

Primary Objectives and Main Forms of Internet Security

- Securing the local hardware. Network security includes securing the hardware that controls the transmission of data as well as providing authentication, authorization, and protection.





Primary Objectives and Main Forms of Internet Security

- Protecting the data. Data security includes protecting the data stored or transmitted over the network.

Individual Users – Players Involved in Internet Activities

- Service providers
- Businesses that want to advertise and sell
- People and businesses that want to exchange information
- Users who want to access information or use services located on the Internet



Individual Users – Players Involved in Internet Activities

- Bad people who want to access computers to steal information, spy on people, or disable their communications



Business Users – Players Involved in Internet Activities

- Potential customers who can view their websites and potentially order their products over the Internet
- Remote employees who need to access their internal network through the Internet



Business Users – Players Involved in Internet Activities

- Trusted businesses with which they can efficiently exchange information using the Internet
- Internal users who want to access information or use services located in the Internet

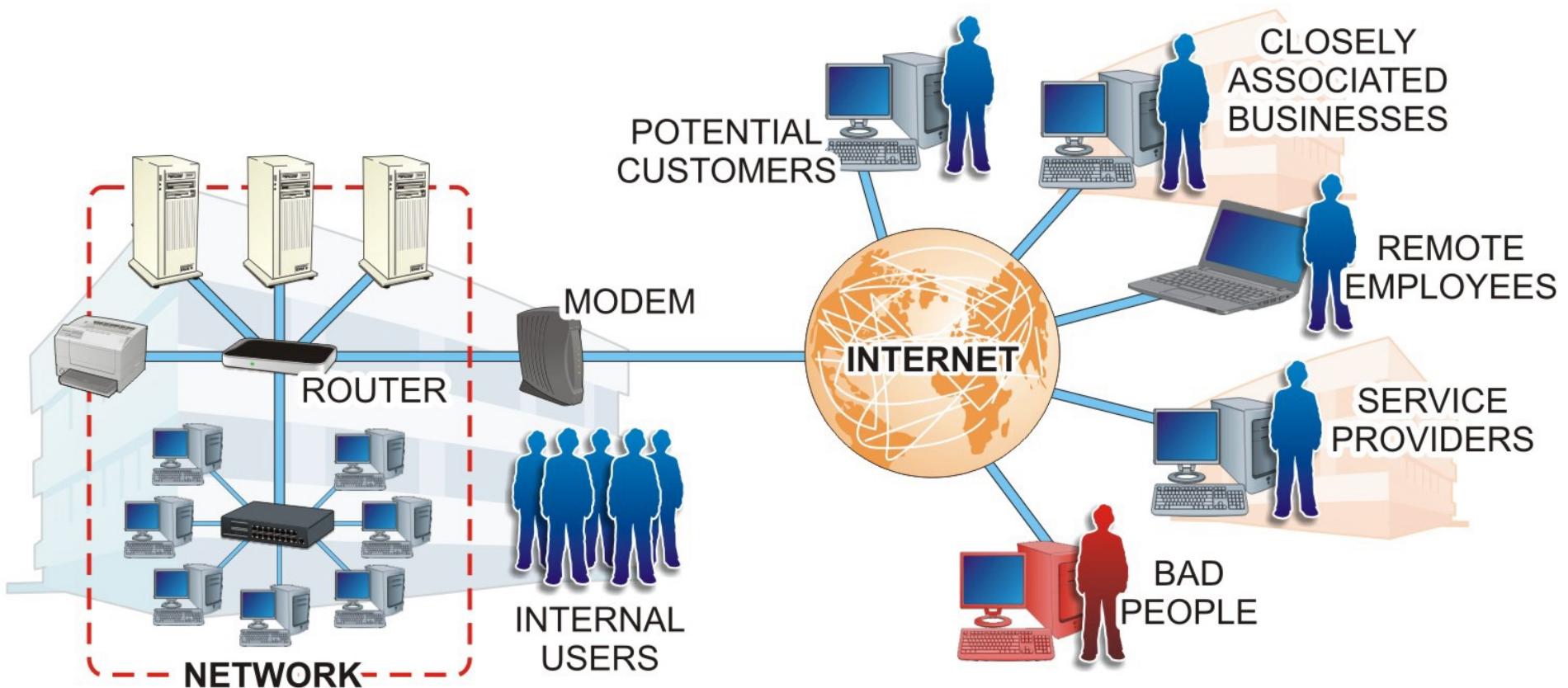


Business Users – Players Involved in Internet Activities

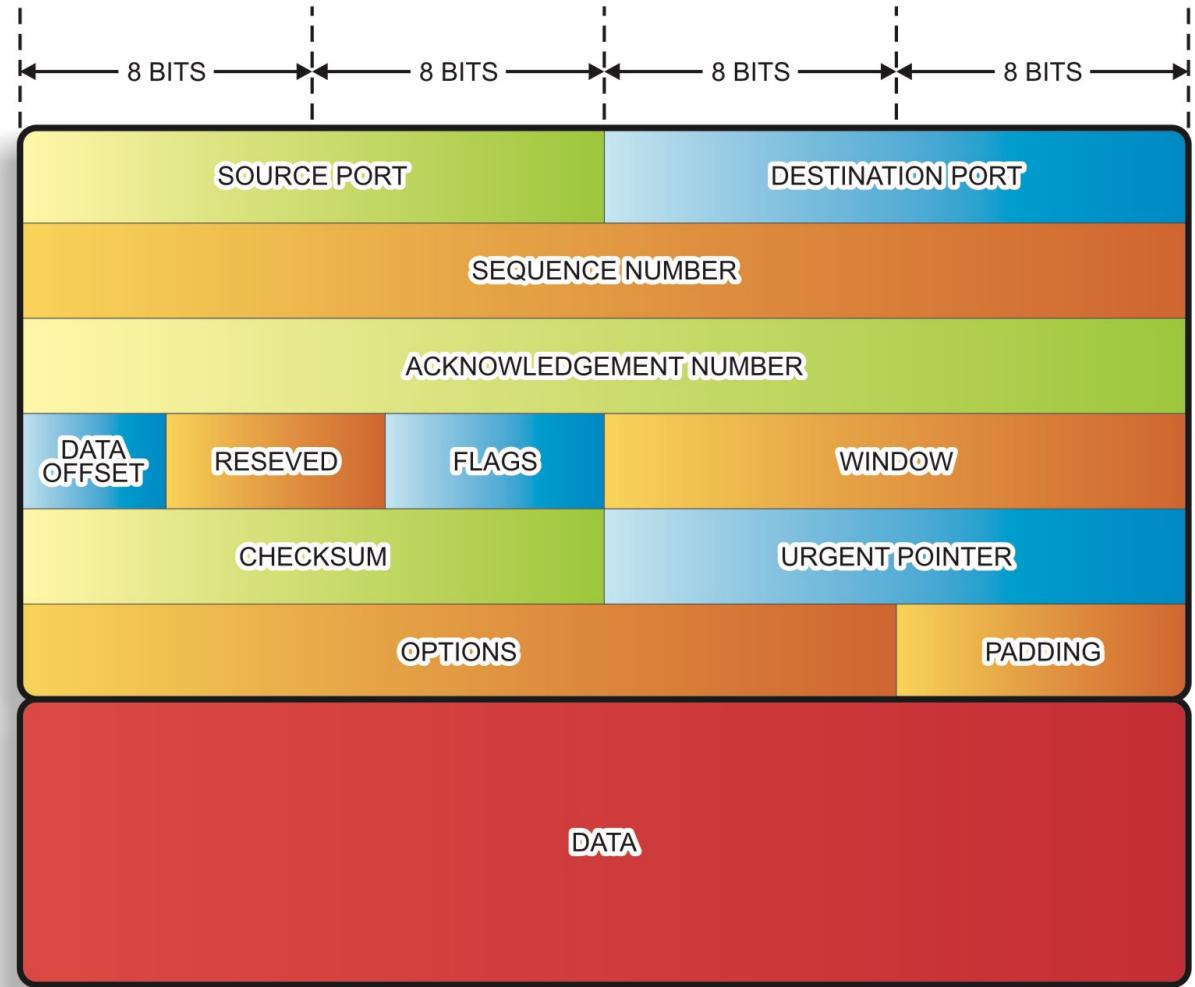
- Bad people who want to access their network to steal from them, disrupt their operations, or disable their communications



Internet Players



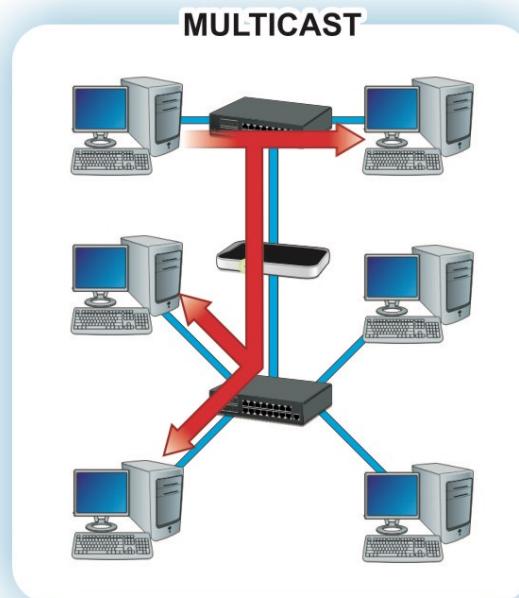
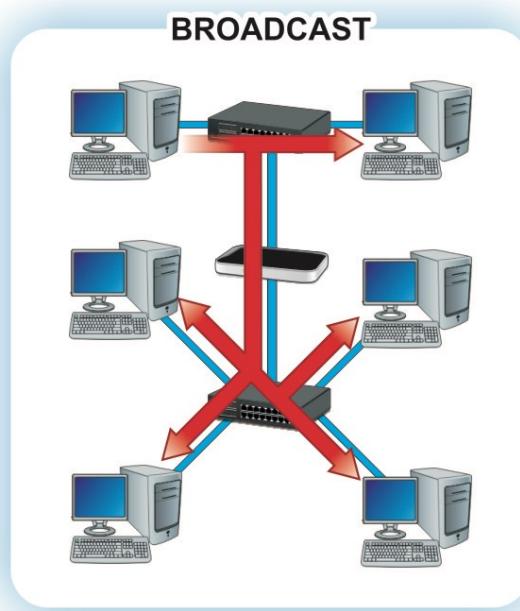
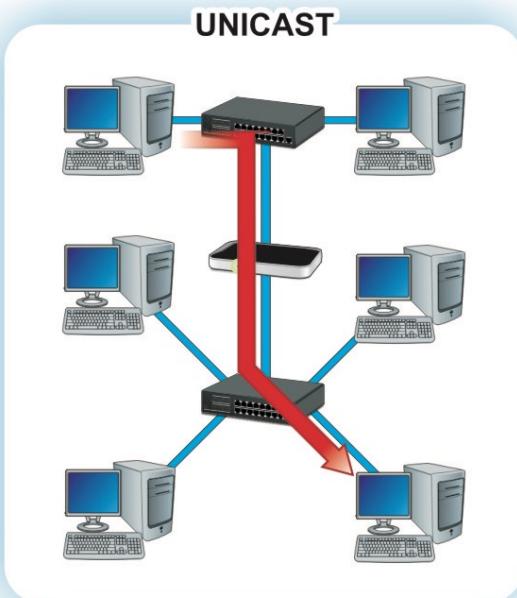
TCP Segment Structure



UDP used with Many Other Protocols

- Domain Name System (DNS) lookups
- Real Time Streaming Protocol (RTSP)
- Trivial File Transfer Protocol (TFTP)

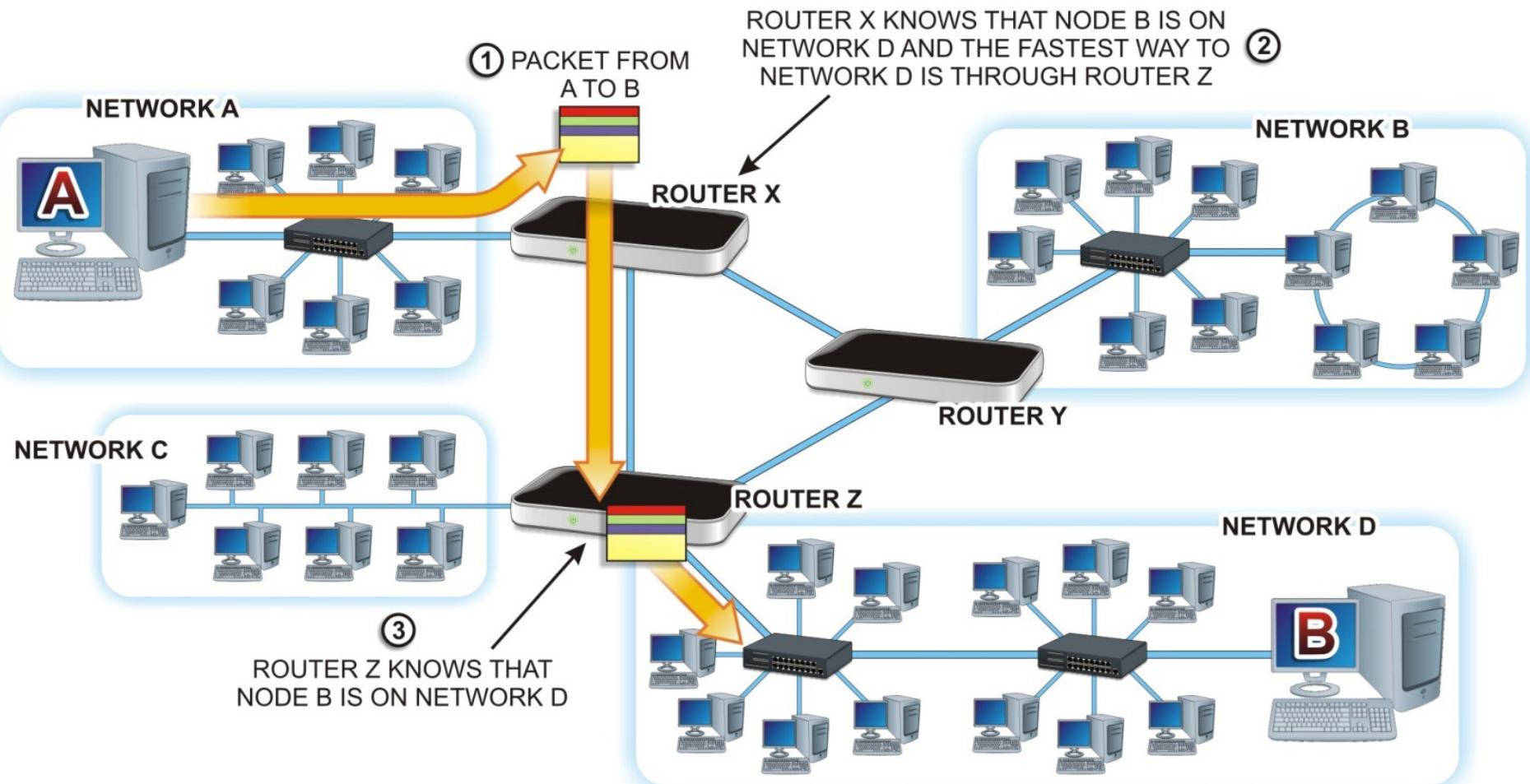
Network Messaging Types



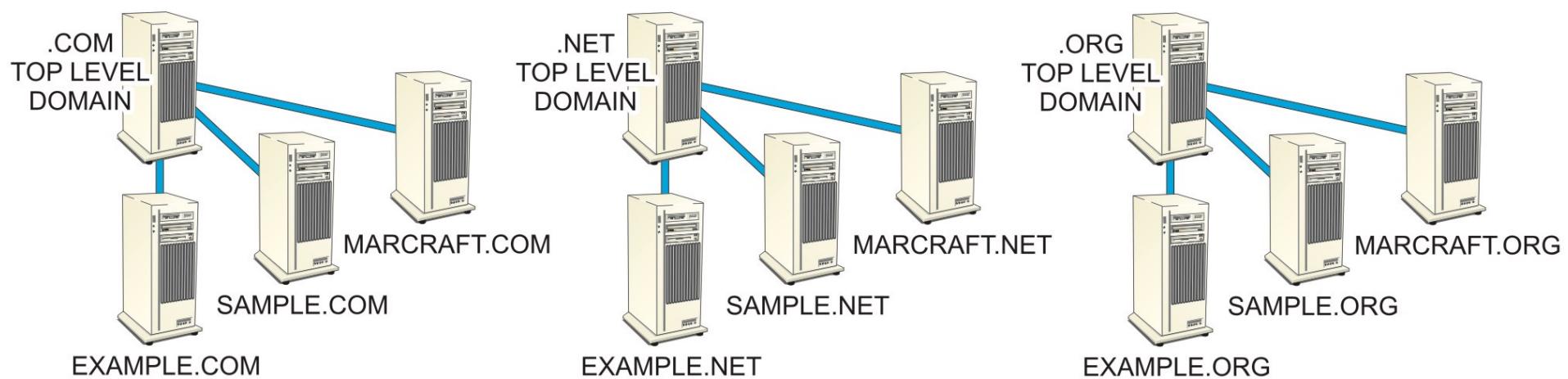
A Few Common Ports and Their Use

Port	Protocols	Description
20	TCP/UDP	FTP
22	TCP/UDP	SSH
23	TCP/UDP	Telnet
25	TCP/UDP	SMTP (Simple Mail Transfer Protocol)
80	TCP/UDP	HTTP (Hypertext Transfer Protocol)
88	TCP/UDP	Kerberos authentication system
110	TCP	POP3 (Post Office Protocol v3)
118	TCP/UDP	SQL (Structured Query Language) Services
143	TCP	IMAP (Internet Message Access Protocol)
443	TCP/UDP	HTTPS (Hypertext Transfer Protocol over TLS/SSL)
631	TCP/UDP	Internet Printing Protocol (IPP)

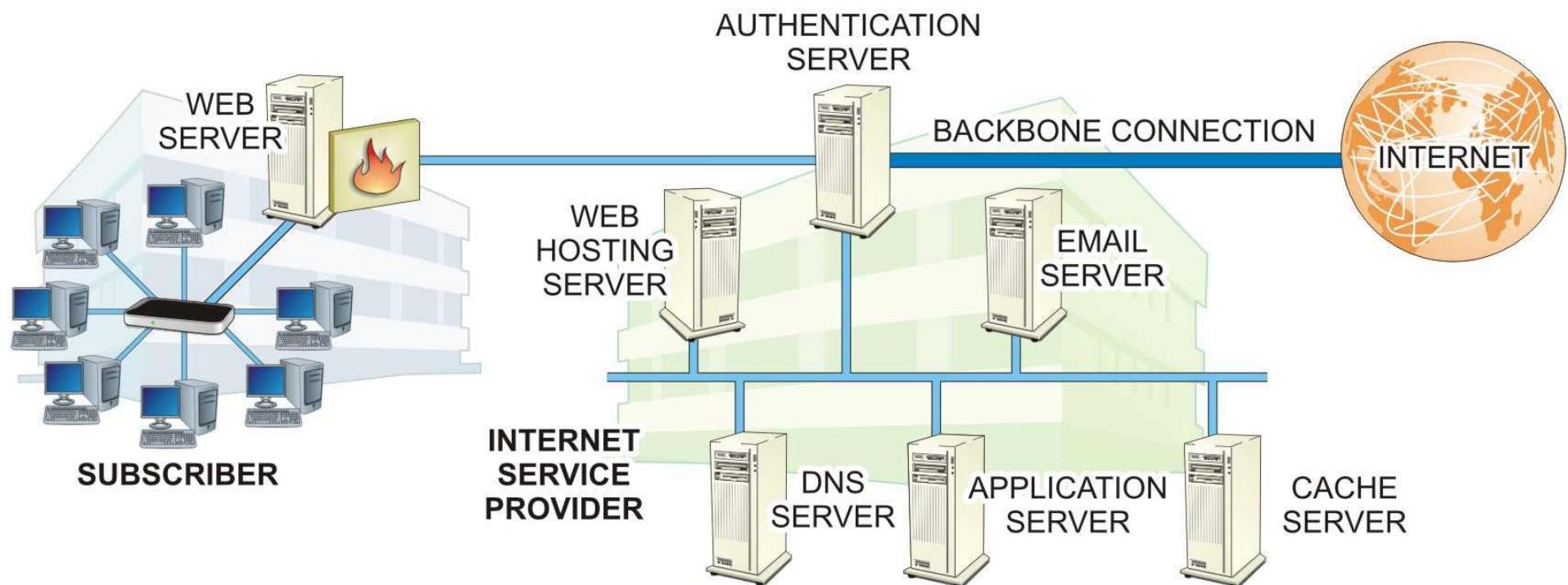
Routing Operations



TLD Organization



ISP Position and Services



Public Resources and Standards to be Aware of

- Security Content Automation Protocol (SCAP) is a method of using various open standards for evaluating vulnerabilities and measuring the potential impact of these vulnerabilities. You can learn more at scap.nist.gov.

Public Resources and Standards to be Aware of

- Common Vulnerabilities and Exposures (CVE) is a system for referencing publicly known vulnerabilities. Maintained by MITRE Corporation but backed by the U.S. Department of Homeland Security. CVE is used by SCAP. CVE can be explored in more detail at cve.mitre.org.

Public Resources and Standards to be Aware of

- Common Vulnerability Scoring System (CVSS) is a system for scoring vulnerabilities from CVE, making it easier to understand your risks. CVSS can be explored in more detail at www.first.org/cvss.

Public Resources and Standards to be Aware of

- Common Platform Enumeration (CPE) is a standardized method of describing and identifying operating system, hardware devices, and application classes on the network. CPE can be explored in more detail at [*scap.nist.gov/specifications/cpe/*](http://scap.nist.gov/specifications/cpe/).

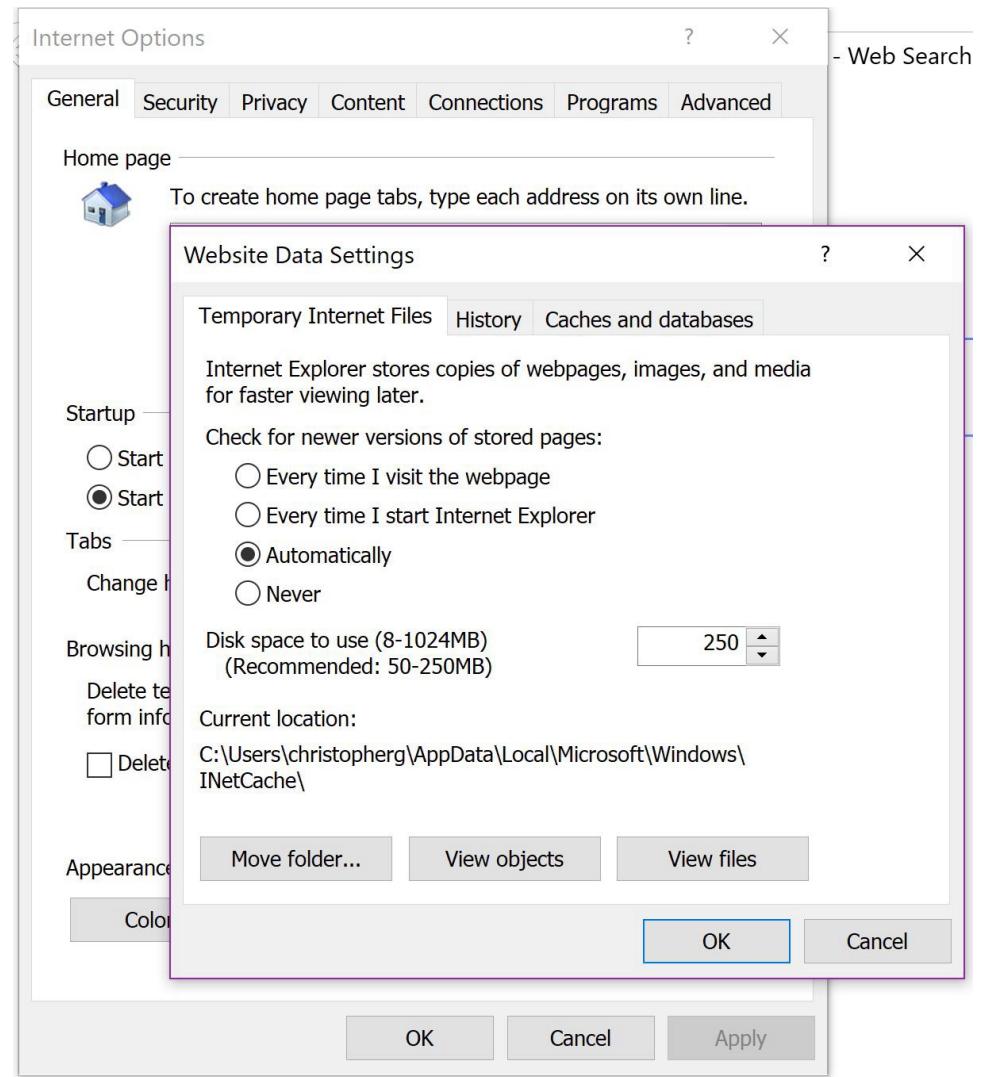
Public Resources and Standards to be Aware of

- Open Vulnerability and Assessment Language (OVAL) is a security community standard for communicating security information such as configuration, vulnerabilities, patch levels, etc. OVAL is essentially a group of XML schemas that describe a language to provide the details needed to assess a network resource for security vulnerabilities. You can learn more about OVAL at oval.mitre.org.

A Word about SCAP

- SCAP is overseen by the National Institute of Standards and Technology (NIST) - the organization responsible for the Cyber Security Frameworks, Medical Device Security and Guide to Industrial Control System (ICS) Security guides on which much of this course is based on. NIST offers a SCAP Validation Program for specific versions of vendor products. This is an emerging standard that currently offers validation only for Windows and Red Hat platforms. This type of standardization is designed to help network designers and administrators more clearly understand the vulnerabilities of their networks so they can make them more secure.

Website Data Settings



Delete Browsing History Window



Delete Browsing History X

Preserve Favorites website data
Keep cookies and temporary Internet files that enable your favorite websites to retain preferences and display faster.

Temporary Internet files and website files
Copies of webpages, images, and media that are saved for faster viewing.

Cookies and website data
Files or databases stored on your computer by websites to save preferences or improve website performance.

History
List of websites you have visited.

Download History
List of files you have downloaded.

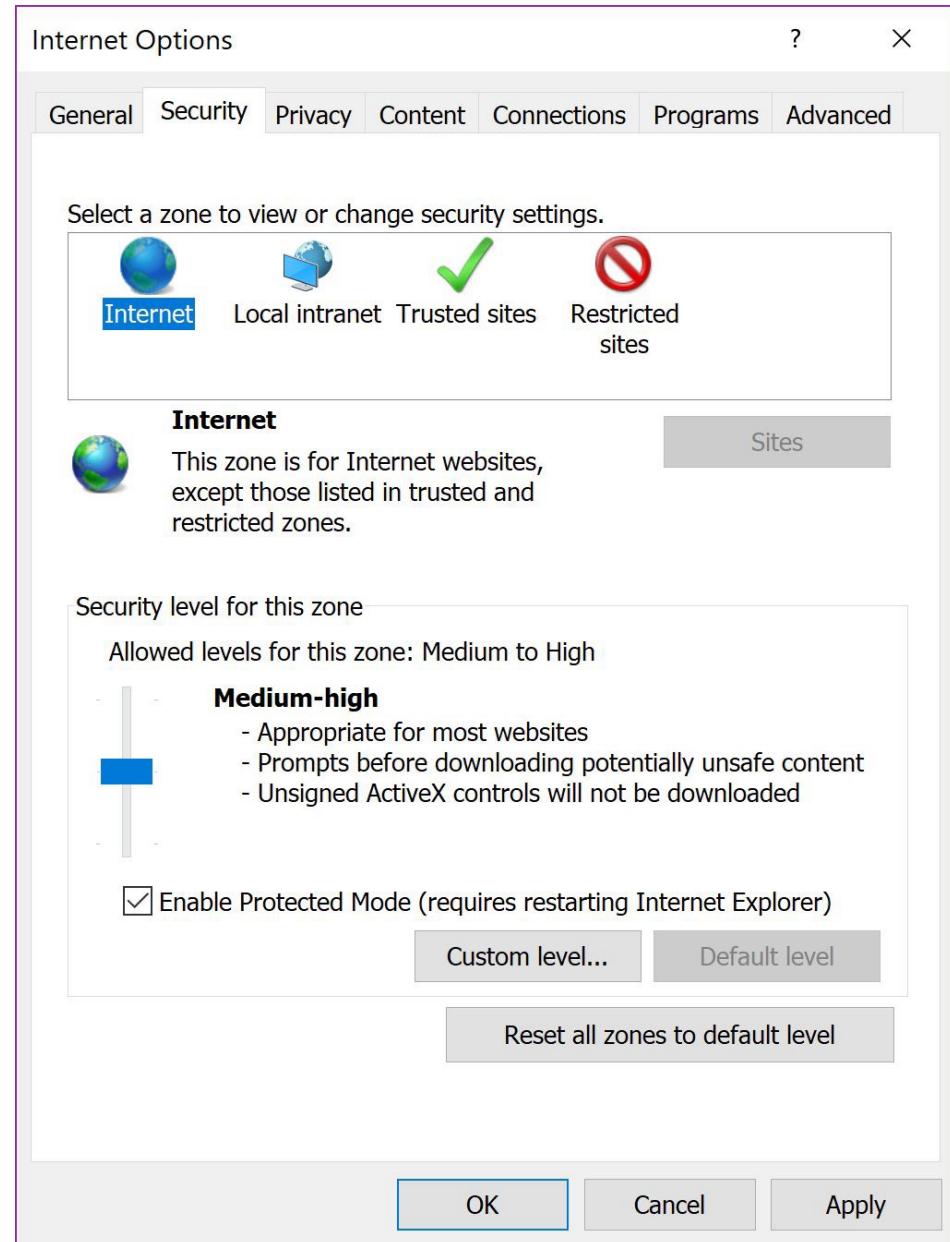
Form data
Saved information that you have typed into forms.

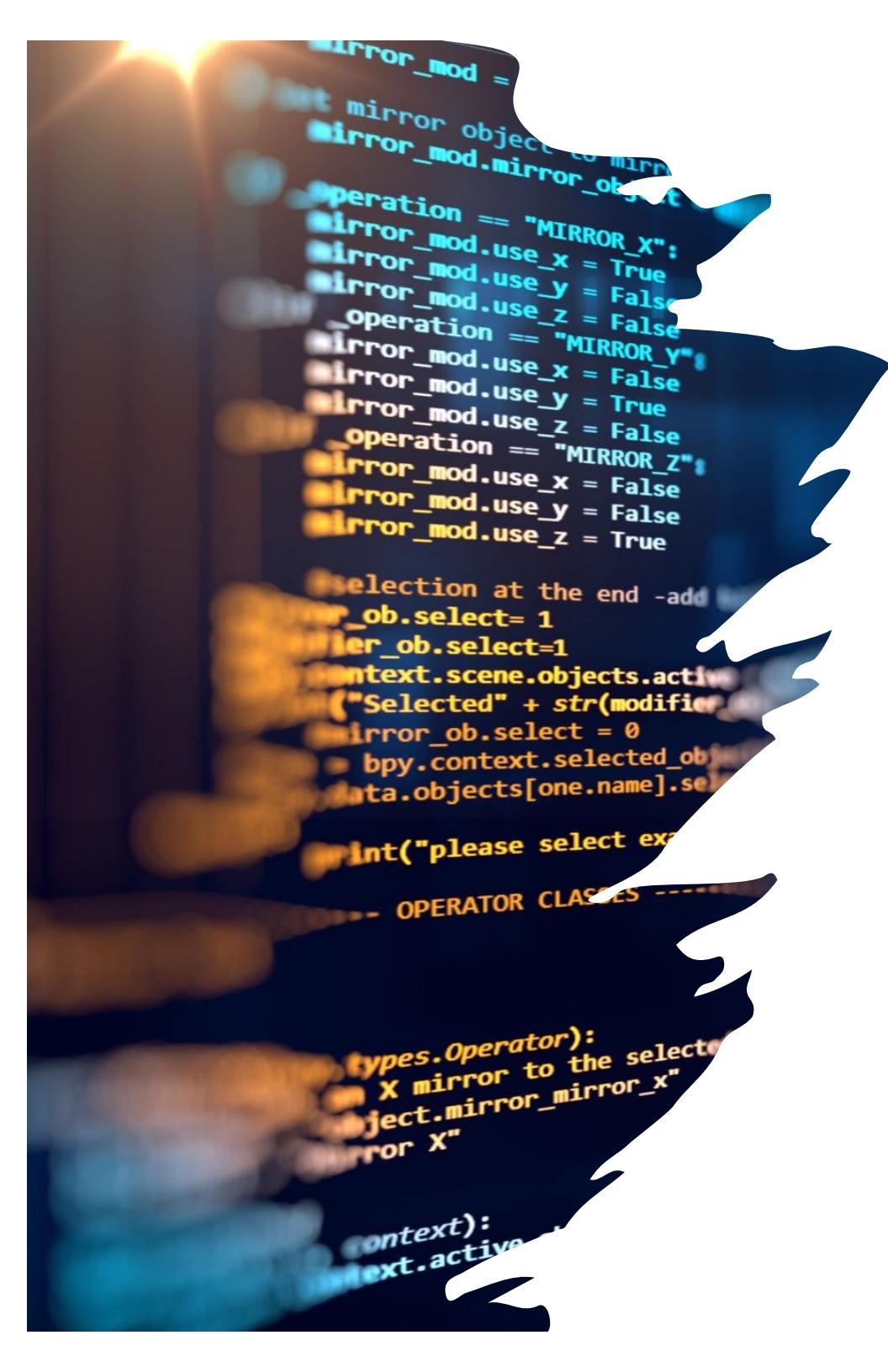
Passwords
Saved passwords that are automatically filled in when you sign in to a website you've previously visited.

Tracking Protection, ActiveX Filtering and Do Not Track data
A list of websites excluded from filtering, data used by Tracking Protection to detect where sites might automatically be sharing details about your visit, and exceptions to Do Not Track requests.

[About deleting browsing history](#) Delete Cancel

Security Tab of Internet Options





Security Tab allows Assigning Websites to Various Zones

- The Internet zone contains all the websites not assigned to another zone.
- The Local Intranet zone contains all the websites related to a local network (such as internal web pages).

Security Tab allows Assigning Websites to Various Zones

- The Trusted Sites zone contains all the websites that a user has deemed safe and unlikely to damage the system.
- The Restricted Sites zone will identify websites already known to contain potentially dangerous content.

Restricted Sites Window

Restricted sites

X



You can add and remove websites from this zone. All websites in this zone will use the zone's security settings.

Add this website to the zone:

Add

Websites:

The msn.com Website as a Restricted Site

http://www.msn.com/ MSN.com - Hotmail, Outlook... Sign in

msn

Bing web search

Prisoner released after celebs take up cause Associated Press

Mega Millions, Powerball prizes above \$300M CBS News

Blast rips through supermarket in Russia Reuters

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Rihanna's cousin killed day after they spent Christmas together FOX News

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Rihanna's cousin killed | Aniston, Theroux rumors

Live: College bowl games | Gronk's funny response

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Jackson Lee on plane incident | 118-foot Lego tower

MOST VIEWED

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Blast rips through supermarket in Russia's St.

POLL

Do you receive time off from work around the holidays?

Yes

Next

TRENDING VIDEO

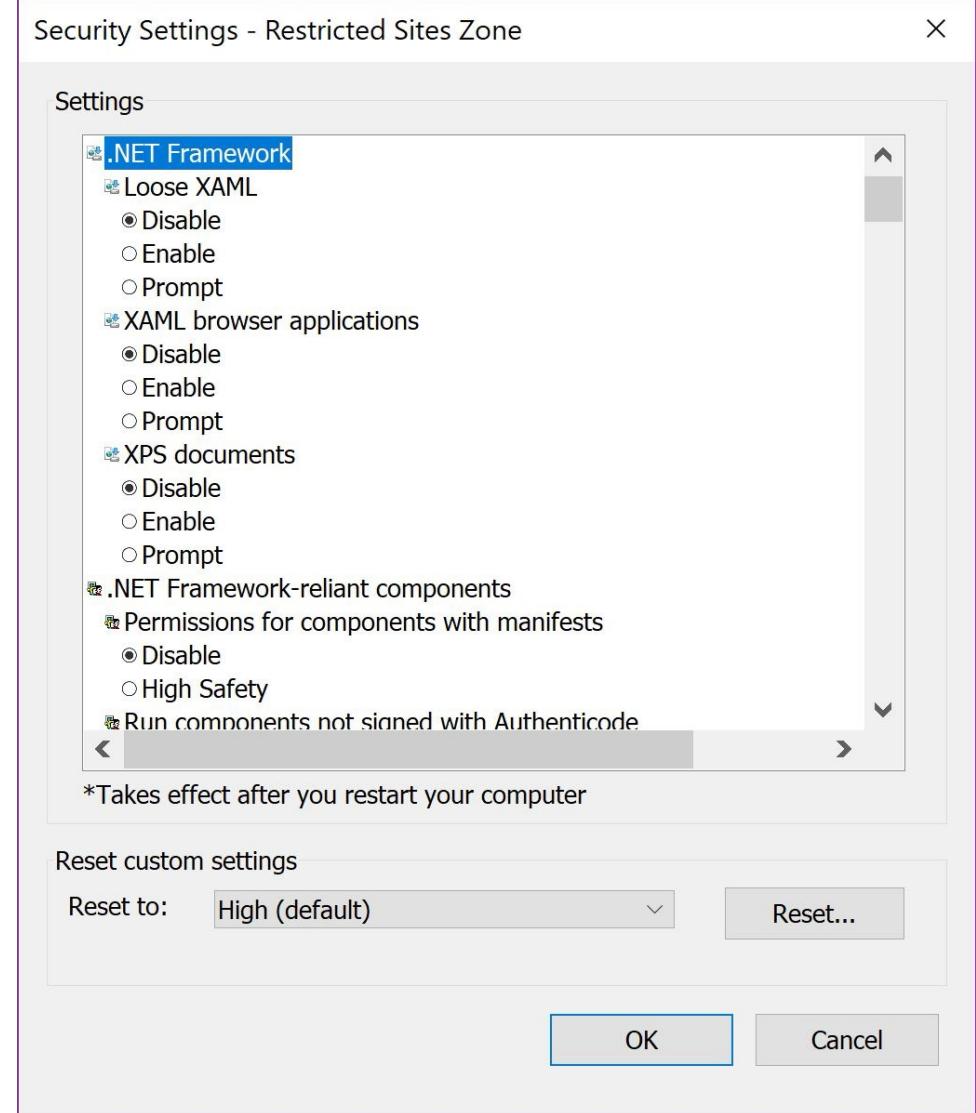
Elon Musk asked his Twitter followers for feedback; here's what they said CNBC

Chrissy Teigen sends tweetstorm aboard flight

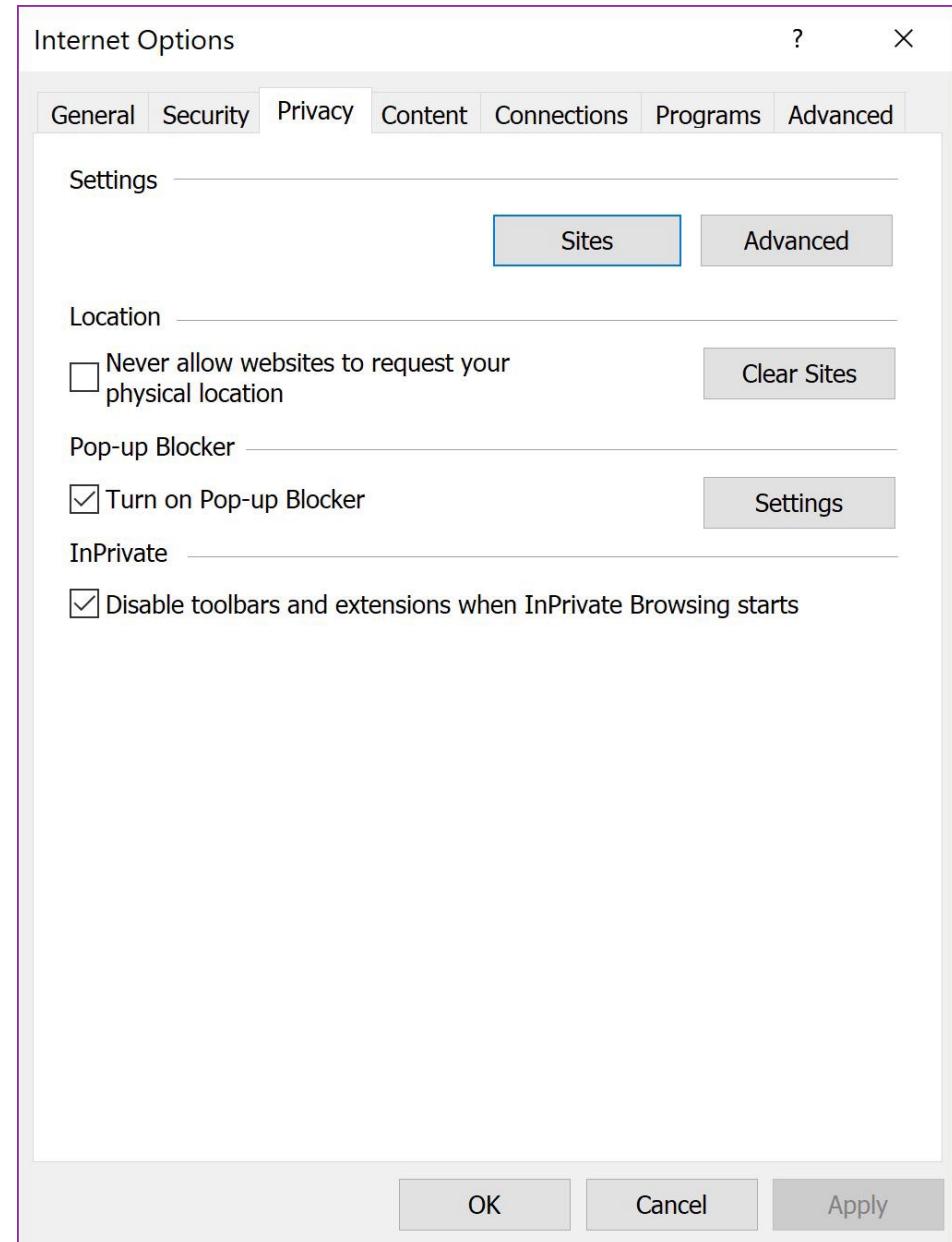
KEEPING FIT

How to lose weight forever, according to science Health.com

Security Settings – Restricted Sites Zone Window



The Privacy Tab in Internet Options



Pop-Up Blocker Settings

Pop-up Blocker Settings X

Exceptions

 Pop-ups are currently blocked. You can allow pop-ups from specific websites by adding the site to the list below.

Address of website to allow:

Add

Allowed sites:

RemoveRemove all...

Notifications and blocking level:

Play a sound when a pop-up is blocked.
 Show Notification bar when a pop-up is blocked.

Blocking level:

Medium: Block most automatic pop-ups ▼

[Learn more about Pop-up Blocker](#) Close