

# ***Using PGP Encryption***

## ***ProtonMail***

If you use [ProtonMail](#) then PGP encryption will be applied automatically.

You can sign up for a free [ProtonMail](#) account here <https://protonmail.com/signup>

All messages between ProtonMail users are automatically end-to-end encrypted.

Additionally, all messages in ProtonMail inboxes are protected with PGP encryption to prevent ProtonMail (or anyone else) from reading or sharing your emails, a concept known as [zero-access encryption](#).

**REFERENCE:** <https://protonmail.com/support/knowledge-base/how-to-use-pgp/>

## ***Gmail***

Gmail can use FlowCrypt and Mailvelope

I demonstrate how to use Mailvelope extension in the Yahoo tutorial

## ***Install FlowCrypt***

Using PGP with Gmail requires the use of a browser extension. Below I demonstrate how to set up FlowCrypt

Open the two links below to open Gmail and FlowCrypt home page. From there you can click the "Get <browser> Extension" button

**FLOWCRYPT HOME PAGE:** <https://flowcrypt.com/>

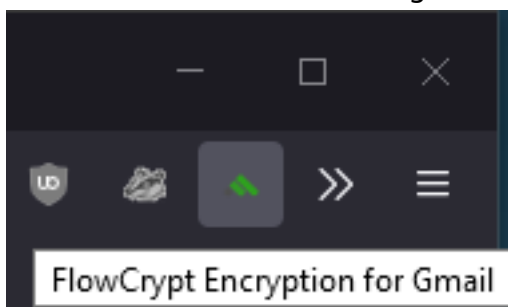
**GMAIL ACCOUNT:** <https://gmail.com>

# GMAIL ENCRYPTION IN 60 SECONDS


[Get Firefox Extension](#)

After the browser extension installs, you will be instructed to click the “**FlowCrypt**” extension in your browser.

This can be seen in the image below



You will then be asked to **Sign In** and click “**Allow**” in order to utilize FlowCrypt

 Sign in with Google



## FlowCrypt Browser Extension wants to access your Google Account



@gmail.com

This will allow **FlowCrypt Browser Extension** to:



View your email messages and settings



Manage drafts and send emails



### Make sure you trust FlowCrypt Browser Extension

You may be sharing sensitive info with this site or app. You can always see or remove access in your [Google Account](#).

Learn how Google helps you [share data safely](#).

See FlowCrypt Browser Extension's [Privacy Policy](#) and Terms of Service.

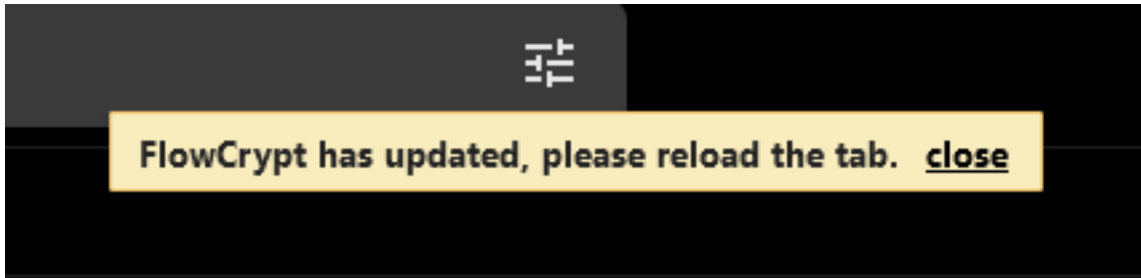
Cancel

Allow

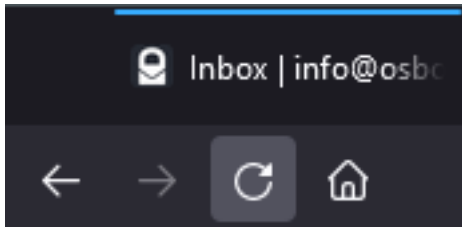
Click on or open your **Gmail** tab in your browser.



You will see the below message.



Click the "**Reload**" button in your browser to refresh the page.  
(Alternatively you can also press F5)



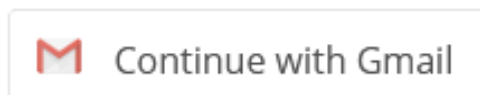
You will then see the below message. Click on the "**Set up FlowCrypt**" link in that message to get your instance set up.



Click "**Continue with Gmail**"

## Set up FlowCrypt

Your browser needs access to Gmail to help you send your first encrypted message.



Learn more about [webmail access security](#) and [privacy policy](#).

Using other email provider? [Let us know](#).

If you are asked to **Sign In** again do so.  
If you are asked to click "**Allow**" again do so.

A new page will load. Click the "**New Encryption Key**" button

## Set Up FlowCrypt



NEW ENCRYPTION KEY

IMPORT PRIVATE KEY

New to FlowCrypt?

Quick setup

Use your own PGP key

Manual setup

Set a strong password to protect your private key. Save that password in your password manager (Bitwarden, LastPass)

This password is used to protect your private PGP which does not get shared with anyone.

The password attempts to ensure only you can use the PGP key.

Leave the defaults selected to use the strongest available encryption, and to backup your private PGP key

Click "**Create and Save**"

# Set Up FlowCrypt



Choose pass phrase to protect your encrypted emails. [choosing secure pass phrases](#)

 show

**PERFECT** (time to crack: millennia)

 show

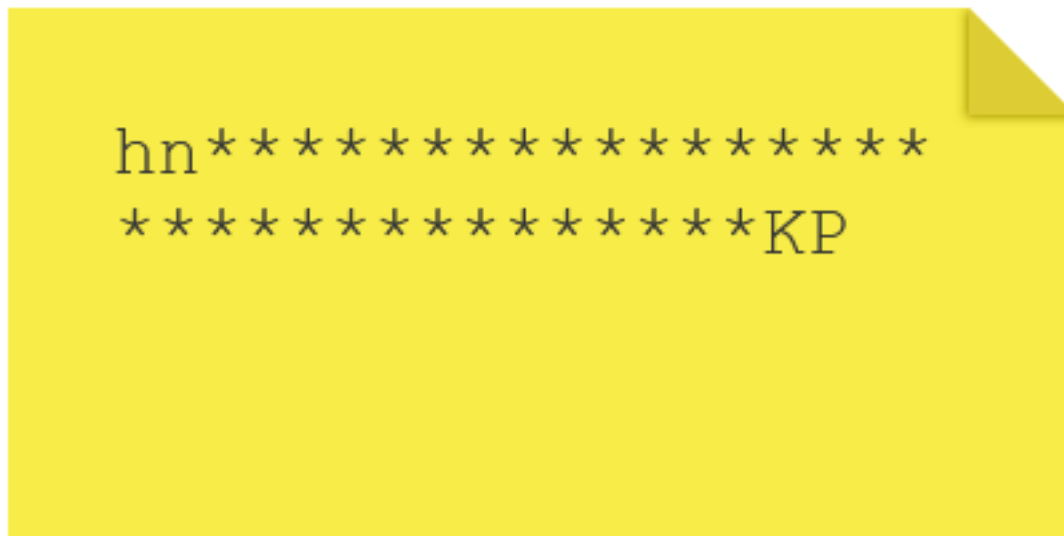
- Remember Pass Phrase after closing browser
- Back up encrypted private key in inbox (recommended)
- Submit corresponding pubkey to FlowCrypt Attester (recommended)

Encryption key type: ECC Curve25519 ▾

**CREATE AND SAVE**

You will then be prompted to verify you have your password saved somewhere. Check the box “**Yes, I wrote it down**” and click **OK** after saving your password to a password manager. **DO NOT** keep your passwords written on a post it note or some kind of ledger

Please write down your pass phrase and store it in safe place or even two. It is needed in order to access your FlowCrypt account.



Yes, I wrote it down

OK

You are now ready to start sending encrypted emails

You're all set!



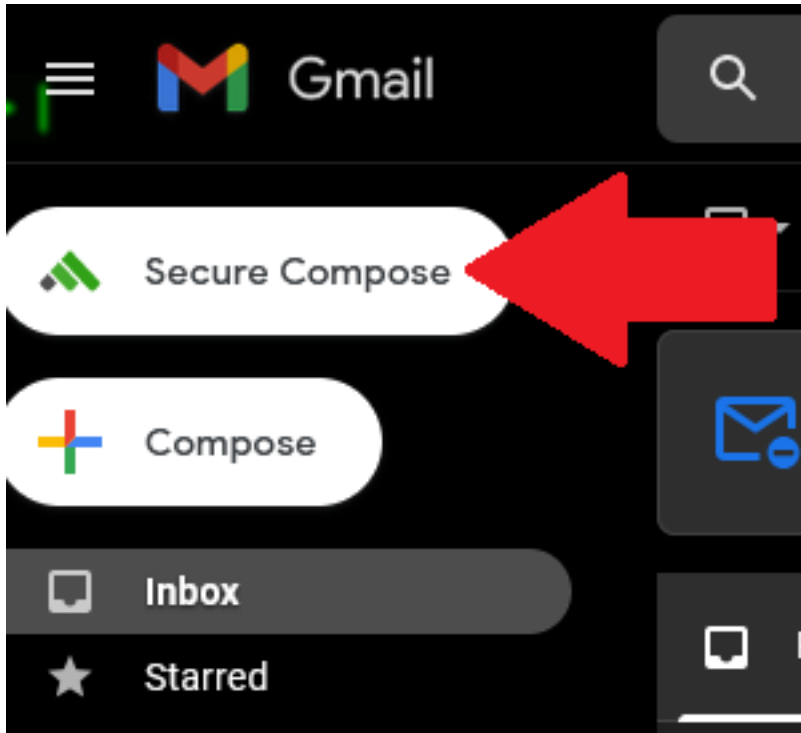
COMPOSE ENCRYPTED EMAIL

MORE SETTINGS

## ***Use FlowCrypt***

Click the **“Compose Encrypted Email”** button

This will open a new tab to your Gmail account.  
Click the "Secure Compose" button which is now available



Enter my email address "rosborne@osbornepro.com"

Notice my email is in gray. This means it is not encrypted yet.

You need to upload my public key first.

You can download my public key from any email I send you can copy and paste my public key from the link below

<https://raw.githubusercontent.com/OsbornePro/Documents/main/publickey%20-%20rosborne%40osbornepro.com%20-%20x072CAED3.asc>



New Signed Secure Message ? — ↔ ×

rosborne@osbornepro.com cc bcc


Example PGP Email + add intro

emails in grey don't use encryption  
[Add their Public Key](#) or ask them to get FlowCrypt.  
Or send email password protected:

**Encrypt, Sign and Send** ^ 📎 Saved 📄 🗑️

Once you have copied my public key you need to upload it to FlowCrypt so it associates with my email address

Click **"Add their Public Key"**

emails in grey don't use encryption  
[Add their Public Key](#)  get FlowCrypt. ?  
Or send email password protected:

You can then **paste** in the value from <https://raw.githubusercontent.com/OsbornePro/Documents/main/publickey%20-%20rosborne%40osbornepro.com%20-%200x072CAED3.asc>

```
-----BEGIN PGP PUBLIC KEY BLOCK-----  
Version: OpenPGP.js v4.10.10  
Comment: https://openpgpjs.org  
  
xjMEXLLLZhYJKwYBBAHaRw8BAQdAM2OUvrZTFmG3T7mquJ4+/ctzbM29etJi  
SjLgrhQ6LjTNMyJyb3Nib3JuZUBvc2JvcmlcHJvLmNvbSIgPHJvc2Jvcml5  
QG9zYm9ybmVwcm8uY29tPsJ3BBAWcGafBQJcsstmBgsJBwgDagQVCAoCAxYC  
AQIZAQIbAwIeAQAKCRC14wbX2J0twC4wAP9dk6Qkm56U9Z6KFngpNCRy2FD/  
yyrE/bf4fUcETSrz5wD+KqXFtLw68SCbLEJocSemWvWLBgsfbeYIyHwt7mBJ  
twX00ARcsstmEgorBgEEAZdVAQUBAQdAc9sY+5/CcH4bgxLyKA2pQaWoqe3m  
nB0cpd9Va3oiDksDAQgHwmEEGBYIAAkFAllyyy2YCGwwACgkQpeMG19iTrcCz  
tQD/cVsCbyShMQuAweLaZ3tmakA+VgcGGbSRfm8F4SLrDx8BAPKLSxmW116g  
WxxaVAaspsZhLvWwHZAOSKiRrSlgtW8H  
=MR9x  
-----END PGP PUBLIC KEY BLOCK-----
```

Or if you downloaded the file you can click the “**Load File**” button  
Click “**OK**” once completed

# Add a pubkey to email address

rosborne@osbornepro.com

Copy from Contact

or

LOAD FILE

or paste below:

```
-----BEGIN PGP PUBLIC KEY BLOCK-----  
Version: OpenPGP.js v4.10.10  
Comment: https://openpgpjs.org  
  
xjMEXLLL2hYJKwYBBAHaRw8BAQdAM2OUvr2TFmG3T7mquJ4+/ctsbM29etJi  
SjLgrhQ6LjTNMyJyb3Nib3Ju2UEvc2JvcM5lcHJvLmNvb3IqPHJvc2JvcM5l  
QG9zYm9ybmVvcM8uY29tPzJ3BBANCgAfeBQJcsstmEgsJBwgDAgQVCAoCAxYC  
AQIZAQIbAwIeAQAKRCRC14wbX2J0twC4wAP9dk6Qkm56U9Z6KFngpNCRy2FD/  
yyzE/bf4fUcET3rz5wD+KqXFtLw688CbLEJocSemWvW1BgsfbcYIyHWt7mBJ  
twXOORAcstmEgorBgEEA2dVAQUBAQdAc9sY+5/CcH4bgxLyKA2pQaWoqe3m  
nB0cpd9Va3oiDksDAQgHwmEEGBYIAAkFAlyyy2YCGwwACgkQpeMG19iTrcCz  
tQD/cVsCby3hMQuAweLa23tmakA+VgcGGbSRfm8F48LrDx8BAPkLxmw116g  
WxxaVAasps2hLvWWHzAOSKiRrS1gtW8H  
=MR9x  
-----END PGP PUBLIC KEY BLOCK-----
```

OK

SETTINGS

CLOSE

The recipient email address (rosborne@osbornepro.com) will now be green indicating it is PGP encrypted

rosborne@osbornepro.com

cc bcc

Example PGP Email

Hey OsbornePro

I am sending a PGP encrypted email to you!!!

**Encrypt, Sign and Send** ^



Saved



Click **“Encrypt Sign and Send”** to send the protected email  
I will then receive the End to End encrypted email that only you and I can read

## **Yahoo**

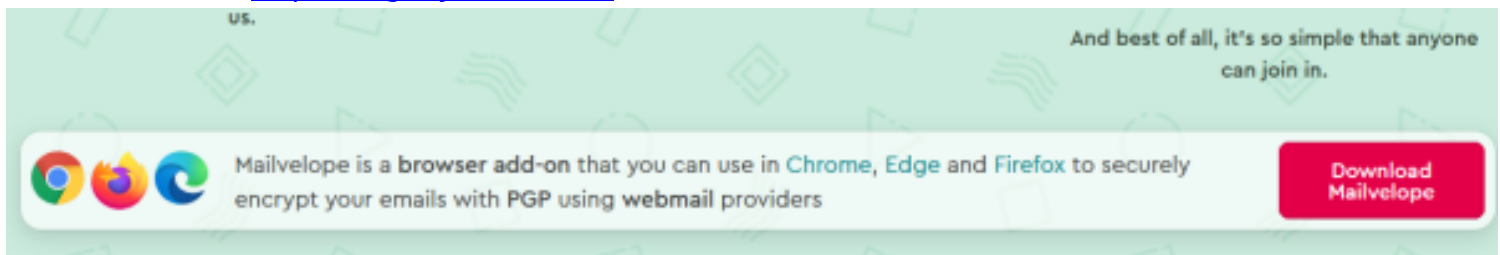
## **Install Mailvelope**

Using PGP with Yahoo requires the use of a browser extension. Below I demonstrate how to set up **Mailvelope**

Open the two links below to open Gmail and Mailvelope home page. From there you can click the “**Download Mailvelope**” button

**MAILVELOPE HOME PAGE:** <https://www.mailvelope.com>

**YAHOO LOGIN:** <https://login.yahoo.com/>



US. And best of all, it's so simple that anyone can join in.

Mailvelope is a browser add-on that you can use in **Chrome**, **Edge** and **Firefox** to securely encrypt your emails with PGP using webmail providers

Download Mailvelope

Click the “**Add to Firefox**” button or for Chrome “**Add to Chrome**”



# Mailvelope

by Mailvelope GmbH

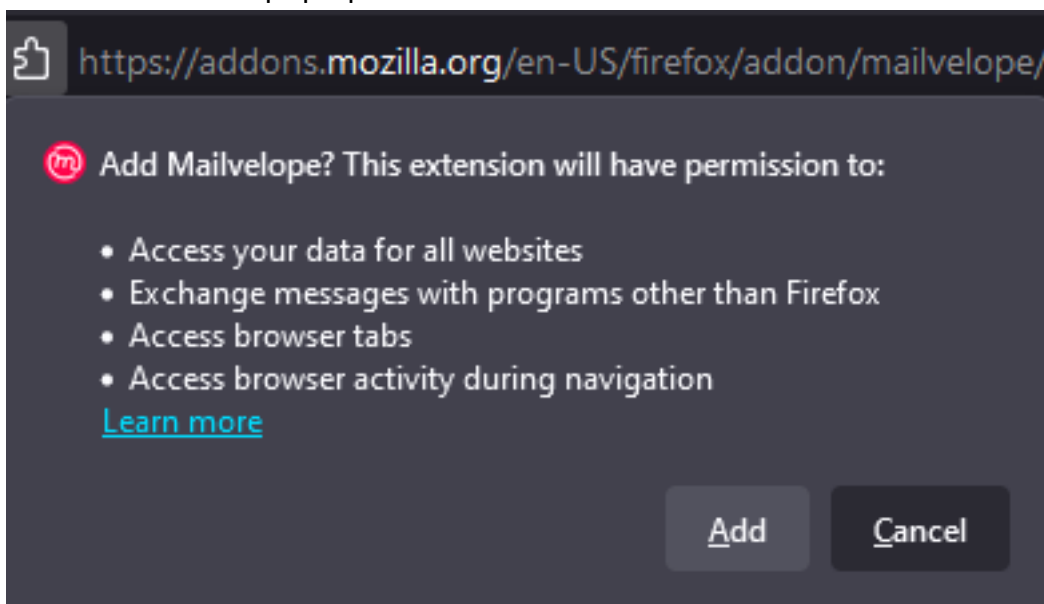
Enhance your webmail provider with end-to-end encryption. Secure email communication based on the OpenPGP standard.

Add to Firefox

⚠ This add-on is not actively monitored for security by Mozilla. Make sure you trust it before installing.

[Learn more](#)

Click “Add” in the pop up



<https://addons.mozilla.org/en-US/firefox/addon/mailvelope/>

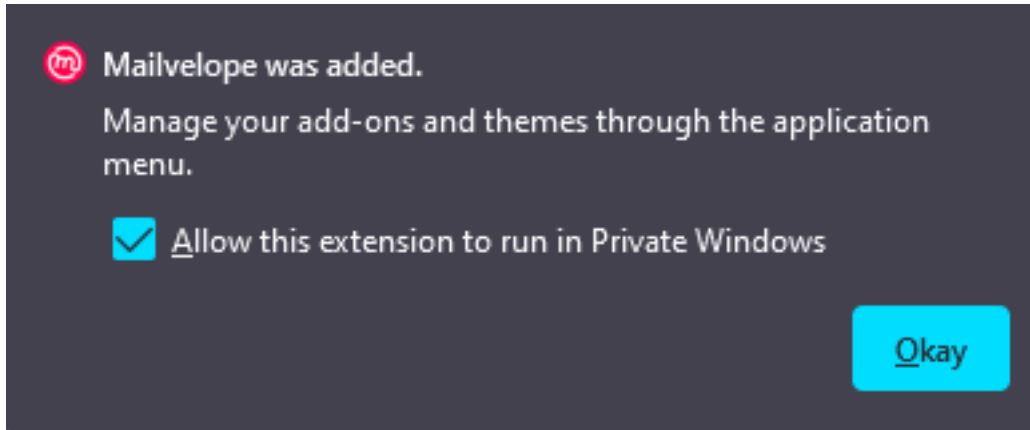
**m** Add Mailvelope? This extension will have permission to:

- Access your data for all websites
- Exchange messages with programs other than Firefox
- Access browser tabs
- Access browser activity during navigation

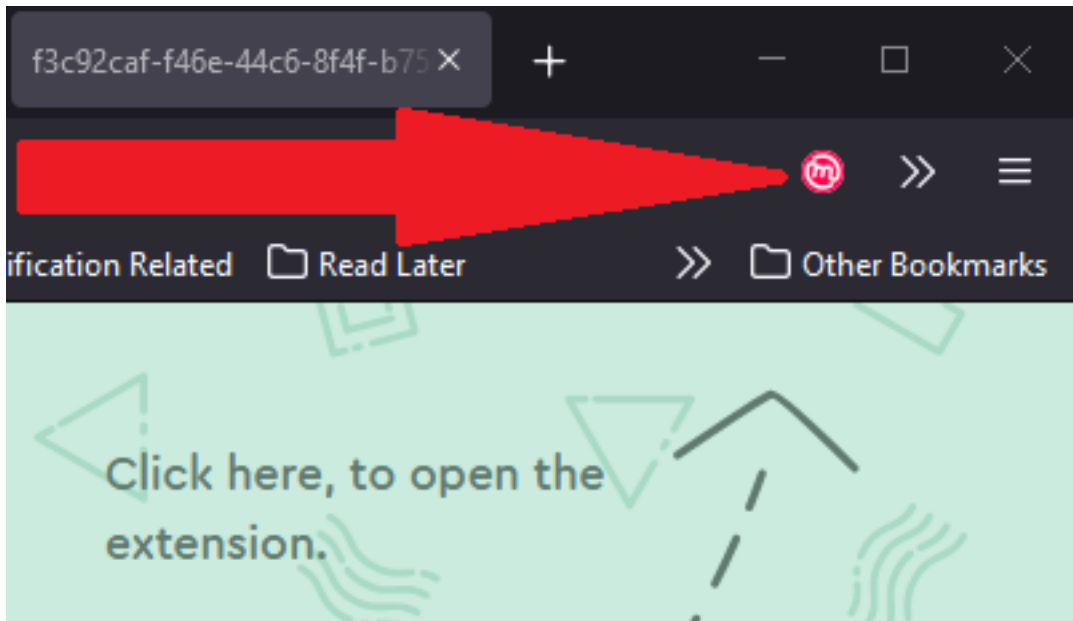
[Learn more](#)

Add Cancel

You can then choose to allow the extension in your In Private Sessions as well when you are using Firefox



Click on the Extension to open a window



And click "**Lets Start**"



Configure Mailvelope to get started!

[Let's start!](#)

Click **“Generate Key”**

## Setup

This keyring does not yet contain a key pair.

A key pair is required to encrypt and decrypt messages, as well as to invite your contacts to end-to-end encrypted communication.

### Generate key

If you're using this extension for the first time and if you do not have a key pair yet, please generate one now.

[Generate key](#)

### Import Key

Do you already have a key pair on another device? You can import your existing keys. Just export the key pair from the other device and then import them here.

[Import Key](#)

### GnuPG connection

See available settings at: [OpenPGP Preferences](#)

Enter your name in the “Name” area your “Email” in the email text box and define a password to protect your private key

Leave "Upload public key to Mailvelope Key Server" box checked. This is a normal thing to do with PGP public keys

If you click the "Advanced" drop down you are able to select your encryption method. RSA 4096 is used by default.

Either option you want to use is fine. ECC is more modern

<< **Advanced**

Algorithm

RSA

RSA

ECC - Curve25519 (experimental)

Key expiration date

*This key does not expire*

Click "Generate" to create your new key

< Key Management

## Generate Key

Generate

Name

John Smith

Full name of the key owner

Email

jsmith@yahoo.com

Advanced >>

Enter Password

\*\*\*\*\*

Re-enter Password

\*\*\*\*\*

Upload public key to Mailvelope Key Server (can be deleted at any time). [Learn more](#)



## Key generation in progress...



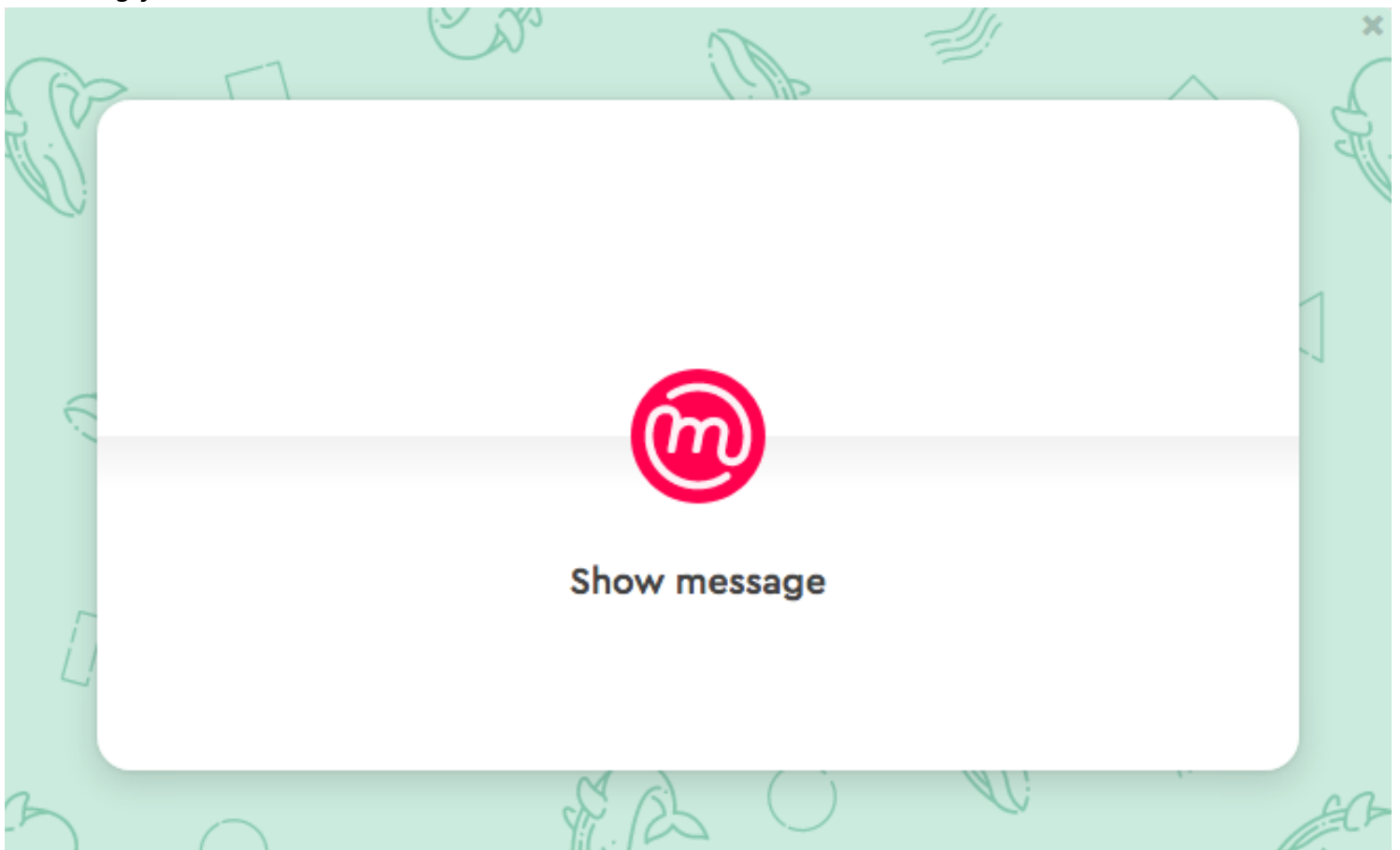
Please wait, key generation can take up to several minutes depending on various factors, such as the key size.

You now have your own PGP key!

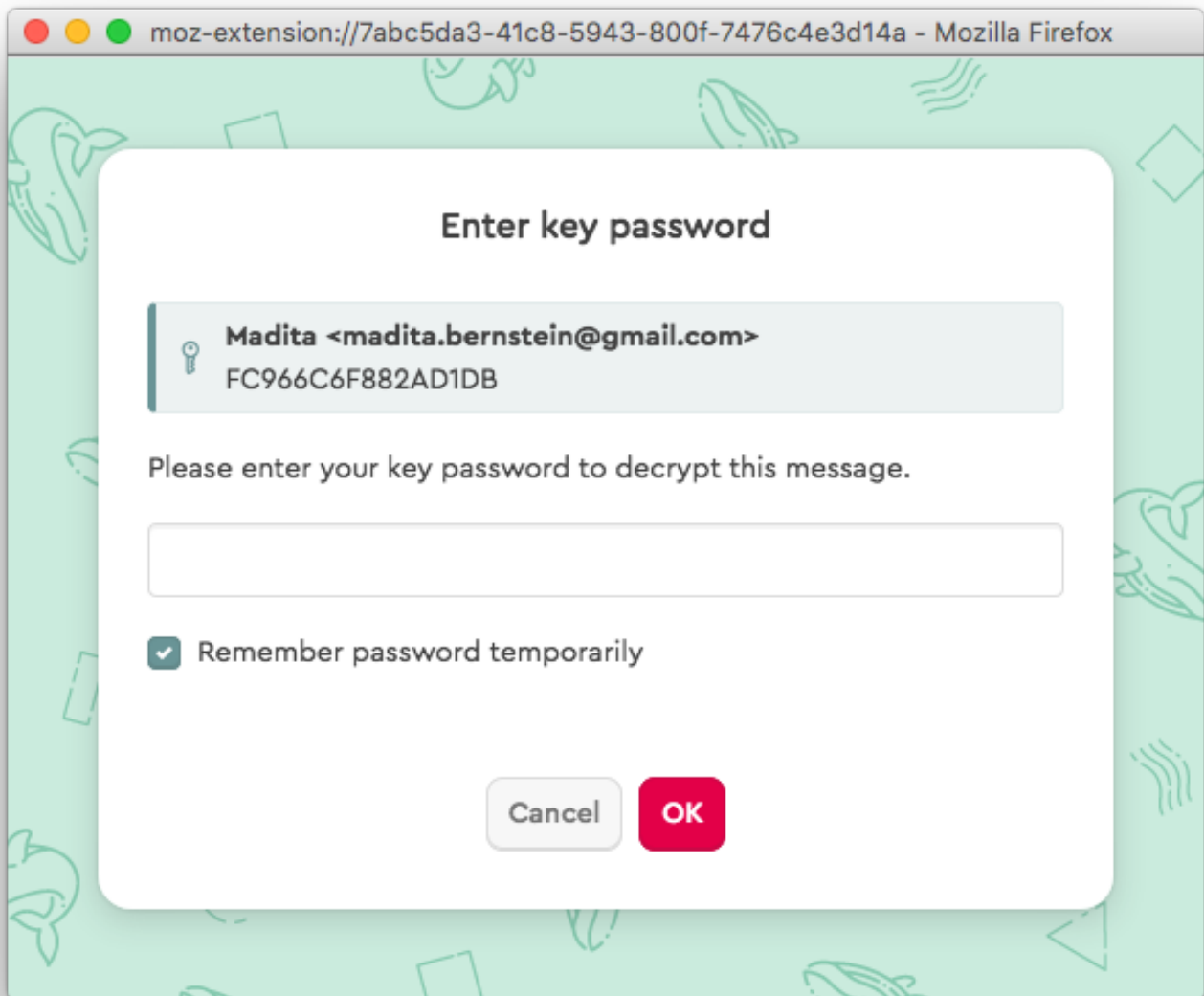
Now you have to verify the email address that you used on the Mailvelope key server so that other Mailvelope users can send you encrypted emails.

Log in to your Yahoo email account <https://login.yahoo.com/>. You should have a new email in your inbox from the Mailvelope key server.

Open the email. Mailvelope automatically recognizes the content as encrypted and marks it accordingly.



With the click of the symbol, decryption will begin. You only need to input the password that you created earlier.

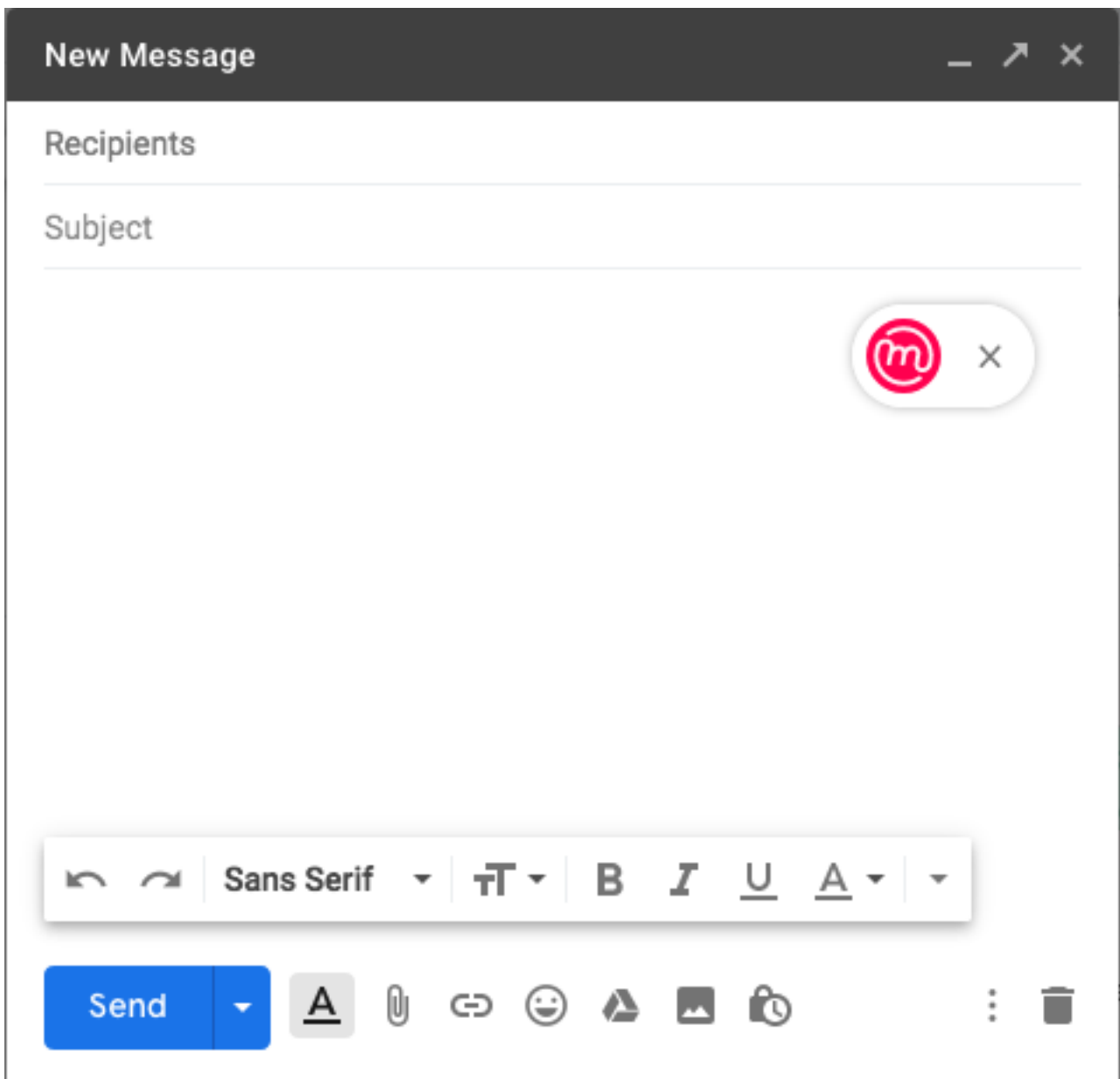


Click on the link in order to confirm your email address.

Your key is now verified and you decrypted an email. The procedure will be the same for all other emails that you receive in the future.

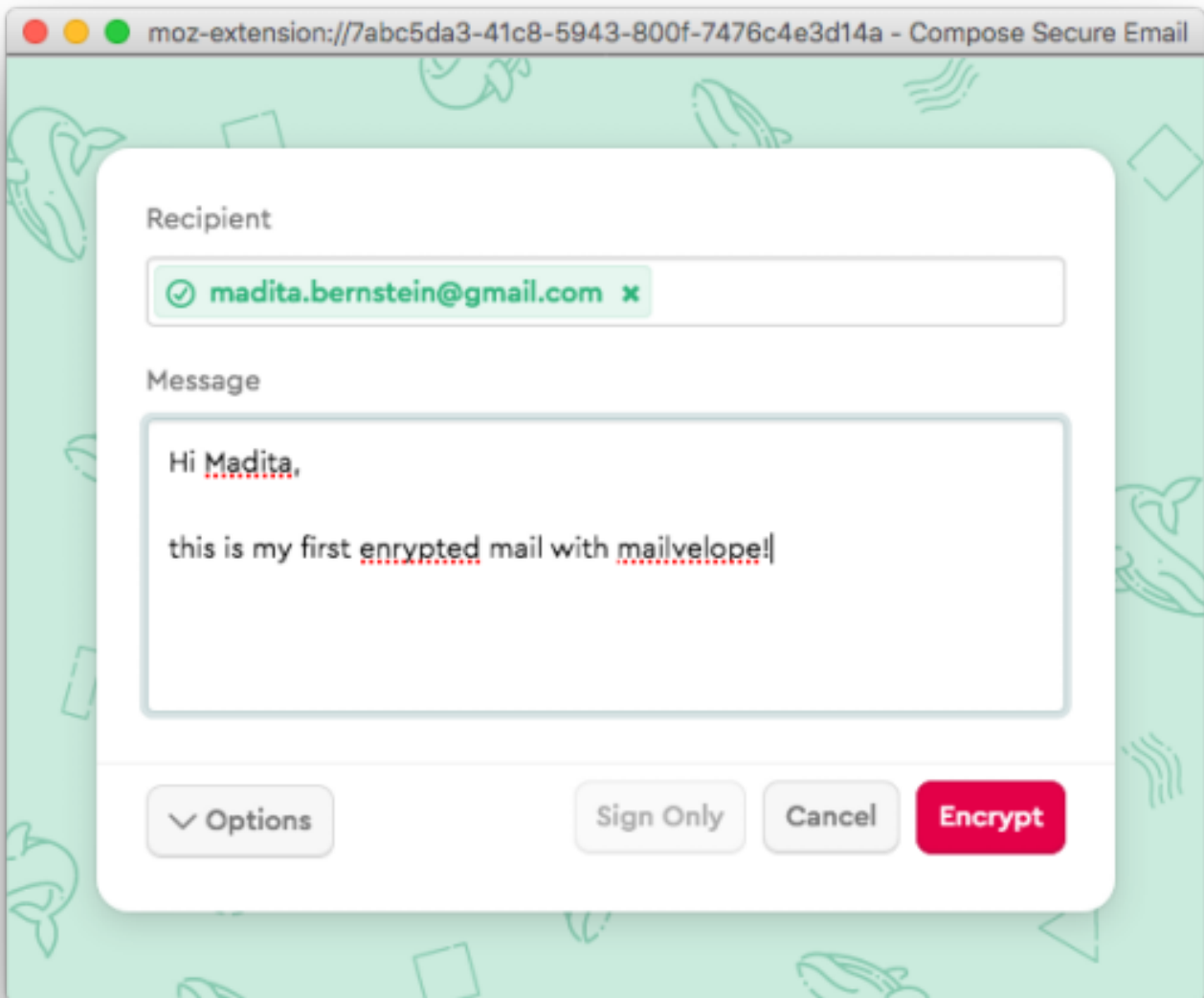
## ***Use Mailvelope***

Open a new email in Yahoo as usual.



Click the “**Mailvelope**” icon and click “**Compose your email**”





Click "**Encrypt**", the Mailvelope editor will close and you will be redirected to your Yahoo editor. If my email address is green it means that your email will be sent PGP encrypted. My public key has been uploaded to the Mailvelope PGP server at <https://keys.mailvelope.com/pks/lookup?op=get&search=rosborne@osbornepro.com>