

The Ultimate Cybersecurity Guide

# Cybersecurity & Online Safety Guide

A complete beginner-to-advanced guide with Indian context, tips, and quick facts.

### Network & Wi-Fi Protection

- Change default router admin password after setup
- Use WPA3 or WPA2 encryption, avoid WEP or open networks
- Hide SSID and limit Wi-Fi access to trusted devices
- Update router firmware regularly from manufacturer's website
- Disable remote admin access unless required
- Use guest networks for visitors to isolate main devices
- Monitor connected devices via router dashboard or Fing app
- · Avoid public Wi-Fi for banking; use VPN if necessary
- Use firewall on home router and disable WPS
- For advanced setups, consider DNS filtering like NextDNS or Quad9
  - Pro Tip: Use a Raspberry Pi or OpenWRT router for better visibility and control over your network
  - **Caution:** Never use open Wi-Fi without VPN
  - Did You Know? Public Wi-Fi hacking can occur in under 30 seconds using packet sniffers
  - Did You Know? Most free hotspots are unsecured

#### **Network & Wi-Fi Protection Checklist**

Do	Don't
Use WPA3/WPA2 encryption	Use WEP or open Wi-Fi
Hide SSID	Broadcast SSID publicly
Use guest networks	Allow untrusted devices on main network

### ■ Password & Authentication

- Use strong passwords: at least 12+ characters mixing letters, numbers, symbols
- Avoid reusing passwords across websites
- Use password managers like Bitwarden, KeePass, or 1Password
- Enable Two-Factor Authentication (2FA) everywhere possible
- Prefer hardware keys (YubiKey, Titan Key) for critical accounts
- Regularly update passwords for banking and email accounts

- Never share OTPs or passwords, even with 'official' callers
- Use biometric locks (fingerprint/face) for device access
- Use unique master password for password manager
- Backup security codes for 2FA in secure location
  - Pro Tip: Store master password securely offline
  - **Caution:** Avoid saving passwords directly in browsers
  - Did You Know? Reusing passwords is the most common cause of account breaches
  - Did You Know? 2FA can prevent 90% of automated attacks

#### **Password & Authentication Checklist**

Do	Don't
Use 12+ character passwords	Use short or predictable passwords
Enable 2FA	Rely only on passwords
Use hardware keys for critical accounts	Share OTPs with anyone

## Application & Software Safety

- Download apps only from trusted stores (Google Play, Apple App Store, vendor-specific stores)
- Check app permissions; deny unnecessary access like location or contacts
- Avoid cracked or modded apps often include malware
- Install Indian government trusted security apps like M-Kavach2
- Regularly update software, OS, and browsers
- Enable Play Protect or equivalent security scanner
- Uninstall unused or suspicious apps immediately
- Avoid APK downloads from unknown websites
- Use VirusTotal or sandbox to test suspicious apps before installation
- Disable installation from unknown sources in settings
  - Pro Tip: Ensure apps are legitimate and what they are scanning
  - **Caution:** Do not allow installation from unknown sources
  - Did You Know? Malicious apps often masquerade as games or utilities
  - Did You Know? Over 70% of mobile malware is delivered via third-party app stores

### ■ Browser & Website Security

- Use privacy-focused browsers like Firefox, Brave, or DuckDuckGo
- Enable HTTPS-only mode and check for padlock icon before logging in
- · Avoid clicking random popups or download links
- · Use ad-blockers and anti-tracking extensions
- Clear cookies and browsing data periodically
- Do not save credit card info in browsers
- Verify shortened URLs using preview tools
- Check website certificates for TLS 1.2/1.3 or QUIC
  - Pro Tip: Check padlock symbol and certificate authenticity
  - **Caution:** Expired or self-signed certificates are vulnerable
  - Did You Know? Man-in-the-middle attacks can steal data even on familiar networks
  - Did You Know? Expired certificates increase risk of phishing

### Email & Third-Party Permissions

- Avoid opening suspicious attachments
- Do not click unknown links
- · Verify sender email addresses before acting
- Limit third-party app access to email (e.g., Cred, Gmail)
- Revoke old permissions periodically
- · Use email filters and alerts
- Avoid giving email read/write access unnecessarily
  - Pro Tip: Use OAuth only for verified apps
  - **Caution:** Never give apps full email read/write access unnecessarily
  - Did You Know? Phishing emails often mimic official sources
  - Did You Know? Compromised accounts can propagate spam automatically

### Backup & Device Hygiene

- Backup personal photos and data regularly to trusted cloud platform
- Clear local data after backup to avoid theft
- Enable disk encryption
- Use remote-wipe for lost devices

- Regularly update OS and apps
- Maintain multiple backup copies in separate locations
  - Pro Tip: Always encrypt backups for sensitive data
  - **Caution:** Avoid keeping unnecessary local copies of confidential files
  - Did You Know? Ransomware can encrypt local files within minutes
  - Did You Know? Device theft is a common cause of data loss

## Banking & Digital Payment Security

- Avoid using credit cards unless necessary
- Set online and offline transaction limits for cards
- Reduce NFC debit/credit card limits
- Register email with bank for alerts, not only mobile number
- Do not share bank account credentials or OTP
- Monitor transactions regularly
- Use RBI-approved apps and UPI apps
- Do not respond to WhatsApp or SMS money scams
- Avoid using 3rd-party loan apps without reading terms
  - Pro Tip: Use email alerts and banking notifications
  - ■■ Caution: Beware of fake SMS, WhatsApp payment messages
  - Did You Know? UPI frauds often exploit social engineering quickly
  - Did You Know? Banks never ask for PIN/OTP via phone/email

### **Banking & Digital Payment Security Checklist**

Do	Don't
Use RBI-approved UPI apps	Use unverified 3rd-party apps
Set transaction limits	Allow unlimited transactions
Monitor bank alerts	Share OTPs or PINs

## Remote Access & Admin Hardening

- Use SSH keys instead of passwords for remote login
- Disable root login

- Change default ports (e.g., SSH from 22 to random)
- Whitelist IPs or use VPN for remote access
- Patch servers regularly
- Monitor open ports
- Use fail2ban or similar intrusion prevention
  - Pro Tip: Use key-based login for all remote devices
  - **Caution:** Never use default credentials
  - Did You Know? Attackers scan common ports first
  - Did You Know? Exposed SSH without keys is high risk

### Social Engineering & Scam Awareness

- Verify friend requests/messages via call before action
- Do not send money online without confirmation
- Avoid get-rich-quick schemes
- Ignore 'digital arrest' threats online
- Report scams immediately to cyber police
- · Educate family and friends about phishing
  - Pro Tip: Use official channels to verify requests
  - Did You Know? Attackers often impersonate trusted contacts
  - Did You Know? Phishing campaigns are increasing rapidly

### Corporate & Workplace Safety

- Do not use personal accounts on corporate devices
- Be aware of TLS interception by proxies
- Use company-approved software only
- Store credentials securely
- · Logout from shared systems
- Use VPN for remote work
  - Pro Tip: Segregate personal and work data
  - Did You Know? Corporate networks may log all activity
  - Did You Know? Forward proxies can decrypt HTTPS locally

## ■ Detection, Monitoring & Recovery

- Use antivirus and antimalware software
- Enable firewall monitoring
- Use IDS/IPS if possible
- · Check logs regularly
- · Apply patches promptly
- Test recovery plans periodically
  - Pro Tip: Keep system monitoring alerts enabled
  - **Caution:** Do not ignore security alerts
  - Did You Know? Early detection reduces ransomware impact
  - Did You Know? Regular monitoring can prevent major breaches

### Physical Device & Data Disposal

- Overwrite storage before selling or recycling devices
- Remove SIM/microSD cards
- Enable device locks
- Use remote-wipe
- Keep backup before disposal
- Record high-quality videos to fill storage before deleting
  - Pro Tip: Use secure erase tools
  - Did You Know? Deleted files can be recovered easily without full overwrite
  - Did You Know? Physical theft is a real threat

## Advanced Tools & Government Resources

- Use VPN from trusted providers
- Segment home network (IoT/Guest)
- Check email breaches on HavelBeenPwned
- Use M-Kavach2, NetGuard, Cyber Swachhta Kendra
- Report cybercrime at cybercrime.gov.in or call 1930
- Follow CERT-In advisories
  - Pro Tip: Use hardware security keys for sensitive accounts

- Did You Know? CERT-In provides real-time advisories
- Did You Know? National tools help prevent malware infections

#### **Advanced Tools & Government Resources Checklist**

Tool	Purpose
M-Kavach2	Mobile security for Indian users
Cyber Swachhta Kendra	Malware detection and removal
HavelBeenPwned	Check email breach status

## Quick Safety Checklist

- Use strong, unique passwords with 2FA enabled
- Update all software and apps regularly
- Use RBI-approved apps for UPI and banking
- Enable disk encryption and backups
- Avoid public Wi-Fi without VPN
- Check email for breaches on HavelBeenPwned
- Report cybercrimes at cybercrime.gov.in or 1930
- Use M-Kavach2 for mobile security
- Verify URLs and sender emails before clicking
- · Educate family on phishing and scams
- Monitor bank transactions and set alerts
- Use privacy-focused browsers like Brave
- Securely erase devices before disposal
- Segment home network for IoT devices
  - Pro Tip: Review this checklist monthly
  - Did You Know? Following this checklist reduces 95% of common cyber risks

### **Quick Safety Checklist**

My Device Record	Status
Router Firmware Updated	■ Yes ■ No
2FA Enabled on Accounts	■ Yes ■ No
Backups Encrypted	■ Yes ■ No
M-Kavach2 Installed	■ Yes ■ No