Verzeo

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Project Assignments

1. Major Project

2. Minor Project

Major Project

Overview: Students will explore the security of e-mail, disposable email accounts and use a secure email system.

Purpose

Email is one of the most-used forms of communication. How secure are the systems that we use daily and what are the implications of insecure systems?

We will also look at alternatives that would ensure security?

Objectives

Identify security issues related to common email systems. Use a

disposable, temporary email system

Apply principles of secure email through the PGP email system

Explore

Temporary, Disposable E-Mail

Guerrilla Mail - https://www.guerrillamail.com/

Temp Mail - https://temp-mail.org/en/

Fake Inbox - http://www.fakeinbox.com/

Nada - https://getnada.com/

Activity:

Install and send a message using PGP. http://openpgp.org/ There are many options for using PGP, try different ones and see how they work together.

Activity:

Send email using Python. Look at your email server settings. Update the info in the Python file.

Python file: (download link) (https://gist.github.com/anir0y/be6d613dd3d793e54f3e6d2be1dd0f65)

- Can you email multiple people?
- Could you pull the list of people to email from an external file?
- How can you personalize the email for the recipient?

Discussion

What could you do to ensure privacy when sending email?
What expectation of privacy do you have when sending e-mail?
If you had a secret message to send, how would you do it?
How could you automate e-mailing many people?

Assessment Questions

Why do email services "read" your email? What is their goal?
How does PGP secure email differently than GMail?
Why don't people use services like PGP more often?
What is phishing?
What is spear-phishing?

Extended Learning

Python mailer script (advanced): https://github.com/anir0y/py_mailer

Visit site (Have I Been Pwned?)[https://haveibeenpwned.com/] to see if your account has been compromised.

GnuPGP for Linux ;) https://gnupg.org/
try running these to install: apt-get
install gnupg apt-get install
gpa
gpa (gui for GPG)

ref: https://www.digitalocean.com/community/tutorials/how-to-use-gpg-to-encrypt-and-sign-messages

Minor Project

Overview

Modern websites use databases to store and manage information. We want to better understand the framework that makes the connection between a webpage and a database possible. And will try to exploit the known vulnerability to get access into database and find out more information.

Activity

- URL: https://lab.hackerinside.xyz/login.php
- Find out the vulnerability
- exploit the vulnerability
- grab the 'flag'.
- HINT: it's on a different table.
- Suggest a patch for this bug