Phishing Email Detection & Awareness System

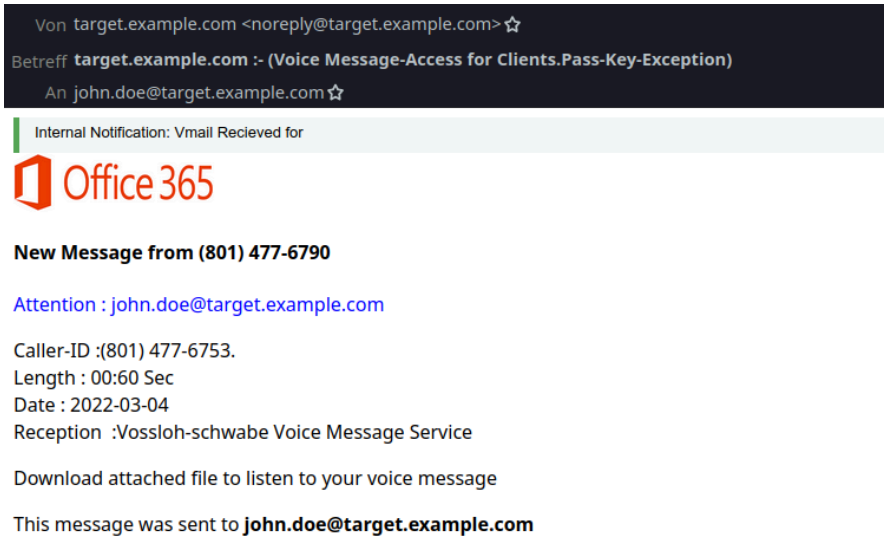
Project : 02

Assessment Type: Analysing phishing emails

Date: 13-01-2026

1. **Analysing Phishing Emails :**

Sample 1:



Von target.example.com <noreply@target.example.com>

Betreff **target.example.com :- (Voice Message-Access for Clients.Pass-Key-Exception)**

An john.doe@target.example.com

Internal Notification: Vmail Recieved for

Office 365

New Message from (801) 477-6790

Attention : john.doe@target.example.com

Caller-ID :(801) 477-6753.
Length : 00:60 Sec
Date : 2022-03-04
Reception :Vossloh-schwabe Voice Message Service

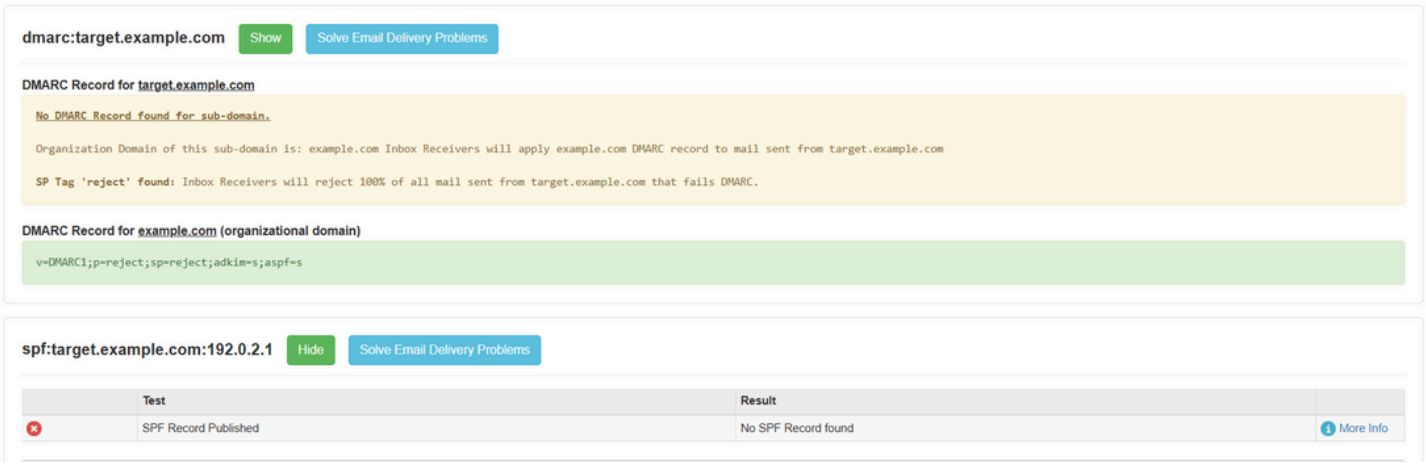
Download attached file to listen to your voice message

This message was sent to **john.doe@target.example.com**

Delivery Information

- DMARC Compliant
  - SPF Alignment
  - SPF Authenticated
  - DKIM Alignment
  - DKIM Authenticated

SPF and DKIM Information



dmarc:target.example.com Show Solve Email Delivery Problems

DMARC Record for target.example.com

No DMARC Record found for sub-domain.

Organization Domain of this sub-domain is: example.com Inbox Receivers will apply example.com DMARC record to mail sent from target.example.com

SP Tag 'reject' found: Inbox Receivers will reject 100% of all mail sent from target.example.com that fails DMARC.

DMARC Record for example.com (organizational domain)

v=DMARC1;p=reject;sp=reject;adkim=s;aspf=s

spf:target.example.com:192.0.2.1 Hide Solve Email Delivery Problems

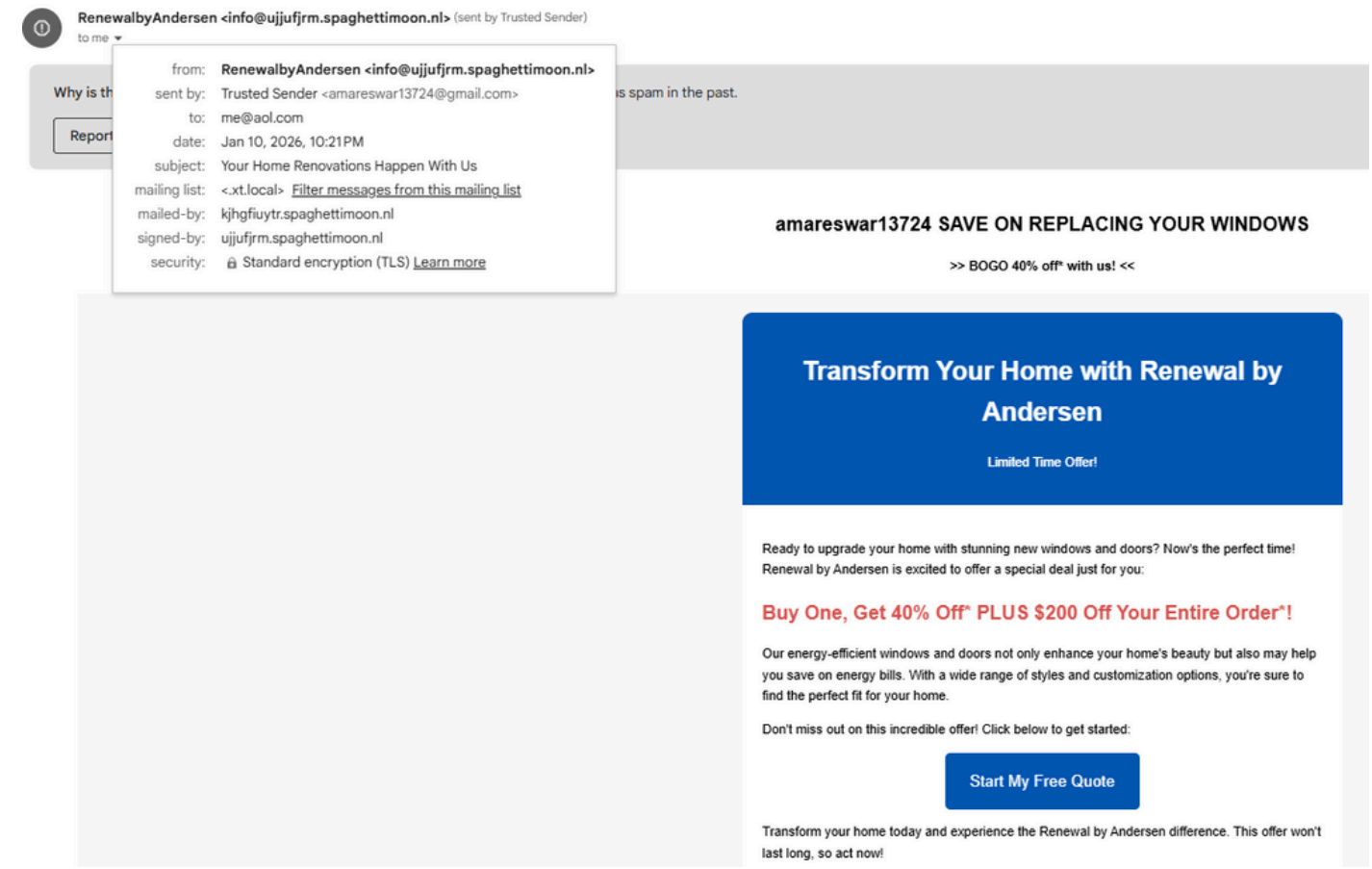
	Test	Result	
✖	SPF Record Published	No SPF Record found	More Info

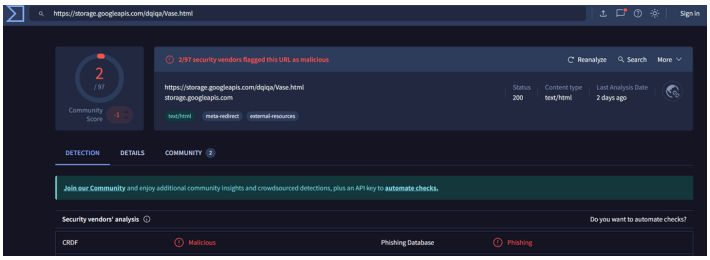
Phishing Indicators :

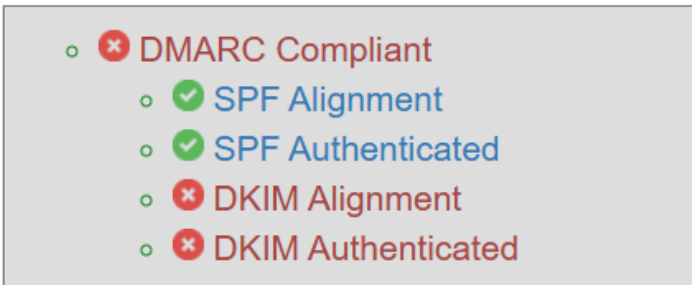
Indicator	Meaning
SPF fail	Sender not authorized
DKIM fail	Message altered or fake
DMARC fail	Domain spoofing

Risk Classification : PHISHING

Sample 2 :





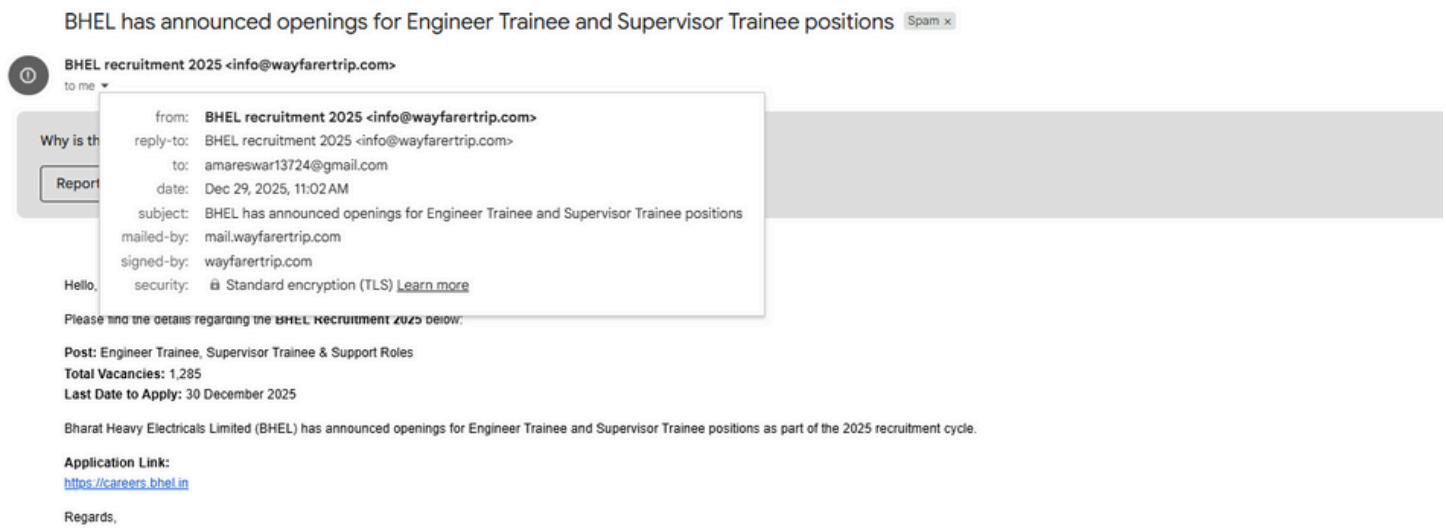


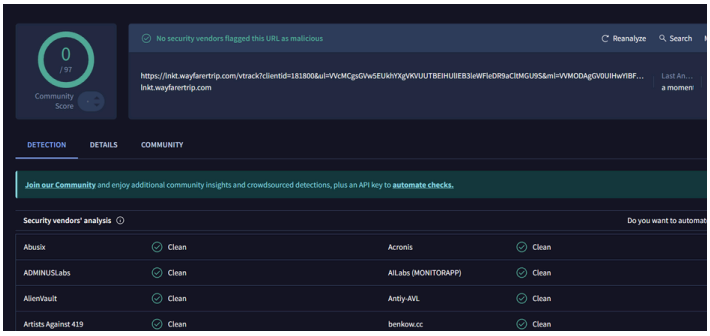
Phishing Indicators :

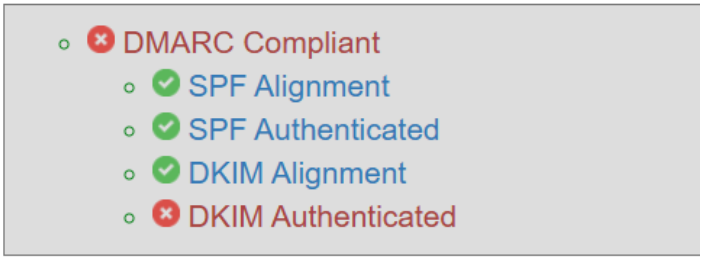
Indicator	Meaning
SPF pass	Sender authorized and authenticated
DKIM fail	Message altered or fake
DMARC fail	DMARC Quarantine/Reject policy not enabled
URL check	only 1 vendor flagged
Luring Language	Offers will make users click links
Greeting	Used mail to greet not specific name which is suspicious

Risk Classification : Suspicious

Sample 3:





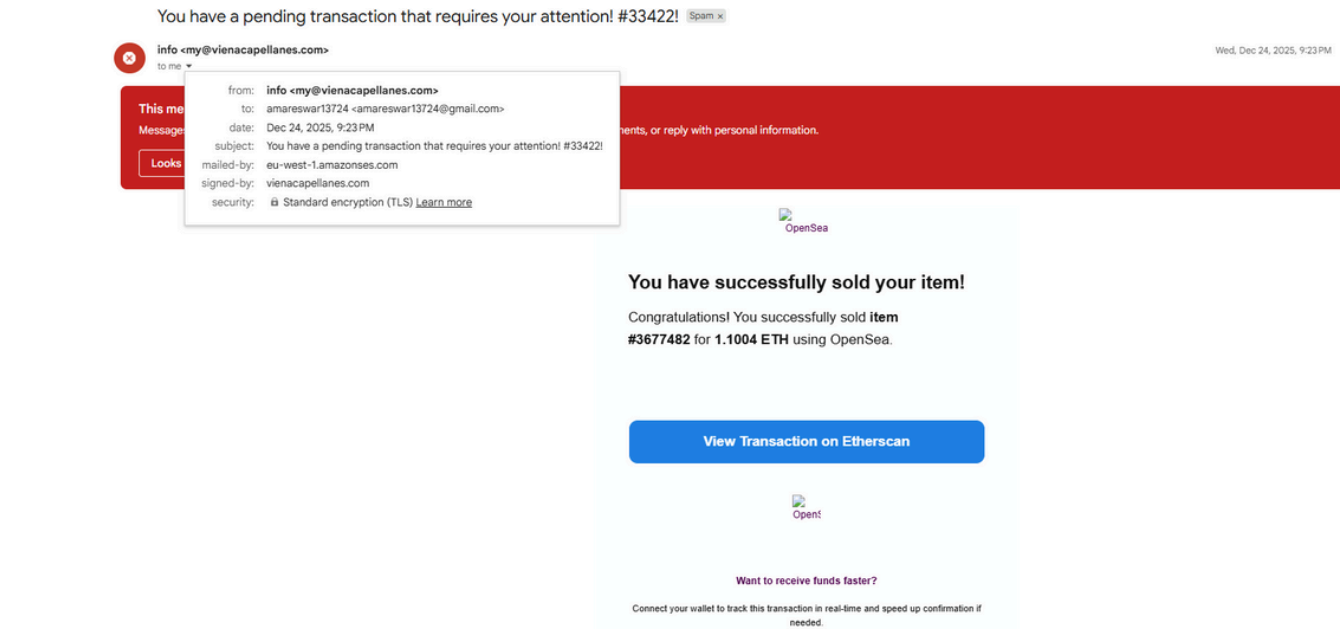


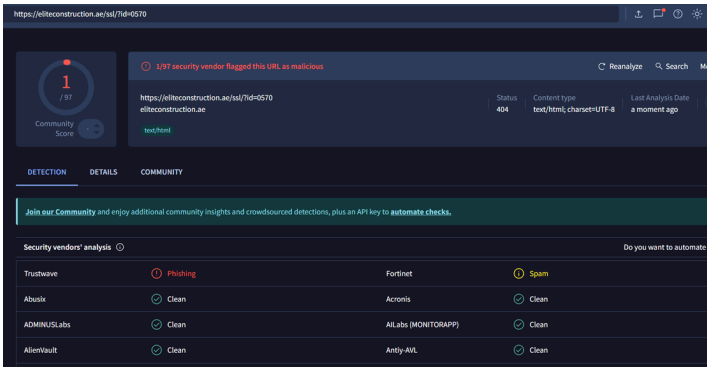
Phishing Indicators :

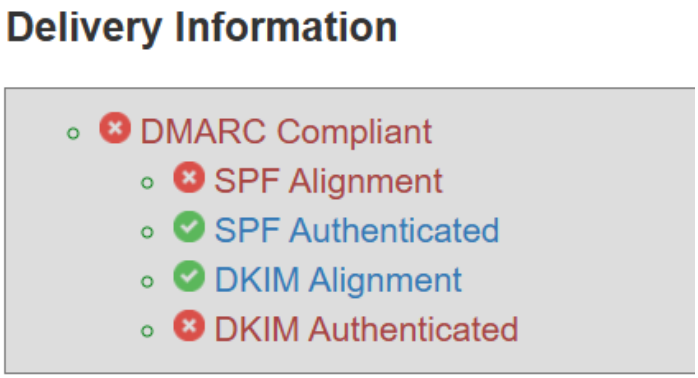
Indicator	Meaning
SPF pass	Sender authorized and authenticated
DKIM pass	Message Authenticated
DMARC fail	DMARC Quarantine/Reject policy not enabled
URL check	Passed
Job Opportunity	Users are desperate to click links

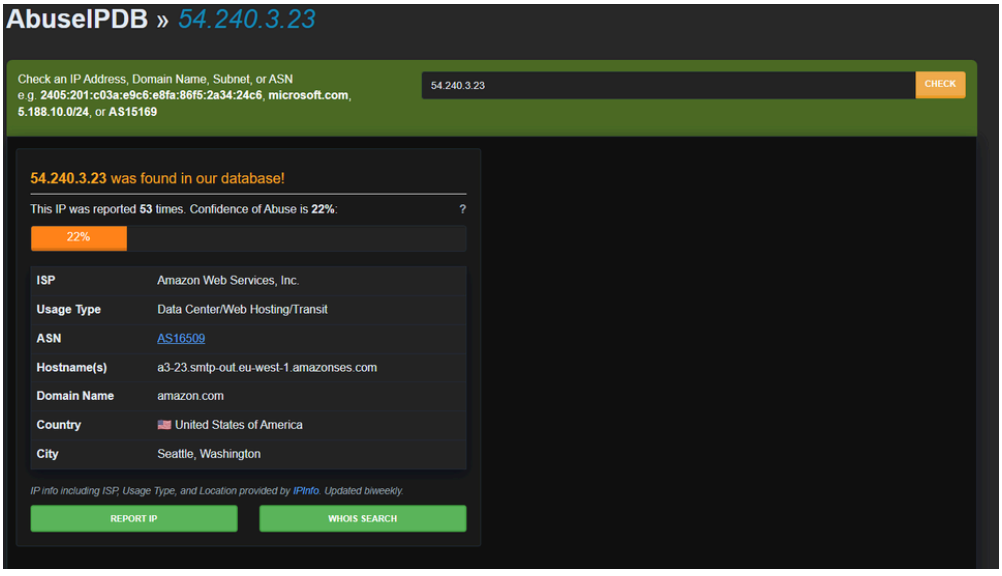
Risk Classification : SAFE

Sample 4:


You have a pending transaction that requires your attention! #33422!
Spam
info <my@vienacapellanes.com>
to me
Wed, Dec 24, 2025, 9:23 PM
from: info <my@vienacapellanes.com>
to: amareswar13724 <amareswar13724@gmail.com>
date: Dec 24, 2025, 9:23 PM
subject: You have a pending transaction that requires your attention! #33422!
mailed-by: eu-west-1.amazonses.com
signed-by: vienacapellanes.com
security: Standard encryption (TLS) Learn more
OpenSea
You have successfully sold your item!
Congratulations! You successfully sold item #3677482 for 1.1004 ETH using OpenSea.
View Transaction on Etherscan
Want to receive funds faster?
Connect your wallet to track this transaction in real-time and speed up confirmation if needed.


https://eliteconstruction.ae/ssl/?id=0570
1/97 security vendor flagged this URL as malicious
Reanalyze
Search
DETECTION
DETAILS
COMMUNITY
Security vendors' analysis
Trustwave
Phishing
Fortinet
Spam
Abusix
Clean
Acronis
Clean
ADMINUSLabs
Clean
AILabs (MONITORAPP)
Clean
AlienVault
Clean
Antiy-AVL
Clean


Delivery Information
DMARC Compliant
SPF Alignment
SPF Authenticated
DKIM Alignment
DKIM Authenticated


AbuseIPDB » 54.240.3.23
Check an IP Address, Domain Name, Subnet, or ASN
e.g. 2405:201:c03a:e9c6:e8fa:86f5:2a34:24c6, microsoft.com, 5.188.10.0/24, or AS15169
54.240.3.23
CHECK
54.240.3.23 was found in our database!
This IP was reported 53 times. Confidence of Abuse is 22%:
22%
ISP Amazon Web Services, Inc.
Usage Type Data Center/Web Hosting/Transit
ASN AS16509
Hostname(s) a3-23.smtp-out.eu-west-1.amazonses.com
Domain Name amazon.com
Country United States of America
City Seattle, Washington
IP info including ISP, Usage Type, and Location provided by IPInfo. Updated biweekly.
REPORT IP
WHOIS SEARCH

Phishing Indicators :

Indicator	Meaning
SPF fail	Sender not authorized
DKIM Pass	Message not altered as attacker made it since beginning
DMARC fail	Domain spoofing
IP report	IP is reported 53 times for abuse
URL check	Reported as spam
Money Incentives	Sale proceedings on item which will make user to click without verifying legitimacy

Risk Classification : PHISHING

2. Common Phishing Indicators :

Employees should treat emails as suspicious if they include:

Non-technical :

- Urgent or threatening language
- Generic greetings
- Unexpected links or attachments
- Requests for passwords or verification
- Sender and link domain mismatch
- Poor branding or missing contact details

Technical :

- Check SPF and DKIM Records: check if the sender's domain has proper SPF (Sender Policy Framework) and DKIM (DomainKeys Identified Mail) records. These records help prevent email spoofing and phishing.
- use this tools :
  - https://toolbox.googleapps.com/apps/messageheader/
  - https://mxtoolbox.com/EmailHeaders.aspx

3. Check for URLs and IPs :

Inspect links in the email. Hover over each link without clicking to view the destination URL. Ensure the displayed URL matches the linked text. Verify that the domain is correctly spelled and does not contain unusual characters or substitutions.

1. https://www.virustotal.com/gui/
2. https://www.abuseipdb.com

4. Risk Classification Model :

Risk Level	Description
Safe	Verified sender, expected content . SPF , DKIM , DMARC should be aligned and authenticated
Suspicious	Unclear intent, requires validation .SPF is algined and authenticated but not DKIM,DMARC
Phishing	Clear deception and malicious indicators.SPF,DKIM,DMARC arent aligned or authenticated

5. How Phishing Attacks Work :

1. Attacker sends a fake email pretending to be trusted.
2. Email creates fear or urgency.
3. Victim clicks a malicious link.
4. Fake website captures credentials or data.
5. Attacker uses the information for fraud or access.

6. Prevention & Awareness Guidelines

▢ Employee Do’s

- Stop and think before clicking
- Hover over links to inspect URLs
- Access accounts via official websites
- Report suspicious emails immediately
- Verify unusual requests with IT or HR

▢ Employee Don’ts

- Click urgent links from emails
- Enter passwords through email links
- Download unexpected attachments
- Reply to suspicious messages
- Ignore reporting procedures