Eavesdropping

Adversary attempts to learn the password by some sort of attack that involves the physical proximity of user and

Host Attacks

user authentication service by flooding the attempts

Denial-of-Service

a Directed at the user passwords, token passcodes, or service with numeric ps://powcoder.commetric templates authentication

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Trojan Horse

An application or physical device masquerades as an authentic application or device for the purpose of capturing a user password, passcode, or biometric

Client Attacks

Adversary attempts to achieve user authentication without access to the remote host or the intervening communications path

Replay

Adversary repeats a previously captured user response

Example: Attacks on password-based authenticat. systems

breaking (try to 'get into' the system by using a legitimate password)

disabling (prevent others from getting into the system

Attacks	A uthenticators	Examples
Assignment I	Project Exam 1	Hefuessing, exhaustive search
Host attack	Password Password	Plaintext theft, dictionary/exhaustive search
Eavesdropping	Password	"Shoulder surfing"
Add We Replay	Chat powcode	Replay stolen password response
Trojan horse	Password	Installation of rogue client or capture device
Denial of service	Password	Lockout by multiple failed authentications

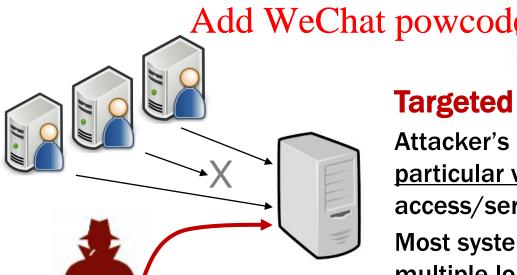
For attacks on other types of biometrics systems – check the textbook!!!

Example: Standard vs. Targeted DoS Attacks

Standard DoS Attack

Attacker's goal is to prevent victimserver from providing access service Exto <u>all</u> legitimate user.





Hacker

Targeted DoS Attack

Hacker

Attacker's goal is to prevent <u>one</u> <u>particular victim-user</u> from obtaining access/service from a server.

Most systems 'lock-out' a user after multiple login attempts using false password

Example: Single- and multi- factor authentication

Systems that use one authentication credential (e.g. something you know) are known as one-factor authentication systems.

Most computer systems / applications are one-factor authentication https://powcoderycompasswords only.

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Systems that require strong protection typically combine
multiple authentication mechanisms – e.g. something you
have and something you know. They are known as two-factor
authentication systems.

For example, access to a bank's ATM requires a banking card + a personal identification number (PIN).

Example: Are Gmail, Hotmail, Yahoo 1- or 2- factor authentication systems?



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Signing in to your account will work a little differently

- 1 Enter your password
 Whenever you sign in to Google, you'll enter your password as usual.
- Enter a verification code
 Then, you'll be asked for a code that will be sent to your phone via text, voice call, or our mobile app.

http://www.google.ca/landing/2step/