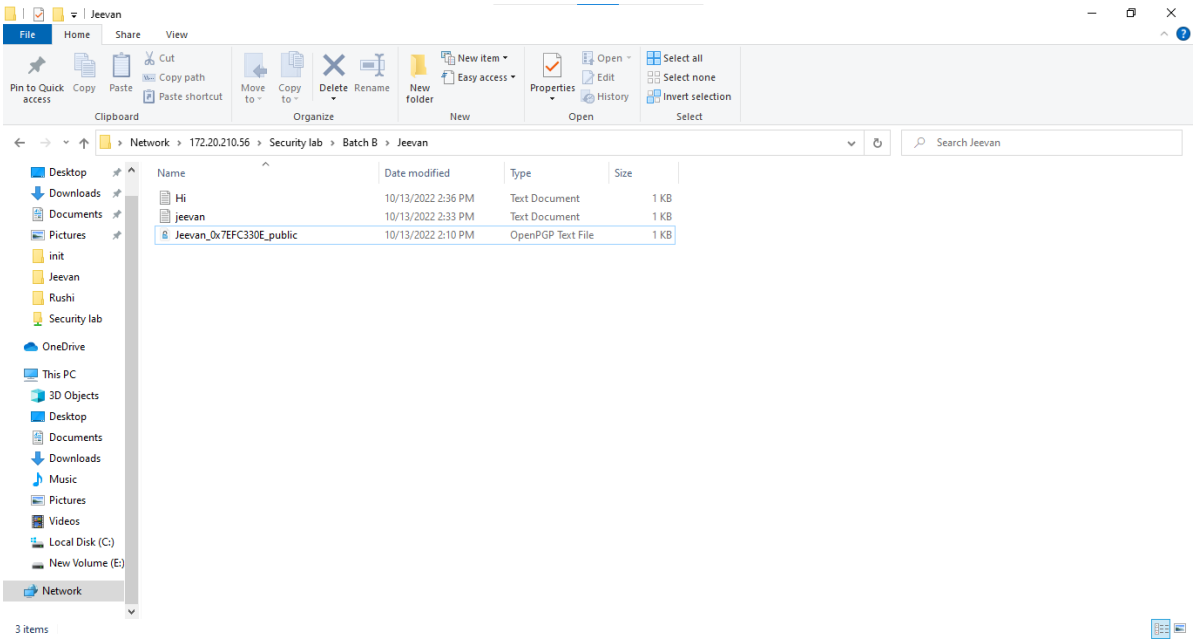


Key pair will be created Successfully.

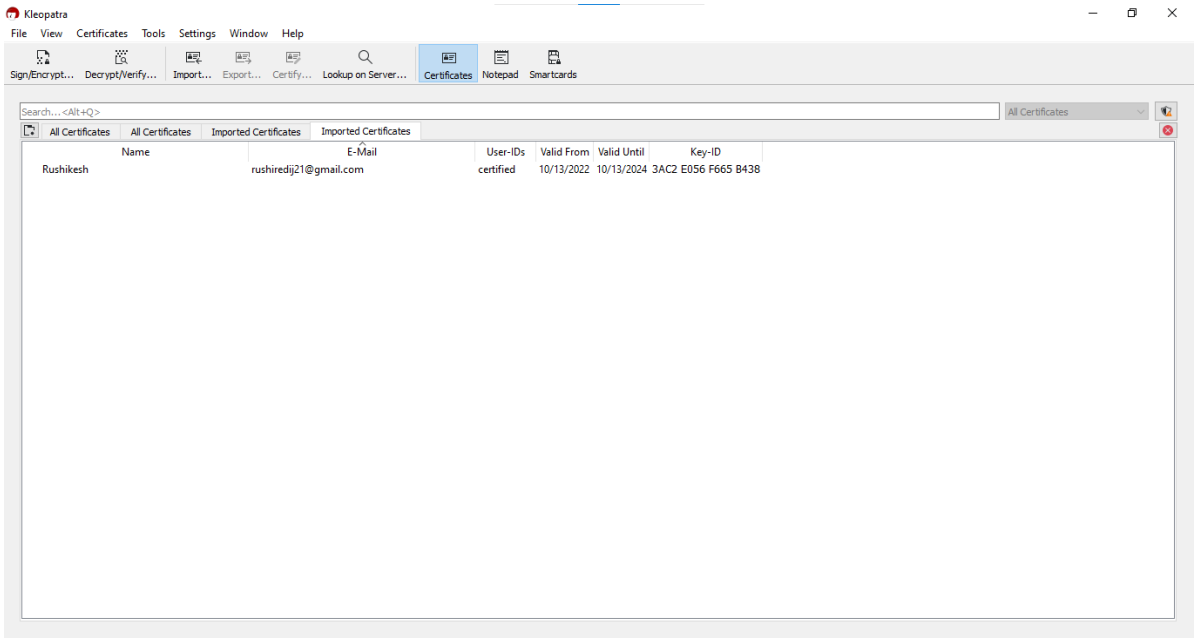
Step 3: Kleopatra(save public key private key):



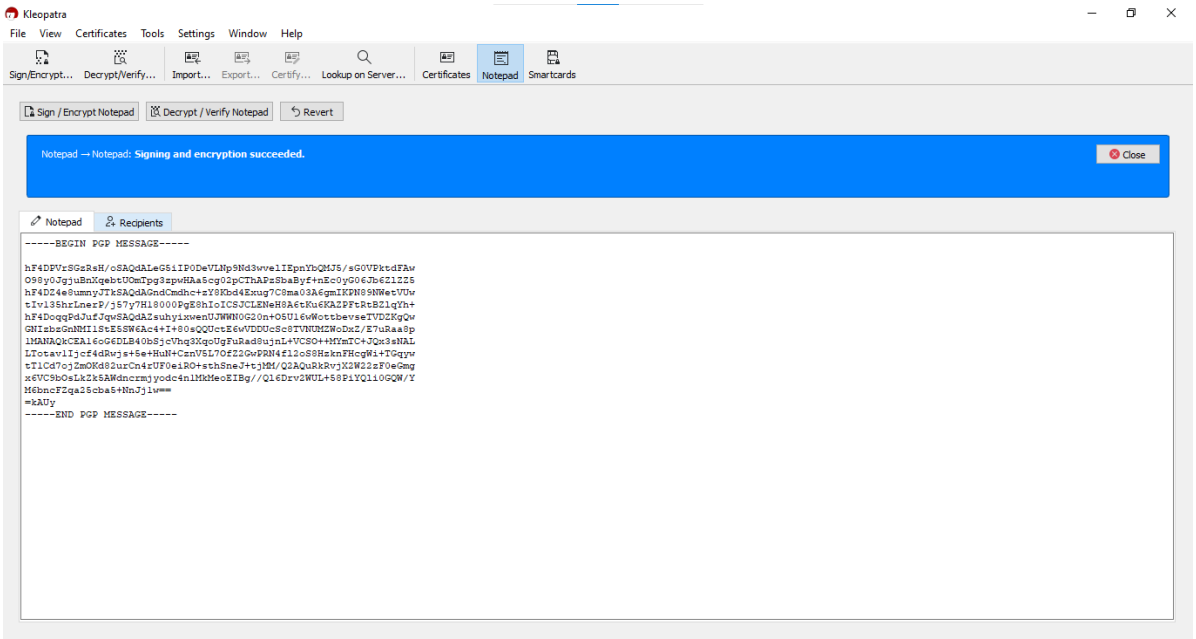
Paste the public key in folder:



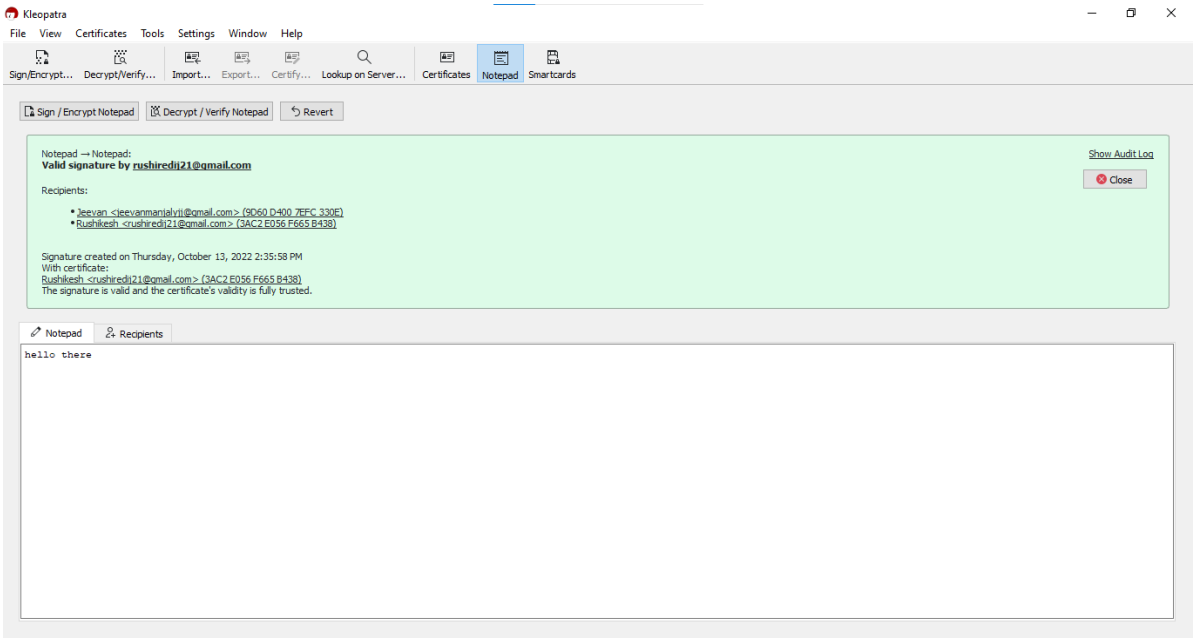
Go to the kleopatra software and click import and select the public key of the user



Click notepad type message and encrypt with the users public key

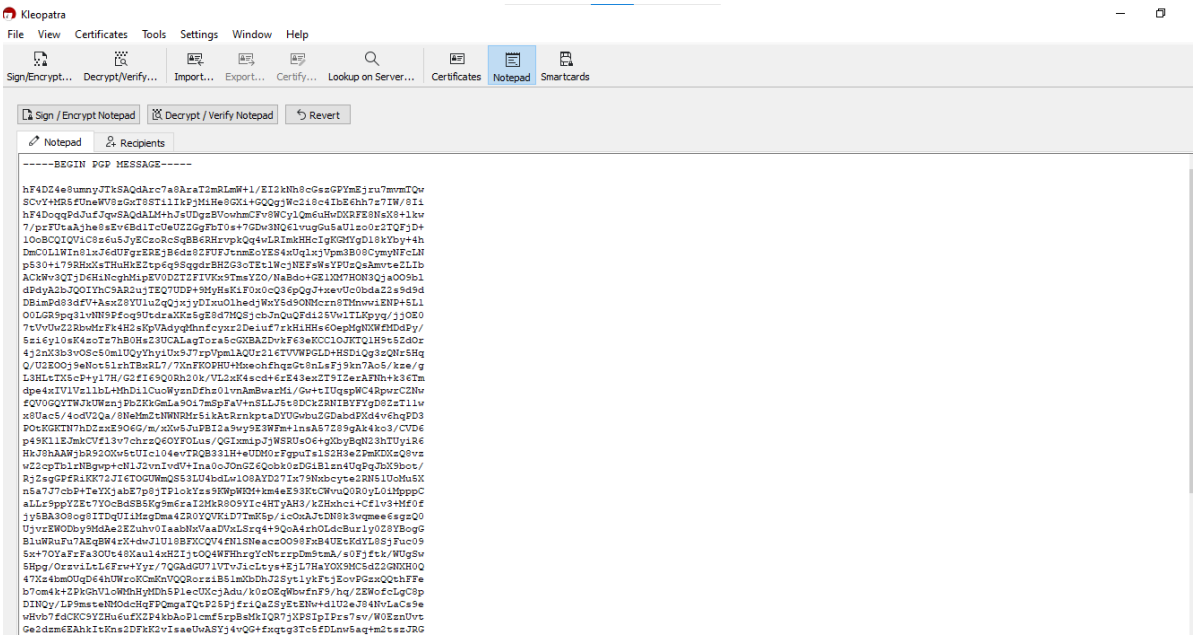


Step 6: Do the Same procedure for the Decryption



Output:

TASK : "ENCRYPT THE FILE WITH YOUR FRIENDS PUBLIC KEY and DECRYPT IT"


Kleopatra
File View Certificates Tools Settings Window Help
Sign/Encrypt... Decrypt/Verify... Import... Export... Certify... Lookup on Server... Certificates Notepad Smartcards
Sign / Encrypt Notepad
Decrypt / Verify Notepad
Revert
Notepad
Recipients
-----BEGIN PGP MESSAGE-----
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Kleopatra
File View Certificates Tools Settings Window Help
Sign/Encrypt... Decrypt/Verify... Import... Export... Certify... Lookup on Server... Certificates Notepad Smartcards
Sign / Encrypt Notepad
Decrypt / Verify Notepad
Revert
Notepad → Notepad:
Valid signature by rushiredji21@gmail.com
Show Audit Log
Close
Recipients:
Jeevan <jeevanmanjalvji@gmail.com> (9D60 D400 7EFC 330E)
Rushikesh <rushiredji21@gmail.com> (3AC2 E056 F665 B438)
Signature created on Thursday, October 13, 2022 2:35:58 PM
With certificate:
Rushikesh <rushiredji21@gmail.com> (3AC2 E056 F665 B438)
The signature is valid and the certificate's validity is fully trusted.
Notepad
Recipients
hello there