Home Network Security

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First, you should know how to login to your router's administrative console

- The router's administrative console allows you to access your network's settings and configurations
- Here is how you locate your router's address and login to your administrative console (for Windows):
  1. Open "Start" (the Windows logo on the bottom-left corner of the screen)
  2. Open "Settings"
  3. Click "Network & Internet" in settings
  4. Click "Status" in the upper left side of the window
  5. Click "View your network properties"
  6. Scroll to the bottom of the list and find the heading "Wi-Fi"
  7. Find the "Default gateway" address
  8. Enter this address in the search bar of a web browser
  9. Login using the default username and password for your router (or the username and password you have created)

Change the network name from the default

- By changing the name of your home network, malicious hackers will not be able to easily identify the type of router you have
- Do not include any personal information in your home network name
  - Examples of what NOT to do: “Erin’s Wi-Fi”, “The Miller’s House”, “linksys 5G”
  - Example of a good name: “Exotic Vegetables”

How to change the network name from the default (for Windows)

1. Login to your router's administrative console
2. Find the SSID field (this may be called "Network Name") in settings
3. Enter a new name for your wireless network
4. Click "Apply", "Save Settings" or "Save" to save the new network name

Set a strong password for your network

- Change the default password to a strong and unique one with at least 20 characters and numbers and symbols
- For more security, change the password monthly

Activate network encryption

- Encrypt your wireless network so that the information transferred from your computer to your router is coded

How to set a password for your network and activate network encryption

1. Access your wireless router (by entering your router's address in a web browser)
2. Find your wireless security settings
3. Select encryption type WPA2
4. Choose AES as the encryption algorithm for your WPA2 security
5. Enter your passphrase and SSID
6. Choose a password with a combination of letters and numbers
7. Save your settings and refresh your router

Turn your Wi-Fi off when you are not home

- Unplug or turn off your router when away for extended periods of time
  - Benefits include security, noise reduction, and surge protection

Move your router to the center of your home

- Routers located near the center of a house allows the connection to reach all rooms in the house without ranging too far outside the house

Change the administrator credentials from the default

- Routers come with a default administrator username and password that are typically universal to all routers of the same manufacturer
  - This password is different from the network password that is used to connect to your Wi-Fi
- Even amateur hackers can easily access your admin console and lock you out of your account

How to change the administrator credentials from the default

1. Access your wireless router with the same steps as before (by entering your router's address in a web browser) and login
2. Go to settings
3. Select "Change Router Password" (or a similar option)
4. Enter the new username and password
5. Save your settings

Change your router's default IP address

- This is another precaution that will make your router more difficult for hackers to track

How to change your router's default IP address

1. Access your wireless router with the same steps as before (by entering your router's address in a web browser) and login
2. Go to your network's settings
3. Type in the router's new IP address in "Router Settings"
4. Save your settings

Disable remote access/management

- Routers are automatically set to allow remote management of its interface
- By turning off remote access/management, hackers will not be able to access your router's settings from a device not connected to your network

How to disable remote access/management

1. Access your wireless router with the same steps as before (by entering your router's address in a web browser) and login
2. Look for "Remote Access", "Remote Administration", or "Remote Management"
3. Ensure it is disabled or turned off
    1. This should be the default setting

Regularly update your router's software

- If your router has the option, turn on the auto-update setting
- If it does not have this option, manually update your router's software regularly to take care of any vulnerabilities that it may contain

How to update your router's software (firmware)

1. Access your wireless router with the same steps as before (by entering your router's address in a web browser) and login
2. Locate the "Firmware" or "Update" section
    1. This may be in the "Advanced", "Administration", or "Management" section
3. Go to your manufacturer's website by searching for your router's model number
4. Download the latest firmware update files on your router manufacturer's website
5. Upload the update and reboot the router

Does your router have a built-in firewall?

- Check your router's administrative console to find out if it has a firewall already installed
  - If there is one installed, make sure it is turned on
  - If there isn't one installed, consider purchasing and installing a hardware one

How to enable your router's built-in firewall

1. Access your wireless router with the same steps as before (by entering your router's address in a web browser) and login
2. Locate "Firewall", "SPI Firewall" or something similar
3. Select "Enable"
4. Save your settings

Questions?

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