

Mini SaaS: Phishing Email Simulator

1. Objective

Build a minimal SaaS-style web application that allows a user to send a **crafted phishing-style email**, demonstrating:

1. Go backend development
2. Docker (Kubernetes deployment will be nice to have)
3. Basic cyber understanding of email spoofing

2. Functional Requirements

Application Requirements

- Written in **Go**
- Exposes a simple web UI with a form (UI is not the main objective, it can be as simple as you want):
 - Recipient email
 - Subject
 - Message body
- On submit:
 - Sends a **real email** to the provided address
 - Email must appear as sent from:
 - **Display Name:** Donald Trump
 - **Email address:** configurable (env var)

Email specifics

- Email must be crafted manually in code (not a high-level “send mail” helper):
 - Explicit headers:
 - From
 - To
 - Subject
 - Date
 - Message-ID
- Using SMTP is required

- Basic Authentication is allowed (and encouraged)

Validation

- Basic input validation:
 - Valid email format
 - Non-empty subject/body
 - Reasonable length limits

Infrastructure

Containerization:

- Dockerfile included

If chosen to use Kubernetes

- Application runs in Kubernetes
- Provide:
 - Deployment
 - Service

3. Documentation

Include a short README explaining:

1. Why the email triggers security warnings
2. Which email authentication mechanisms are violated
3. What would be required to make such an email pass authentication in a real-world scenario