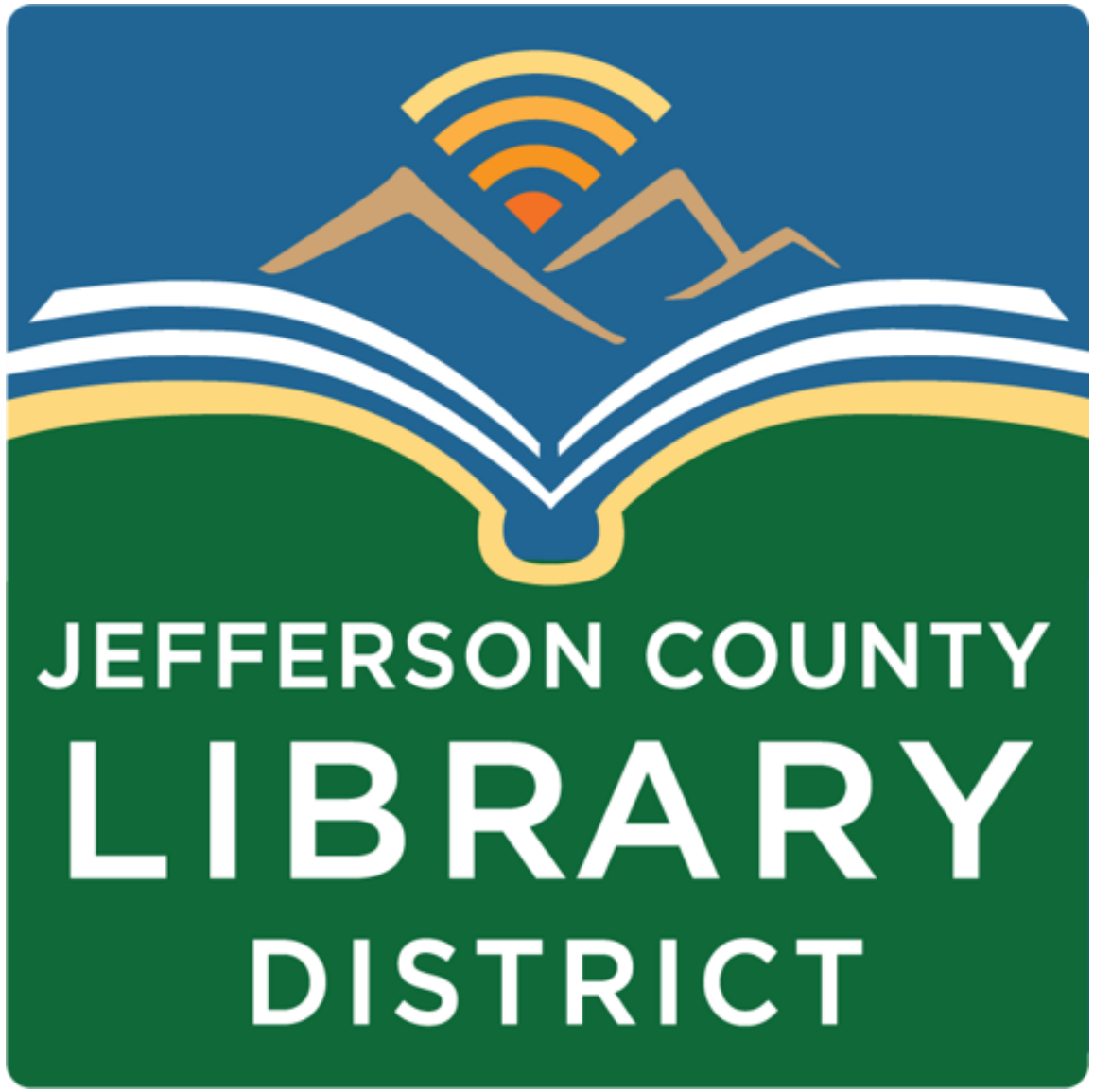
Why Strong Passwords Matter



In this class you will learn...

- What makes a strong password and passphrase.
- What multi-factor authentication is and how it increases security.
- What a password manager is and basic features.

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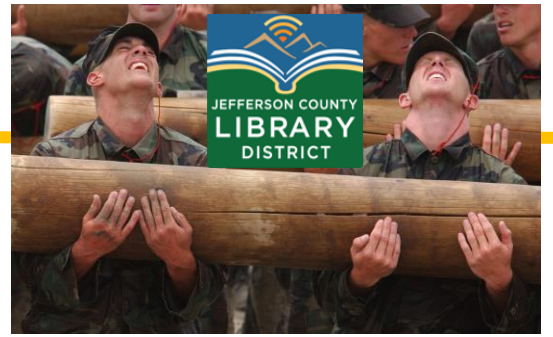
Warm-up!

Why are strong passwords important?

What makes a strong password?

What other ways can you prove who you are?

Training!



8 Ways to Strengthen and Secure Passwords

A mobile-friendly module that teaches people ways to strengthen and secure their passwords, helping to keep them safe from cybercriminals.

https://training.knowbe4.com/modstore/view/5c215964-f416-4e56-9dd0-31ce7619de5a

Tips for making strong passwords

Don’t create passwords using public information such as:

- Pet’s or people’s names
- Addresses or postal codes
- Key dates like a birthday or an anniversary

Don’t Reuse Passwords

- Longer Passwords are Stronger
- The absolute minimum length is eight characters, but 16 or 20 characters are even more secure!
- One of the main ways cybercriminals access your accounts is by trying passwords you have used elsewhere.

Keep It Unique

- Use numbers and special characters to alter regular dictionary words, and don’t use simple patterns like “password1, password2, password3” for different sites.

Use a Passphrase

- Passphrases are a sentence-like string of words that are easy to remember but difficult to crack. For example, “jellyfish-apple-1600-pirate” or a few nonsense words like “Betty was eating tires and playing tuna fish.”

Passphrases

Passphrases are a sentence-like string of words that are easy to remember but difficult to crack.

Examples:

Willed-Tighten0-Specks
escargot-reformist-dumpster
sensitize-taunt-depravity
Gothic4WilderBluish
Reuse6FestivityMastiff

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Strength Testing

Test the strength of your password and passphrases:

How Secure is My Password

https://www.security.org/how-secure-is-my-password/

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Compromised?

To check if your email or password has been involved in a data breach go to **Have I Been Pwned?**

https://haveibeenpwned.com/

Sign up to be notified if your data is involved in future breaches.

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Review

Which of the following tips help to create strong passwords?

1. Don’t create passwords using public information.
2. Don’t reuse passwords.
3. Keep passwords unique.
4. Use a passphrase.
5. All of the above.

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Review

Which of these is the strongest password?

1. jclibrary
2. PortHadlock98339
3. password1234
4. Matador3Gr0omTackling

Why?

Discussion

What is Multi-factor Authentication?

How it works

MFA uses two or more factors to prove who you are.

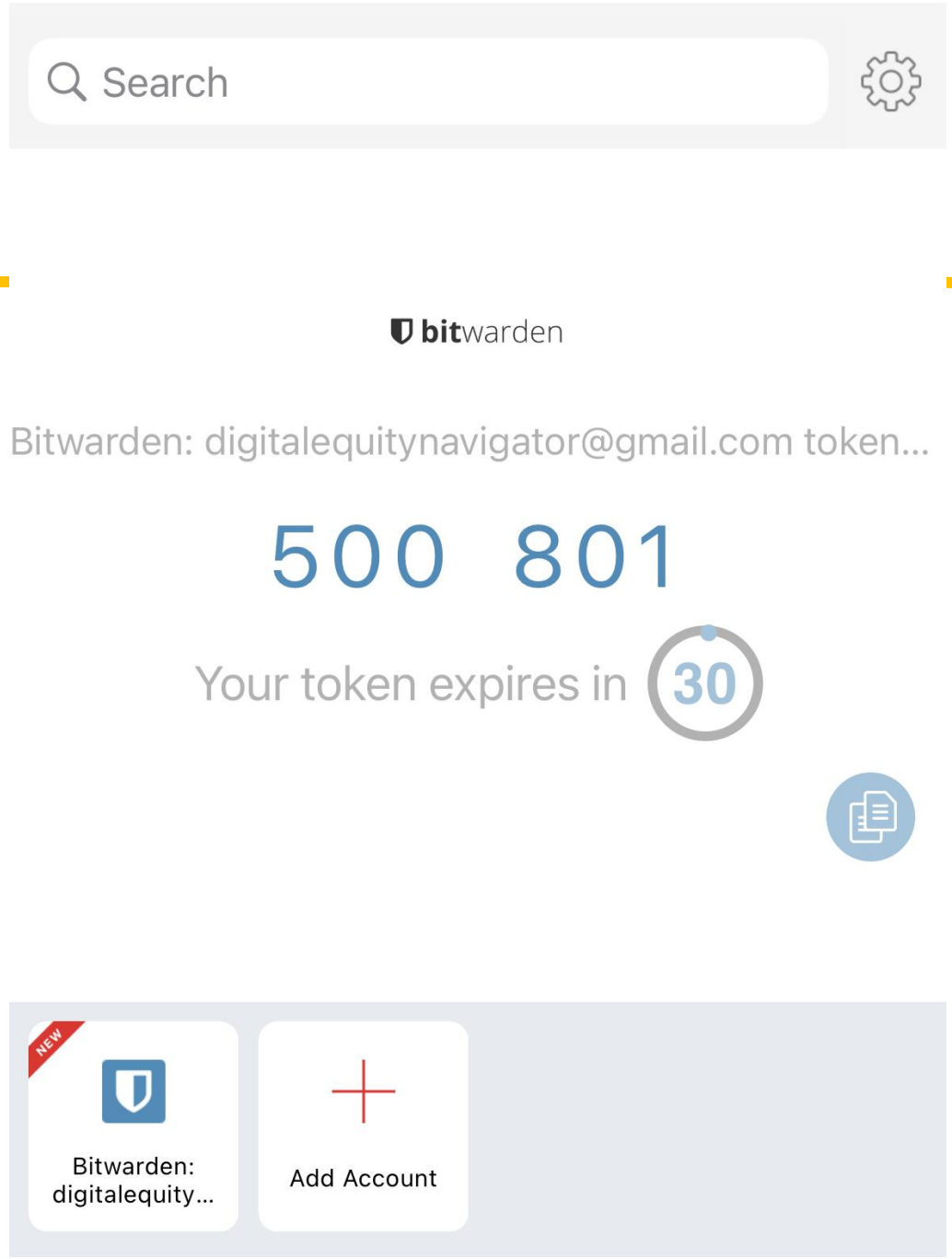
Examples:
One-time code
Fingerprint

https://www.nist.gov/itl/smallbusinesscyber/guidance-topic/multi-factor-authentication

One-time codes

One-time codes can be received the following ways:

- **Email**
- **Text message (SMS)**
- **Authenticator apps**



Authentication apps

A mobile app that generates a one-time code linked to specific online accounts. Below are a few, free authentication apps, though there are many to choose from.

- Authy
- 2FA
- Duo Mobile
- Google Authenticator

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Review

How does multi-factor authentication increase security?

1. It requires a one-time code in addition to a password.
2. It changes my password.
3. It saves my username and password.

Discussion

What is a password manager?

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Password Managers

Common features

- One master password (to rule them all)
- Passwords are stored in an encrypted vault.
- Password generators
- Auto-fill capability

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Suggested password managers

1Password
Dashlane
Keeper
Lastpass
Bitwarden

See: *1Password Is the Best Password Manager in Consumer Reports' New Ratings* by Yael Grauer, **Consumer Reports (free with library card)**

Review

Which of the following are benefits of using a password manager?

1. I only need to remember one master password.
2. My usernames and passwords are saved in an encrypted vault.
3. It can help me generate strong and unique passwords.
4. All of the above.

Vocabulary

Authentication app – An application that uses an algorithm linked to your device to continually generate numerical codes that expire every 30 seconds.

Multi-factor Authentication (MFA) - Authentication using two or more factors to login.

Password - a string of characters that are used to authenticate an identity or to verify access authorization.

Password manager - A program that allows users to store and manage their passwords for local applications or online services.

Passphrase - a special case of a password that is a sequence of words or other text.

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Final Review

What are 3 ways you can increase cybersecurity?

1. Use unique passphrases or passwords.
2. Enable multi-factor authentication.
3. Use a password manager.
4. Call Jamie.

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Resources

Password Managers and Authentication Apps - Consumer Reports (free with library card)
How to Use a Password Manager by Yael Grauer
Why It's Smart to Use Authentication Apps for Multifactor Security by Yael Grauer
https://jclibrary.info/research-learning/a-z-online-resources/

Password Strength – How Secure Is My Password

https://www.security.org/how-secure-is-my-password/

Data Breach – Have I Been Pwnd?

Verify if your email or password has been involved in a data breach - **https://haveibeenpwned.com/**

Multi-Factor Authentication – National Institute of Standards and Technology
https://www.nist.gov/itl/smallbusinesscyber/guidance-topic/multi-factor-authentication

Next class!

Think before you click!
Avoiding Online Scams and Frauds

Date: Friday, September 22
Time: 2:30 – 4:00 pm

We'll discuss different types of online scams and techniques to avoid them.