

Element of security: Application security

Including dev, add, test security features

Type: Authentication, Authorization, Encryption, Logging, App security testing

CIA triad

Confidentiality: the one who is not authorized should not have access to data. **Way to steal:** capture data. Should send through vpn tunnel or encryption

Integrity: only authorized people can modify. **Check:** use hash, like MD5 and SHA

Availability: always ready.

Should maintain, avoid bottle neck, check upgrade, backup plan

TCP 3 handshakes

SYN: synchronize sequence number is sent to server, want to connect

ACK-SYN: server acknowledge, send back the syn number to start with

ACK: acknowledge the message, send back the ACK to server and establish connection

DNS

Easy way for user to remember address to find specific website.

Consist of subdomain.to-pdomain

Manage by domain registries

URL = domain name+protocol+specific location

Type domain name => browser ask DNS => look up => give IP address

Firewall

Hardware/Software-base network security device

Monitor incoming, outgoing traffic and can accept, deny, drop

Base on defined rule

VPN

Create tunnel

Connect to VPN services-- connect to vpn server--all data transfer through that server

Port

Well-known port

Registered port

Dynamic port

Malware

Worm; spread quick, infect file and file-sharing. Cause data loss, data leak, malware installation, detected by fw and antivirus

Spyware: spy, no other

Ransomware: gain access to sensitive data end encrypt, require vip card

Trojan: need host (unlike worm) to spread, pretend to be a cutie program, gain access to system, detected by antivirus

Adware

Rootkit: gain admin access, need specialized tools, not just av

Encryption-Decryption

Sym Asym

DES, Double DES, Triple DES RSA

Advanced ES

Blowfish: use 18 key of 32-bit, quick and effective

