

# Lab 3: Perform Email Encryption

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## Lab Scenario

Currently, the majority of businesses use email as their primary source of communication, as it is simple and easy to communicate or share information. Emails can contain sensitive information about an organization such as projects, upcoming news, and financial data, which, when accessed by the wrong person, can cause huge losses to the organization. One can protect emails containing sensitive information by encrypting them.

As a professional ethical hacker and penetration tester, you must have proper knowledge of encrypting email messages so that sensitive information sent through emails remain intact. This lab will demonstrate how to encrypt email messages using various email encryption tools.

## Lab Objectives

- Perform email encryption using RMail

## Overview of Email Encryption

Email encryption hides the email content from eavesdroppers by encrypting it into an unreadable form. Emails can be encrypted and decrypted by means of a digital signature mechanism that uses public and private keys: the public key is shared, while the private key is kept private.

There are numerous methods that can be employed for email encryption, including:

- **Digital Signature:** Uses asymmetric cryptography to simulate the security properties of a signature in digital, rather than written form
- **Secure Sockets Layer (SSL):** Uses RSA asymmetric (public key) encryption to encrypt data transferred over SSL connections
- **Transport Layer Security (TLS):** Uses a symmetric key for bulk encryption, an asymmetric key for authentication and key exchange, and message authentication codes for message integrity
- **Pretty Good Privacy (PGP):** Used to encrypt and decrypt data that provides authentication and cryptographic privacy
- **GNU Privacy Guard (GPG):** Software replacement of PGP and free implementation of the OpenPGP standard that is used to encrypt and decrypt data

## Task 1: Perform Email Encryption using RMail

RMail is an email security tool that provides open tracking, proof of delivery, email encryption, electronic signatures, large file transfer functionality, etc. RMail works seamlessly with users' existing email platforms, including Microsoft Outlook and Gmail, amongst others. Using this tool, you can encrypt sensitive emails and attachments for security or legal compliance.

Here, we will use the RMail tool to perform email encryption.

1. ☐ Click [Windows 11](#) to switch to the **Windows 11** machine.
2. ☐ Launch any web browser (here, **Mozilla Firefox**), Place the cursor in the address bar and click <https://www.rmail.com/free-trial/>, and press **Enter**.
3. ☐ The **RMail FREE TRIAL** webpage appears, click on **Apps** from the menu to navigate to the Apps page.

RMail Email Encryption | Get a F X

https://rmail.com/contact/rmail-trial

RMail™

Show Us Your Stars Why Go With Us Conference Center Customer Hub

About RPost | Products | Solutions | Success Stories | Insights | Pricing | **Apps** | Support

**START FREE** Call | Demo Login

Start Using RMail Free Forever  
Track, Prove, Sign, Encrypt, and More.

No credit card required

Works with any email address

We're here for you. Contact us today.

\*Required Field

First Name \*

Last Name \*

Email \*

Phone \*

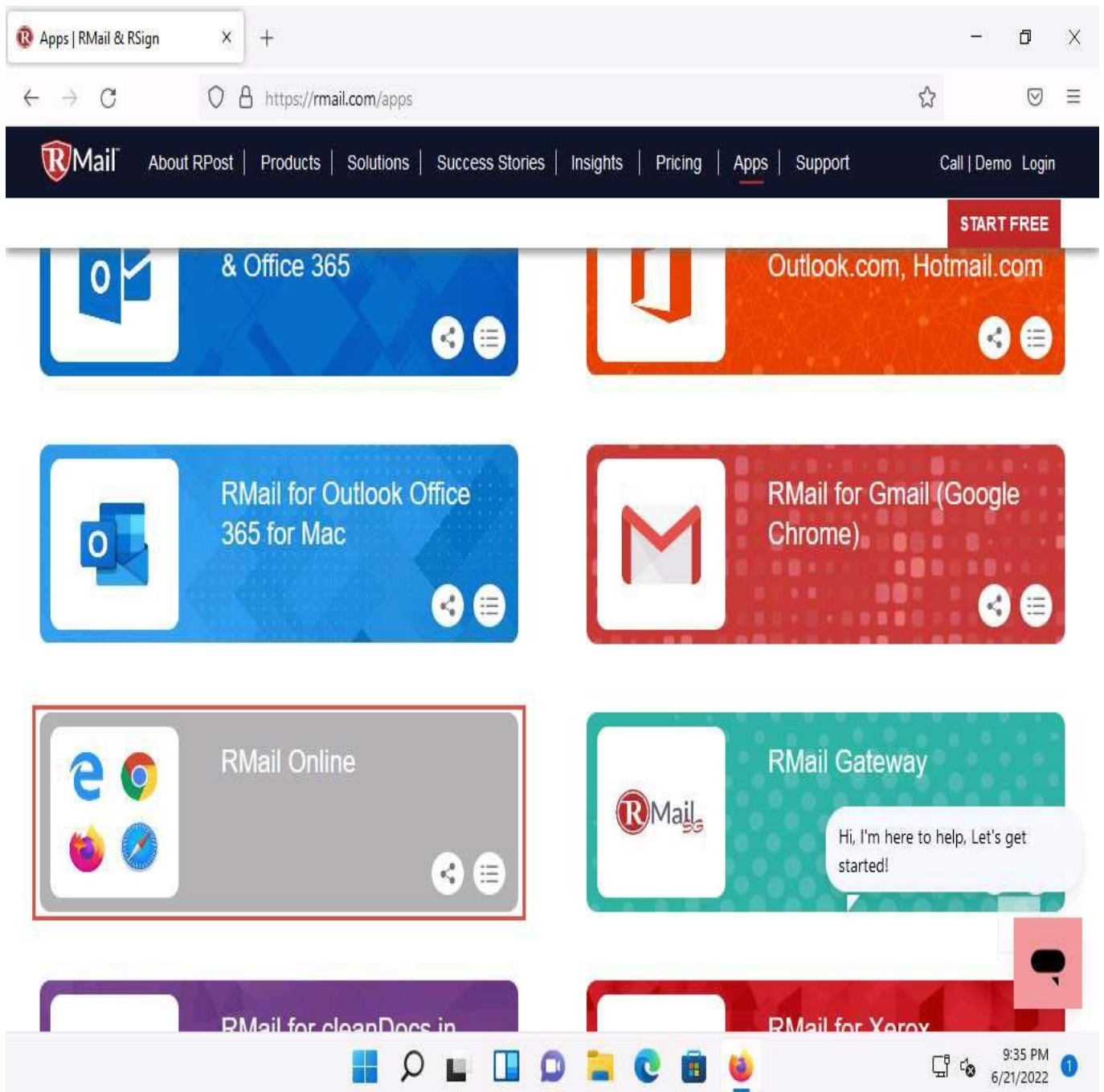
Country \*

Job Title \*

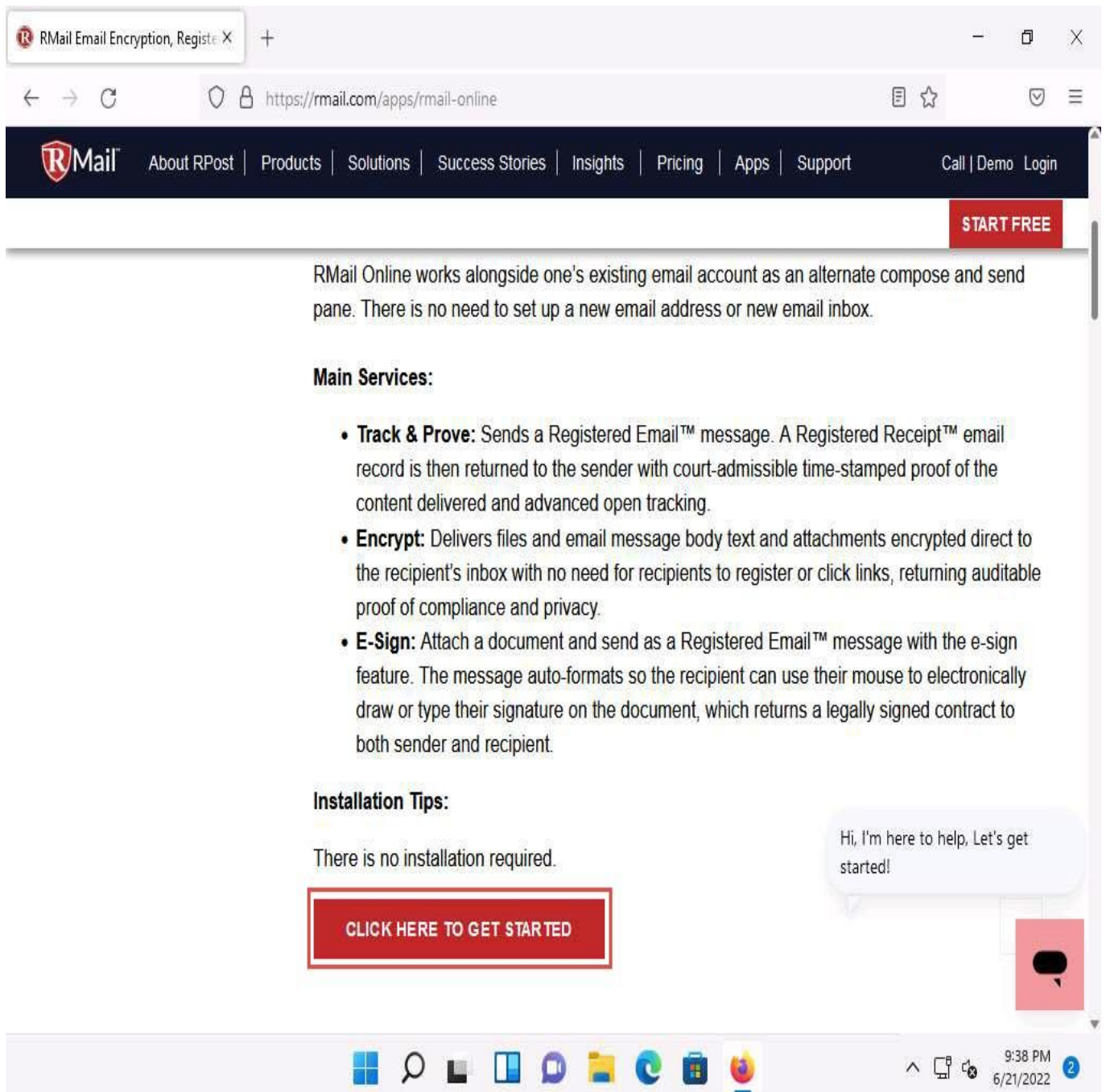
Hi, I'm here to help. Let's get started!

9:32 PM  
6/21/2022

4. ☐ In the **Get Started with Rmail. Select an App** page scroll down and select **RMail Online**.

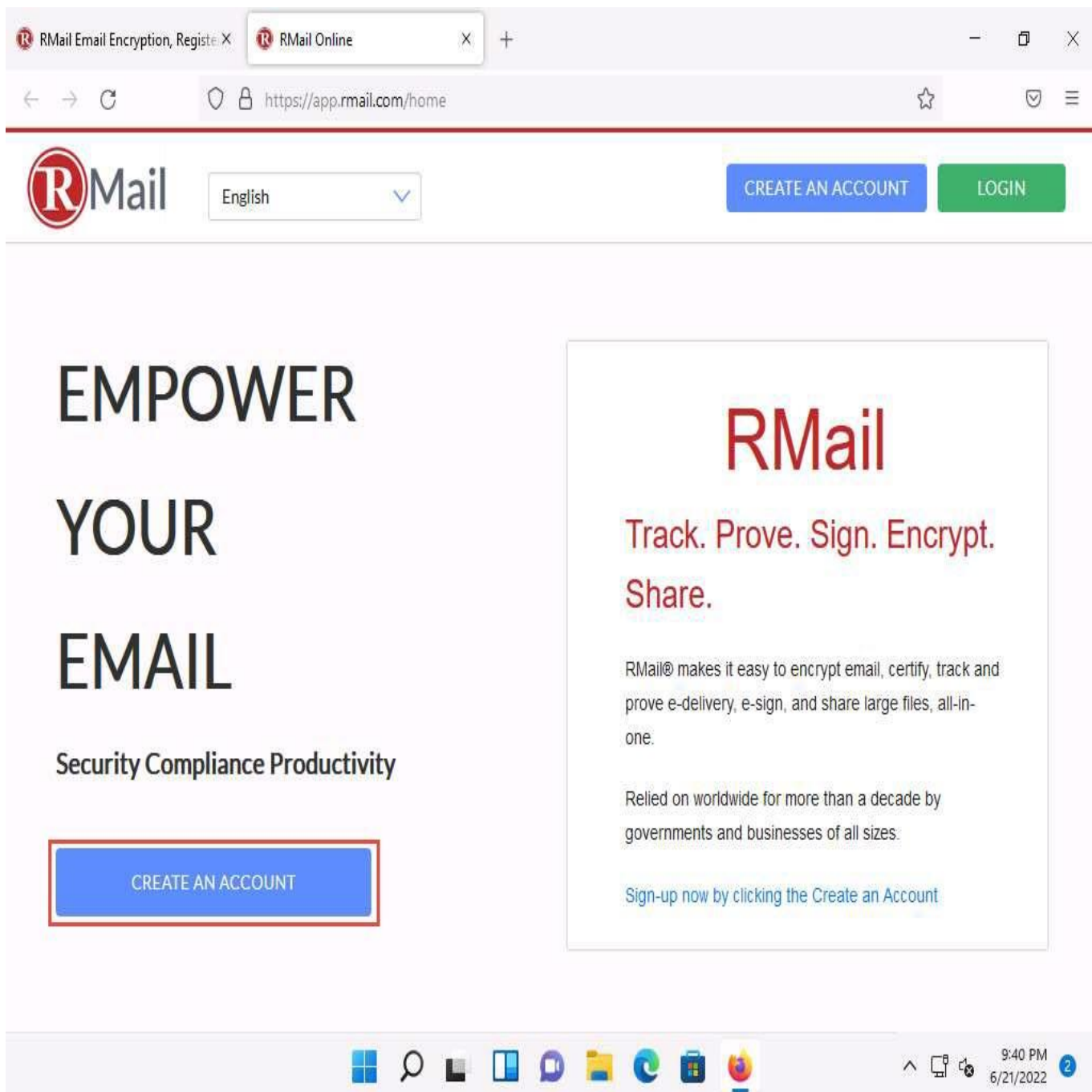


5. ☐ The **Rmail Online for Desktop & Mobile Browsers** window appears, scroll down and click on **CLICK HERE TO GET STARTED**.

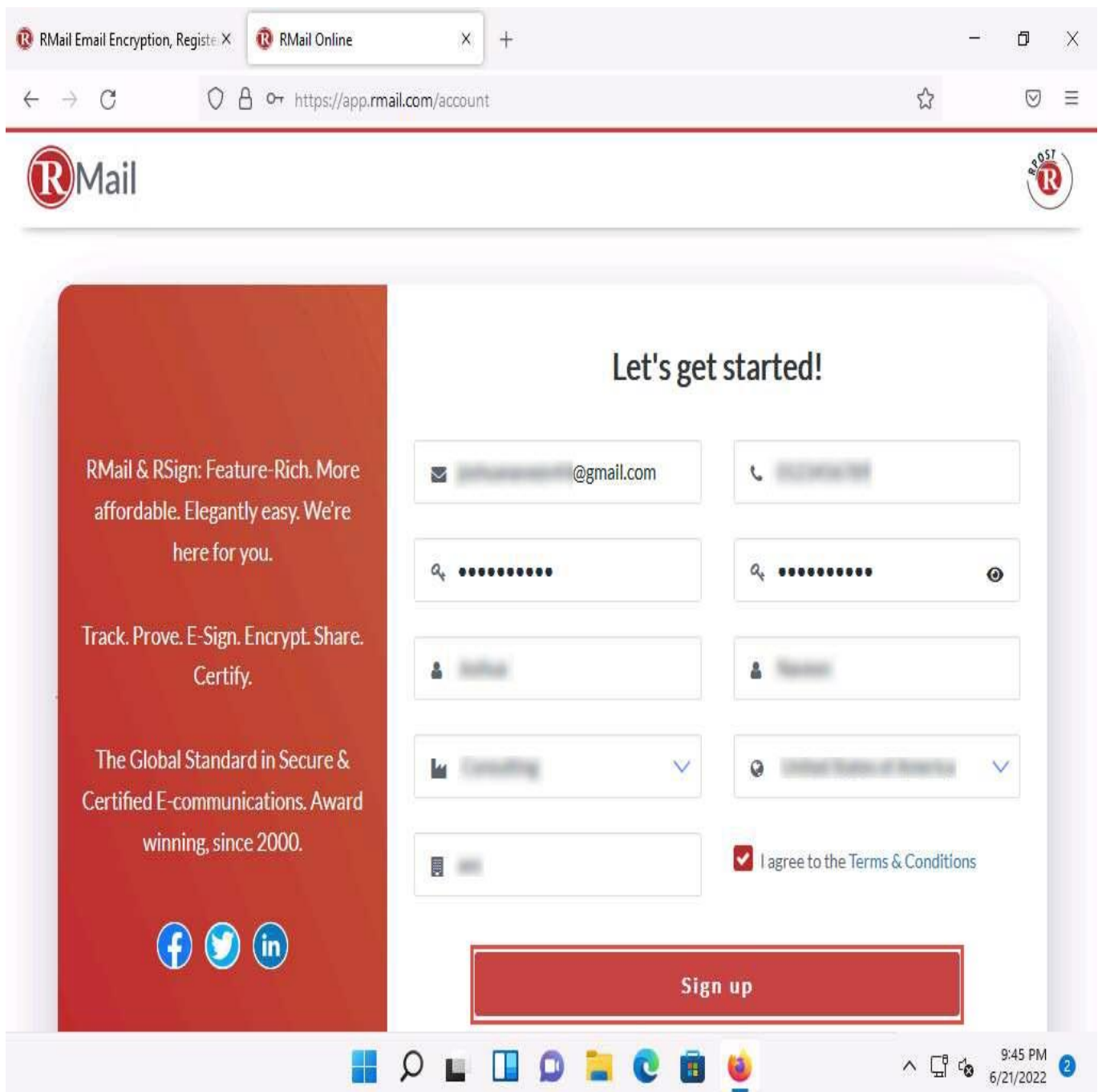


6. ☐ The **RMail** webpage appears, click on **CREATE AN ACCOUNT**.

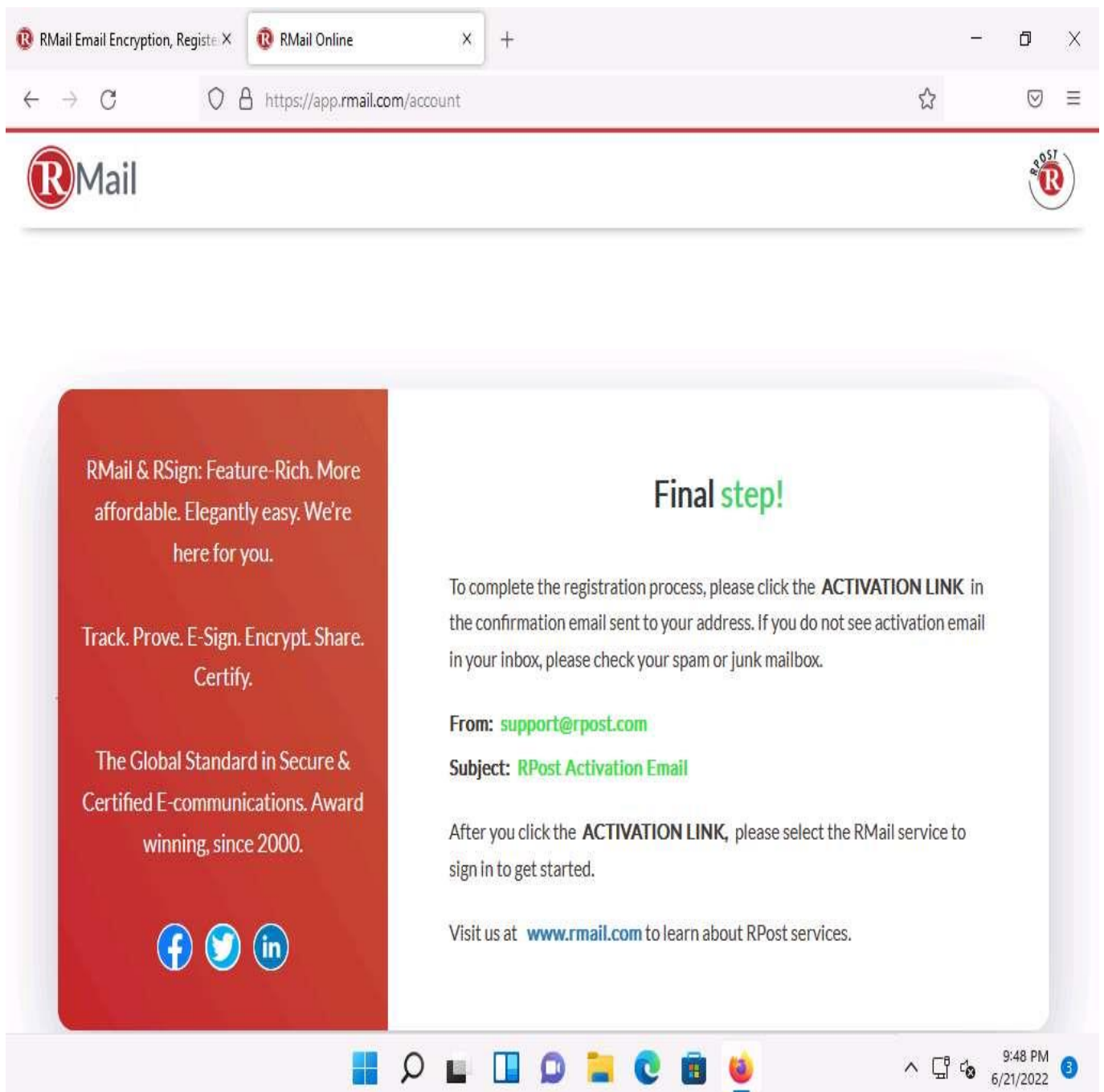




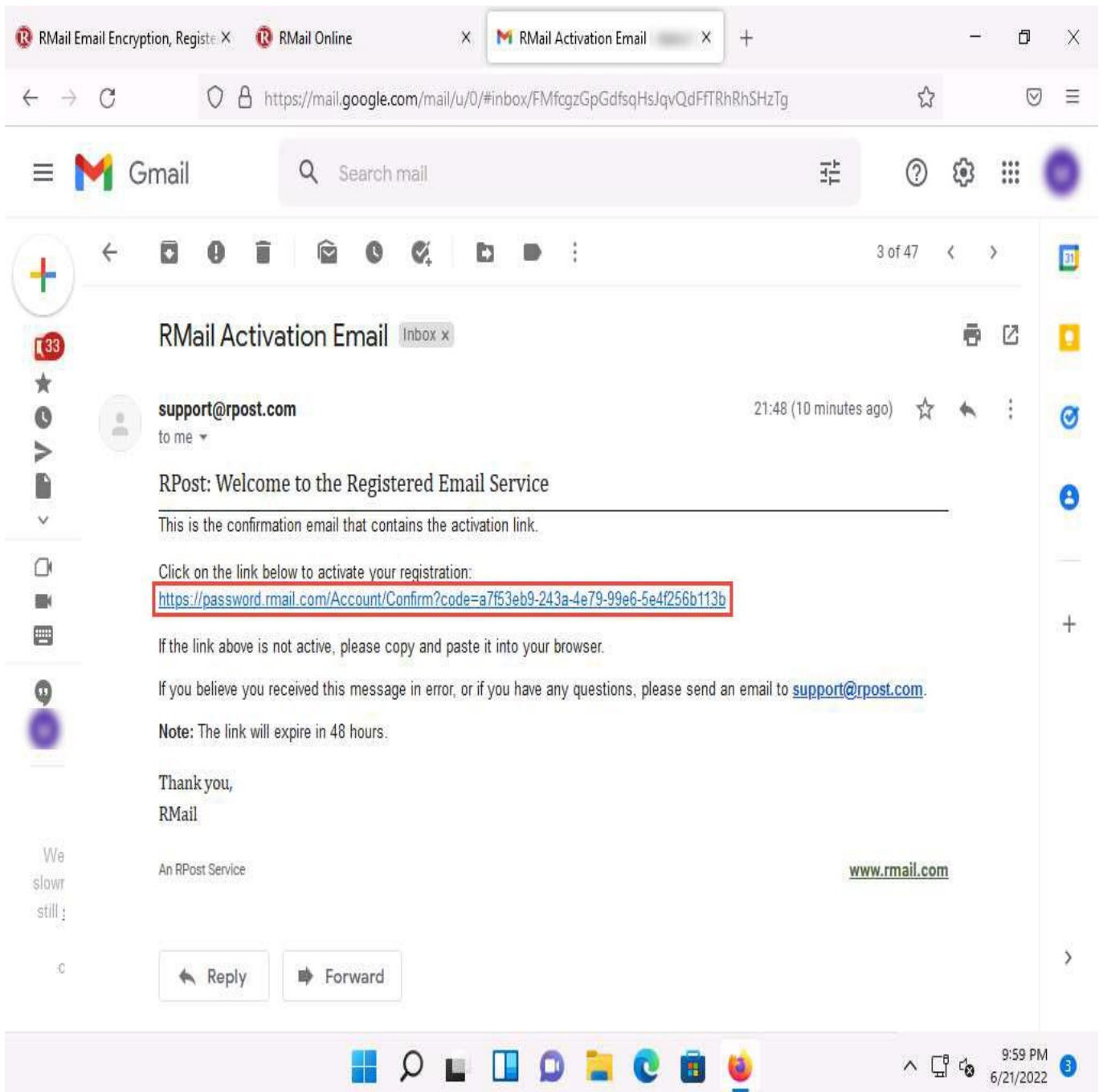
7. ☐ **Let's get started!** page appears, as well as the registration form. Fill in the required personal details and click on **Sign up**.



8. ☐ **Final step!** page appears displaying that the activation link has been sent to the registered email address.



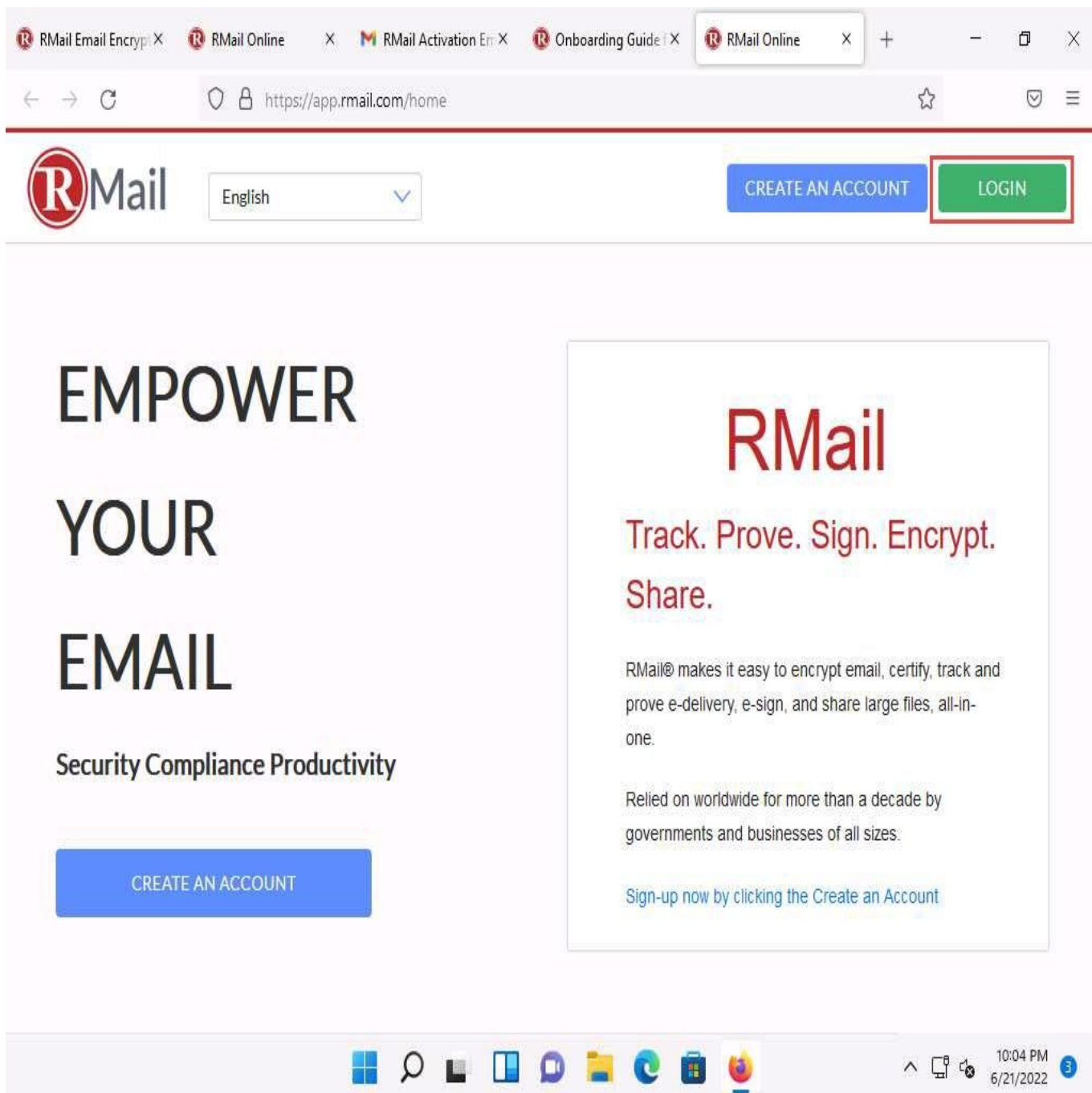
9. ☐ Now, open a new tab in the browser and open the **Gmail** account which you have used to create the RMail account.
10. ☐ Open the email from **support@rpost.com** and click the activation link to activate the account.



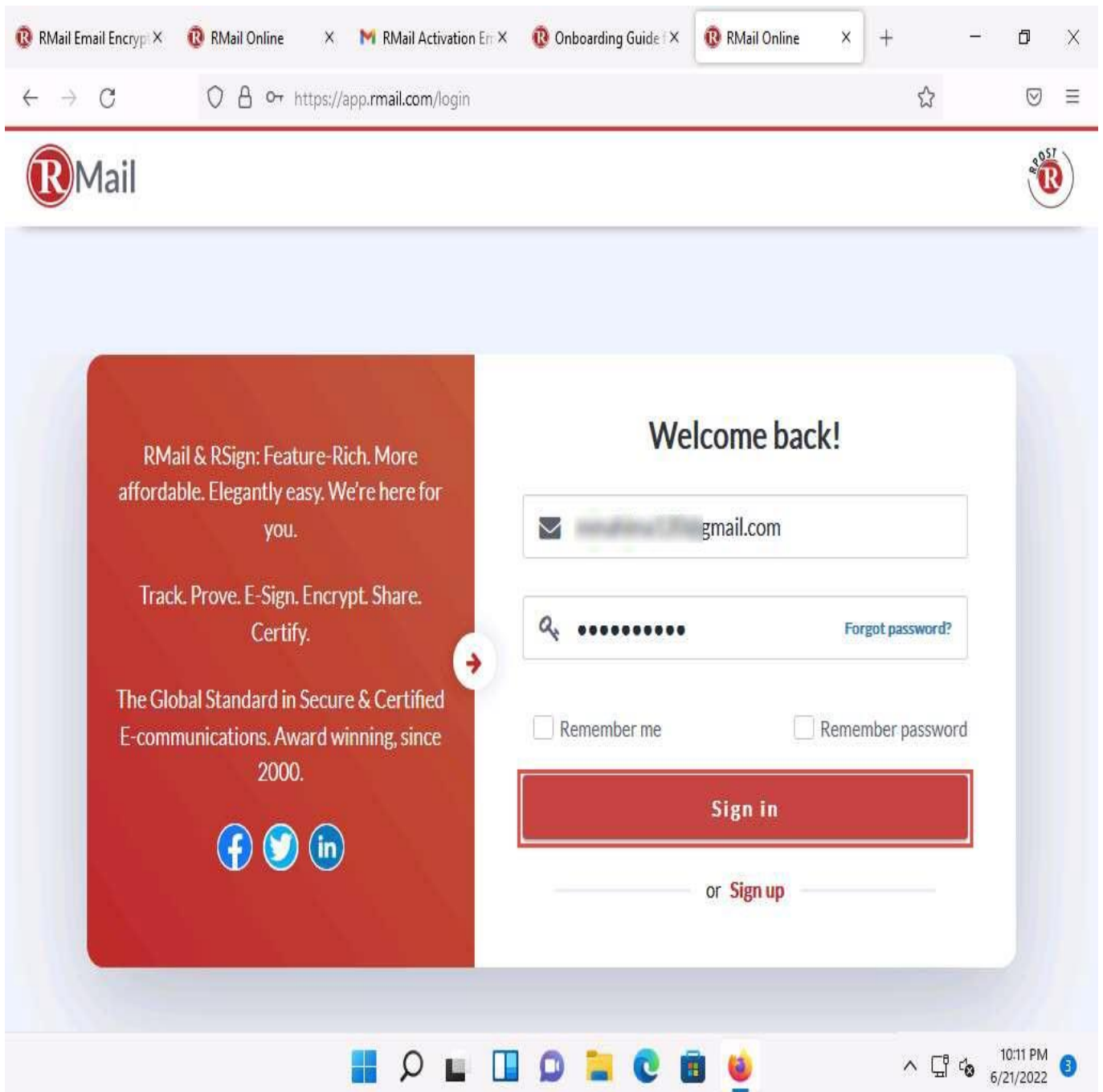
11. ☐ **support.rpost.com** page appears, scroll down and click on **https://app.rmail.com/** link.



12. ☐ The **app.rmail.com** page appears, click on **LOGIN** at the top right corner of the web page.



13. ☐ In the **Welcome back!** page, enter the email address and password that was used during registration and click on **Sign in**.



14. ☐ The RMail Online page appears, in the **To** field enter the recipient address. Ensure that **Marked as** is selected under **Track & Prove** section in the right-pane. Check the **Encrypt - select primary receiving experience** option and ensure that the **Transmission-auto-decrypts for receiver** radio button is selected. Ensure that **E-Sign - send for signature** check-box is checked, and **Web Sign** radio button is selected.

From: [redacted]@gmail.com ☐ Copy Me more\_vert

To: [redacted]@gmail.com

Cc:

Bcc:

Subject:

Sans Serif Normal B I U Text Color Background Color Bulleted List Numbered List Indent Link Image

Enter message here

**Track & Prove**

☐ Marked as

☐ Unmarked

☒ **Encrypt - select primary receiving experience**

☐ **Transmission - auto-decrypts for receiver**

☐ Message Level - decrypts with password

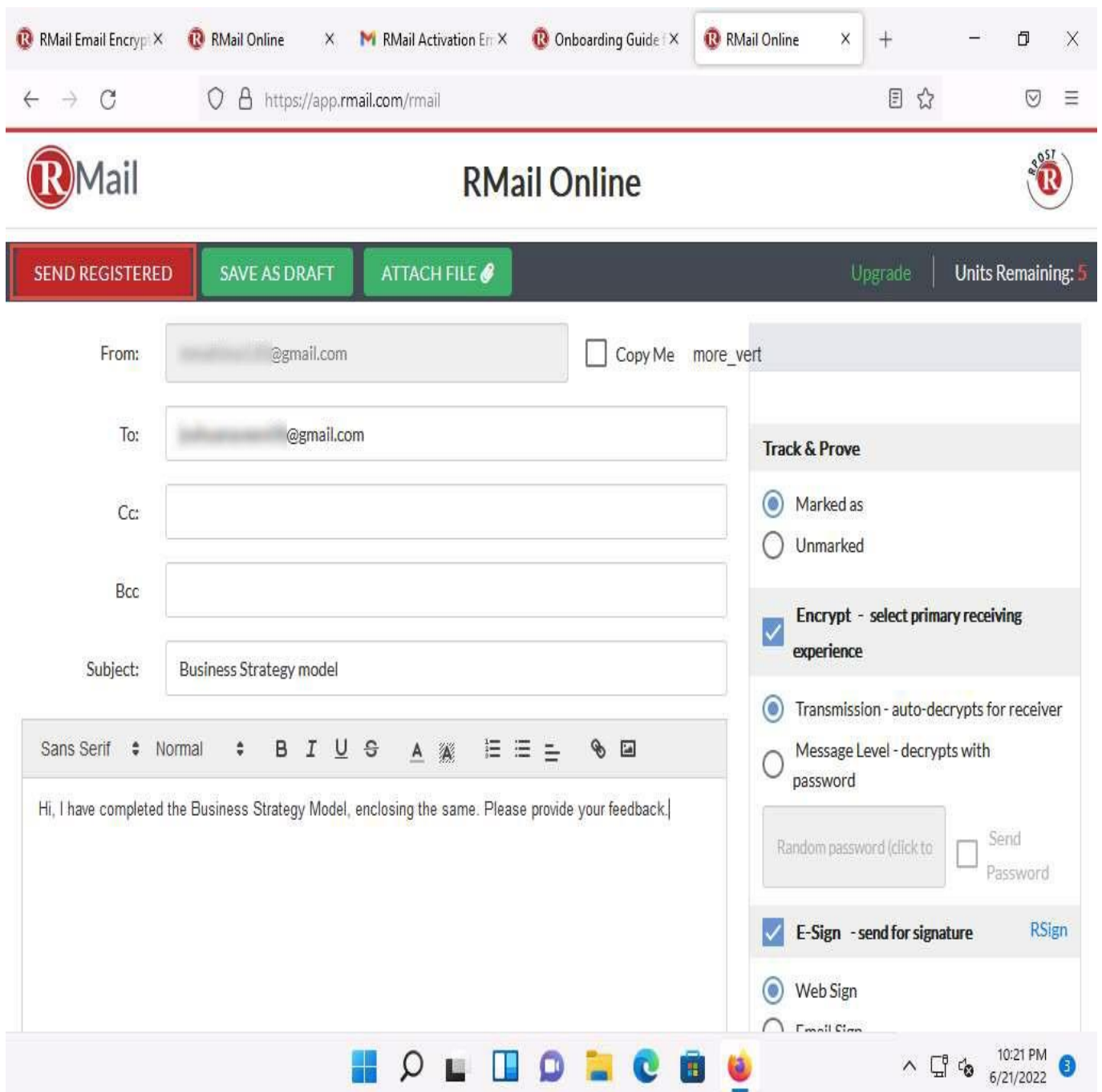
Random password (click to) ☐ Send Password

☒ **E-Sign - send for signature** RSign

☐ Web Sign

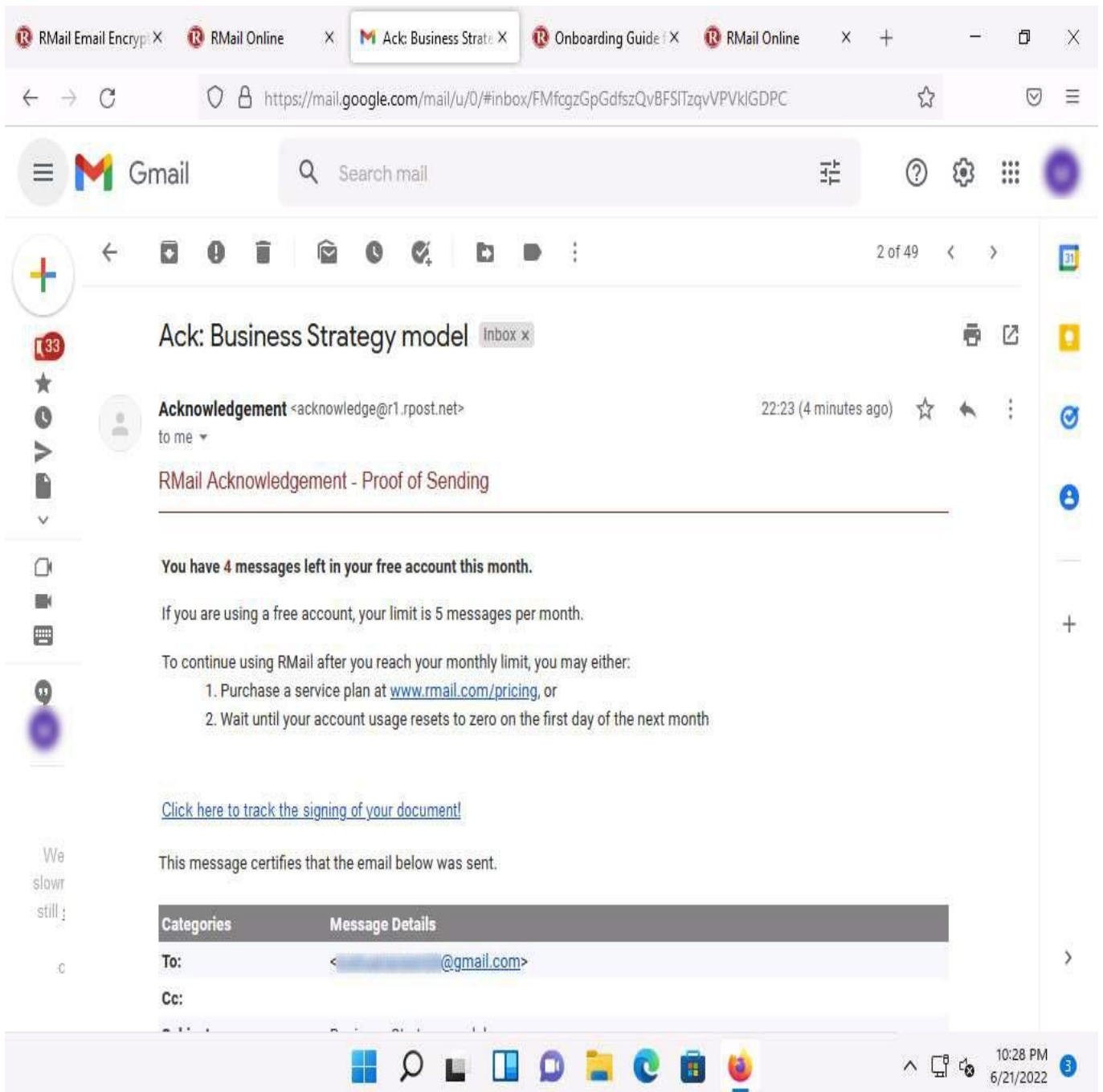
☐ Email Sign

15. ☐ After selecting the options, enter a message to be sent to the recipient, and click on **SEND REGISTERED** button.

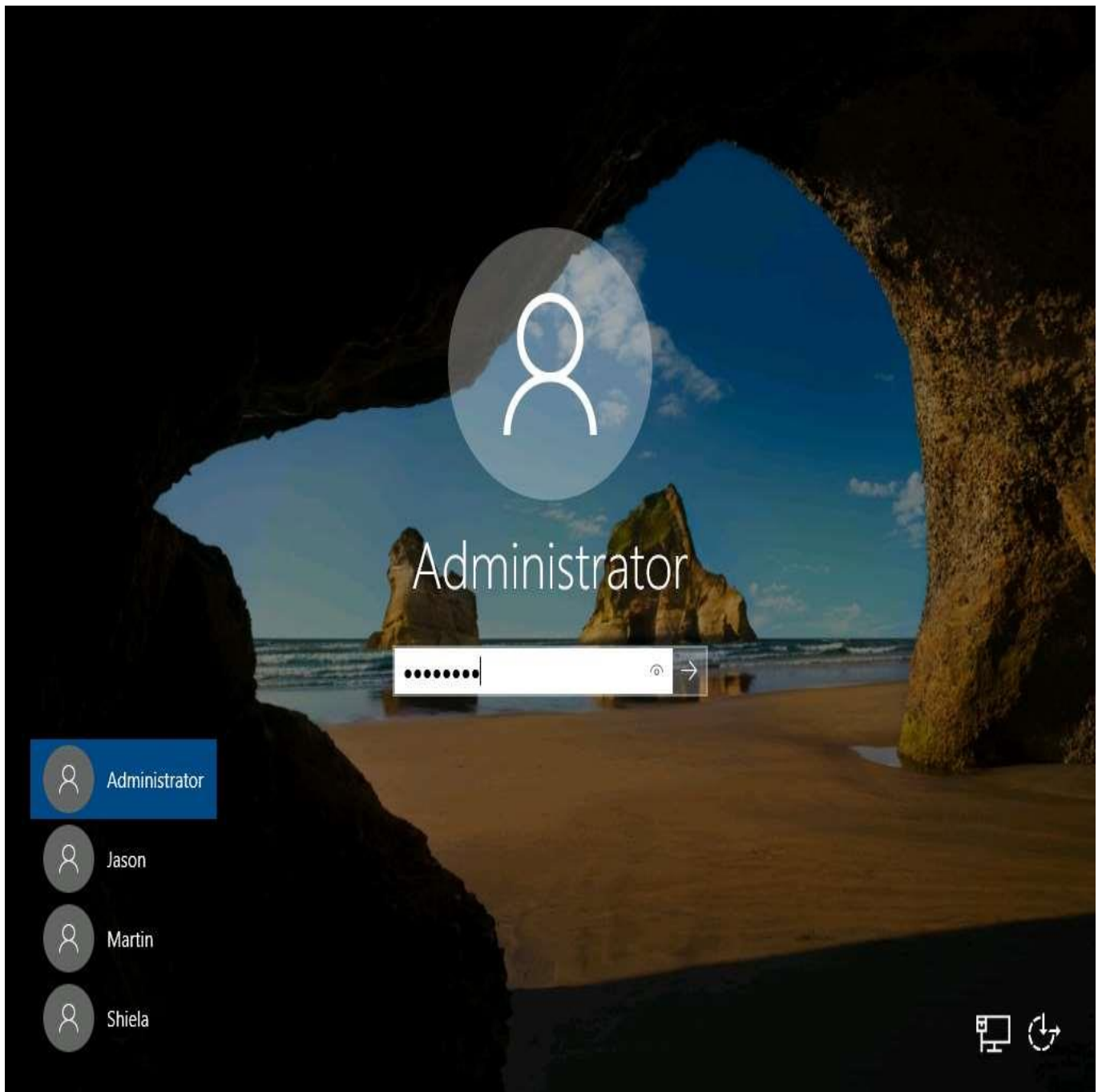


16. ☐ Upon clicking **SEND REGISTERED** button, **Email Sent** pop-up appears.
17. ☐ Now, navigate to the tab in which Gmail account that was opened previously, you can observe an **Acknowledgement** email with **Proof of Sending**.





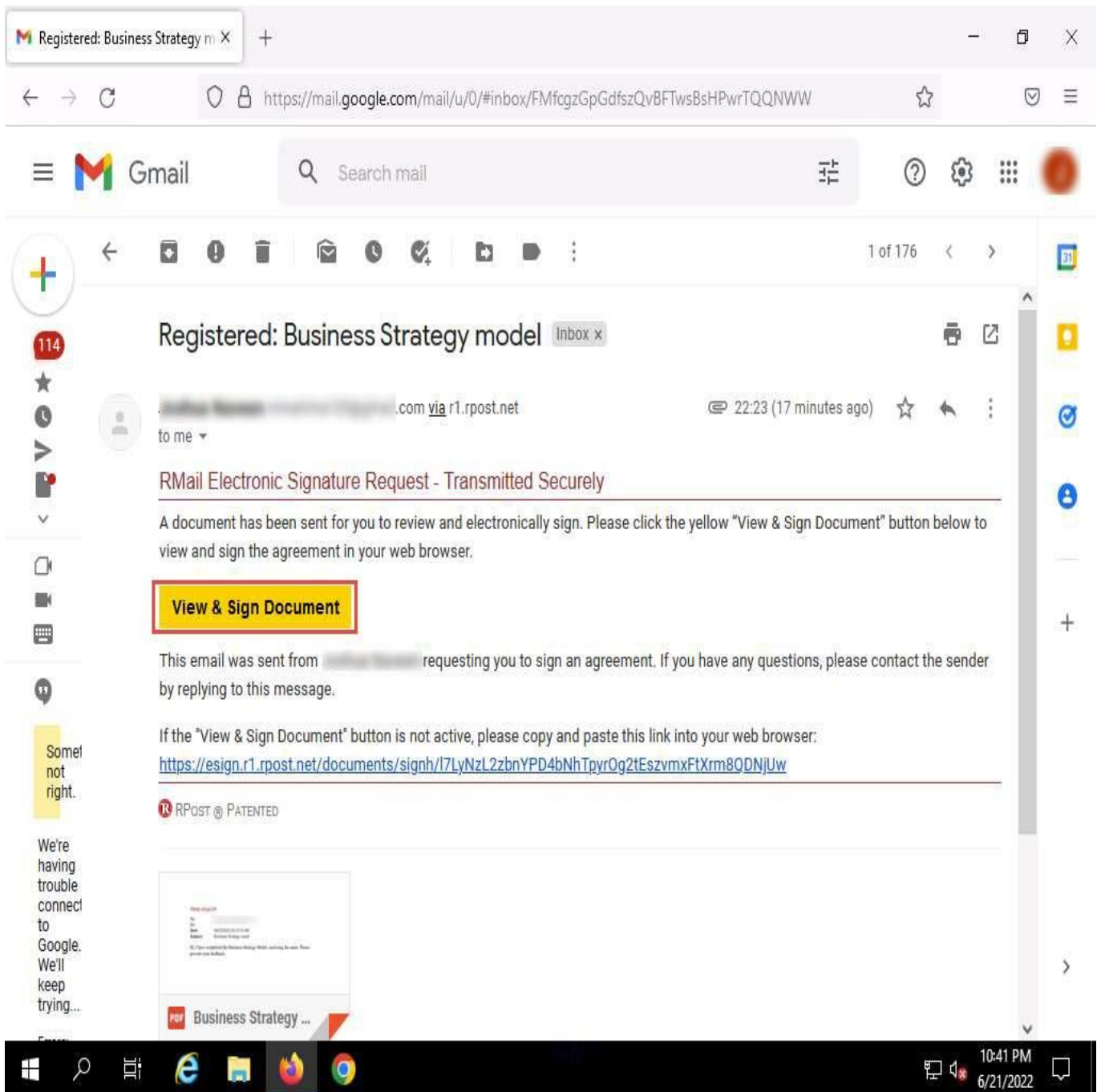
18. ☐ In this task, for the purpose of demonstration, we will open the recipient's account and view the email.
19. ☐ To do so, click on [Windows Server 2019](#) to switch to the **Windows Server 2019**, click [Ctrl+Alt+Delete](#) to activate the machine. By default, **Administrator** profile is selected, click on [Pa\\$\\$wOrd](#) to enter password in the password field and press **Enter** to login.



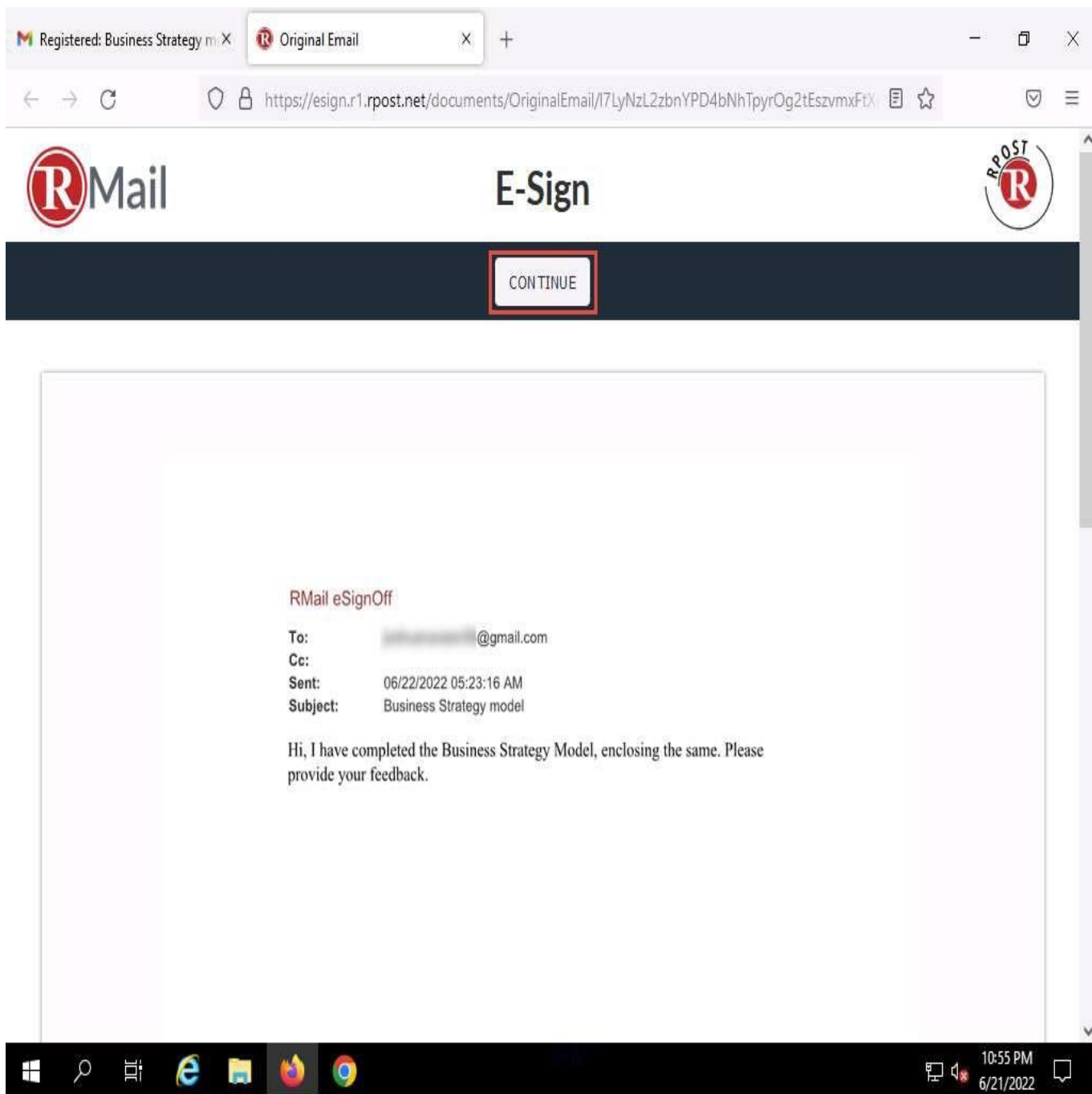
20. ☐ Open any web browser (here, **Mozilla Firefox**) and log in to the **Gmail** account of the recipient. Open the email from the sender.
21. ☐ You can observe that the email received is tagged as a registered email wherein a document has been sent for the recipient to review and electronically sign to confirm his/her identity.

You might receive an email in the spam folder.

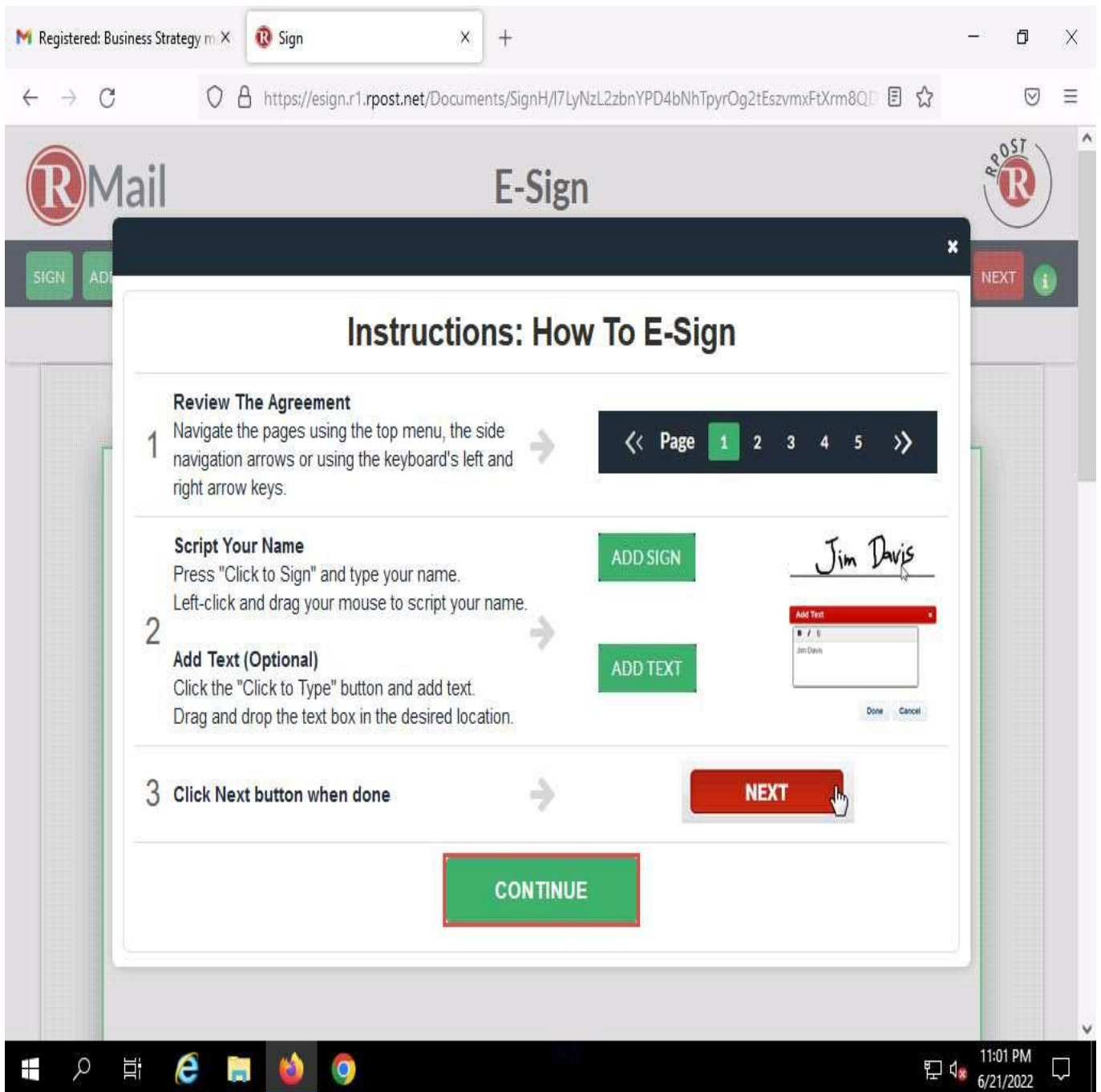
22. ☐ Click the **View & Sign Document** button to sign an agreement.



23. ☐ A new **E-Sign** webpage appears displaying the email content; click **CONTINUE**.

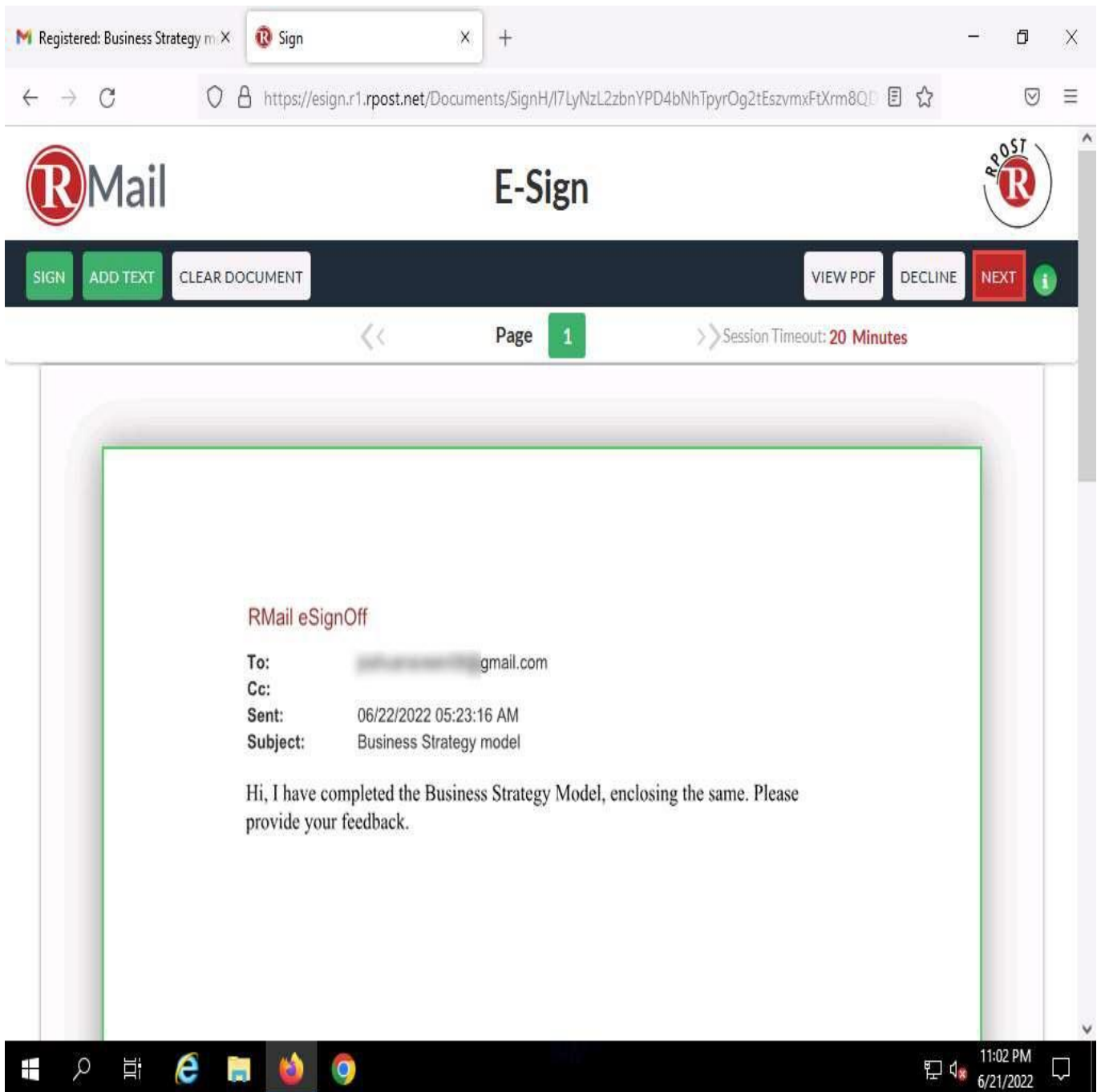


24. ☐ The **Instructions: How To E-Sign** page appears; read the instructions carefully and click **CONTINUE**.

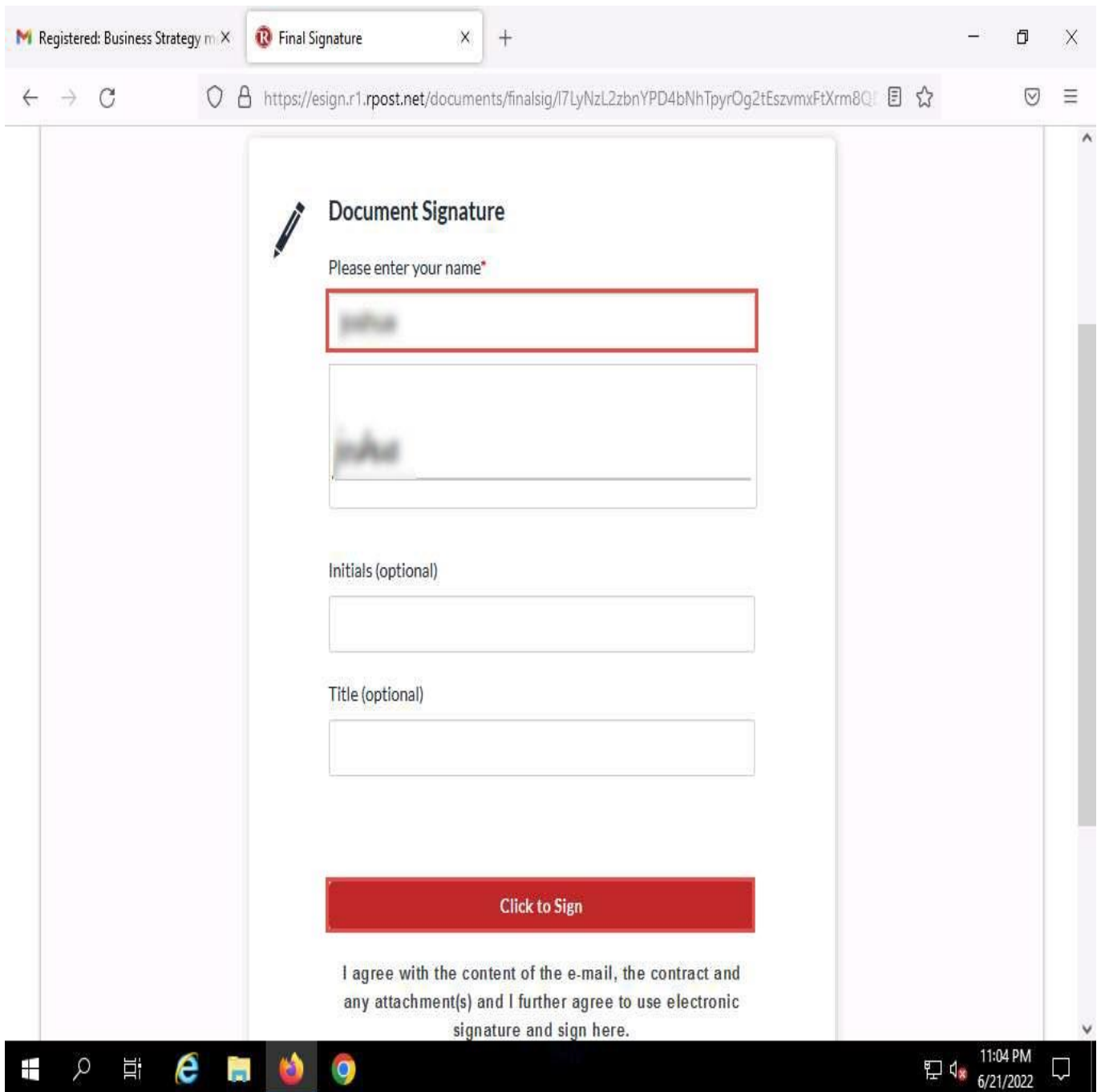


25. ☐ After viewing the email content, click **NEXT**.

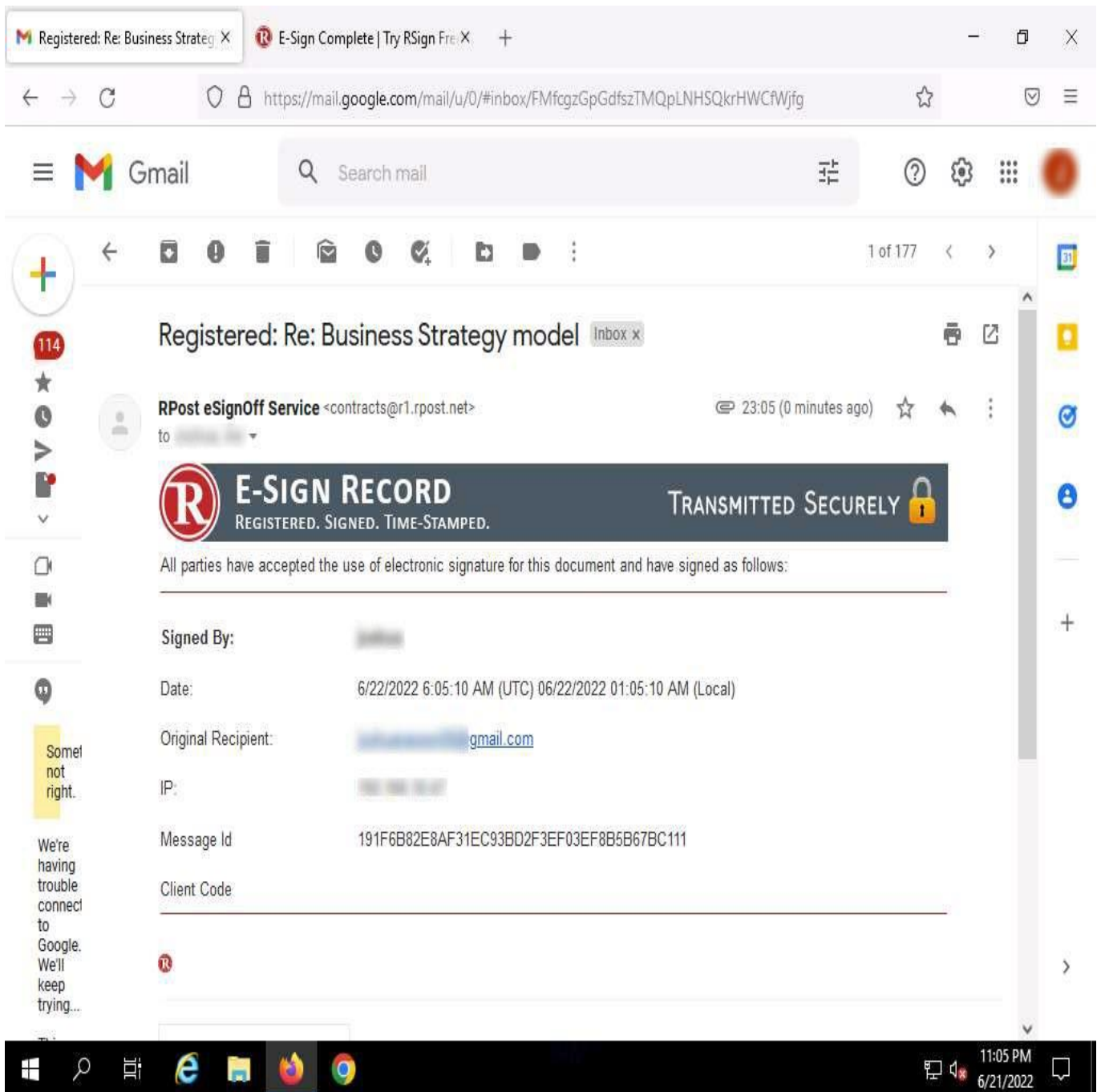




26. ☐ The **Final Step - Please Complete the Information Below** page appears with the **Document Signature** form. In the **Please enter your name** field, enter your name (Recipient's name) and leave the **Initials** and **Title** field as blank and click the **Click to Sign** button.



27. ☐ The **YOU'RE ALL DONE!** page appears; close the current tab to return to the opened email. Click **Inbox** from the left-hand pane to navigate to the inbox.
28. ☐ Open an email from **RPost eSignOff Service**. You can observe that it is an acknowledgment email from RPost along with various details such as **Signed By, Date, Time, Original Recipient, IP, Message Id**, etc.



29. ☐ Now, click on [Windows 11](#) to return to the **Windows 11** machine, where the sender's account is opened. In **Inbox**, you can observe two emails (**Receipt** and **RPost eSignOff Service**). Click to open the **Receipt** email.

You might receive a **Receipt** mail in the **RMail Receipts** inbox folder present in the left-hand pane.

30. ☐ The **Receipt** email contains information about the **Delivery Status**, **Message Envelope**, and **Message Statistics** of the sent email, as shown in the screenshot.
31. ☐ The **Receipt** email also includes the **DeliveryReceipt** and **HtmlReceipt** attachments containing detailed information regarding the sent email.

**REGISTERED RECEIPT**  
EVIDENCE OF DELIVERY, CONTENT & TIME

This receipt contains verifiable proof of your RPost transaction.  
The holder of this receipt has proof of delivery, message and attachment content, and official time of sending and receipt. Depending on services selected, the holder also may have proof of encrypted transmission and/or electronic signature.

To authenticate this receipt, forward this email with its attachment to [verify@r1.rpost.net](mailto:verify@r1.rpost.net) or [click here](#)

[Click here to track the signing of your document!](#)

Delivery Status					
Address	Status	Details	Delivered (UTC*)	Delivered (local)	Opened (local)
<a href="#">[redacted]@gmail.com</a>	Delivered and Opened	HTTP- [redacted] 	06/22/2022 05:23:25 AM (UTC)	06/22/2022 12:23:25 AM (UTC -05:00)	06/22/2022 12:41:23 AM (UTC -05:00)

\*UTC represents Coordinated Universal Time: <https://www.ietf.org/time-zone/data/utc-0/>

Message Envelope	
From:	<a href="#">[redacted]@gmail.com</a>
Subject:	Business Strategy model
To:	<a href="#">[redacted]@gmail.com</a>
Cc:	

32. ☐ Now, navigate back to the **Inbox** and open an email from **RPost eSignOff Service**. This email contains the same information as the email received from **RPost eSignOff Service** by the recipient.
33. ☐ This concludes the demonstration of performing email encryption using RMail.
34. ☐ You can also use other email encryption tools such as **Virtru** (<https://www.virtu.com>), **ZixMail** (<https://www.zixcorp.com>), **Egress Secure Email and File Transfer** (<https://www.egress.com>), and **Proofpoint Email Protection** (<https://www.proofpoint.com>) to perform email encryption.
35. ☐ Close all open windows and document all the acquired information.