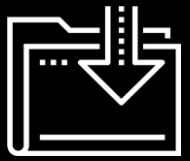
Linux Sysadmin Essentials: Archiving Data Using Tar

"Sticking with your vision and what you believe in is so, so important"

-Zendaya

Cybersecurity

Linux 3 Day 1

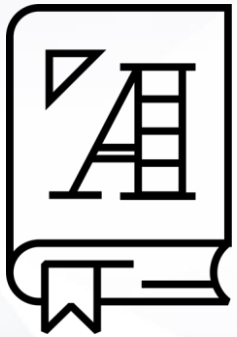


Today’s Objectives

By the end of class, you will be able to:

- Use `tar` command to create an archive
- List and search the contents of an archive
- Use `untar` to extract the contents of an archive.
- Backup files and directories to `compresses archives.`

`tar` command



The `tar` (Tape Archive) command is used for basic backup and recovery procedures, as well as archive documents and distributing software.

The tar Command

tar is the most popular archiving tool used in Unix systems.

`tar` program stores multiple files or directories in a single file called a `tarball.`

Tarballs can be compressed to save storage and allow for faster transfer over the network.

System Backups are important to maintain compliance with regulations, ensure that systems can recover from cyberattacks and natural disasters.

Tarball Archive Backups are normally completed on one system, compressed and then moved to another system for storage.

tar syntax

```
tar [option(s)] [archive_name] [objects_to_archive]
```

- **c** = create an archive
- **v** = verbose
- **f** = filename(s) to archive
- **x** = extract the contents of an archive
- **man tar** = obtain information on all options

The tar Command

The tar command can be written in three different styles:

1. Traditional: options are a cluster of letters

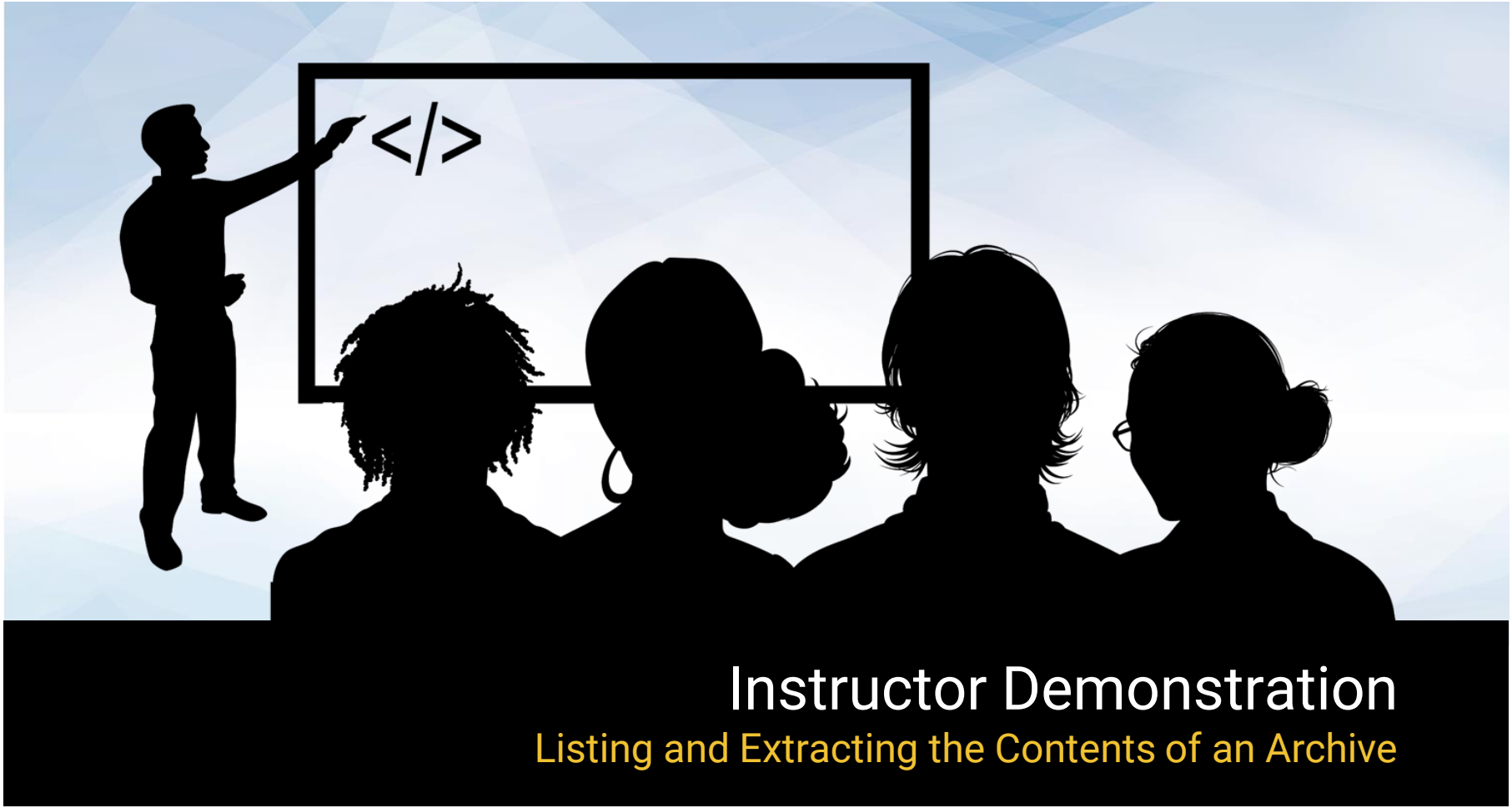
```
tar cvf a.tar /etc
```

1. Short: prepends the “-” to the option that is used most in Unix commands

`tar -xvf a.tar` or `tar -x -v -f a.tar`

1. Long: spells out the option name

```
tar --create --file --verbose a.tar /etc
```



Instructor Demonstration

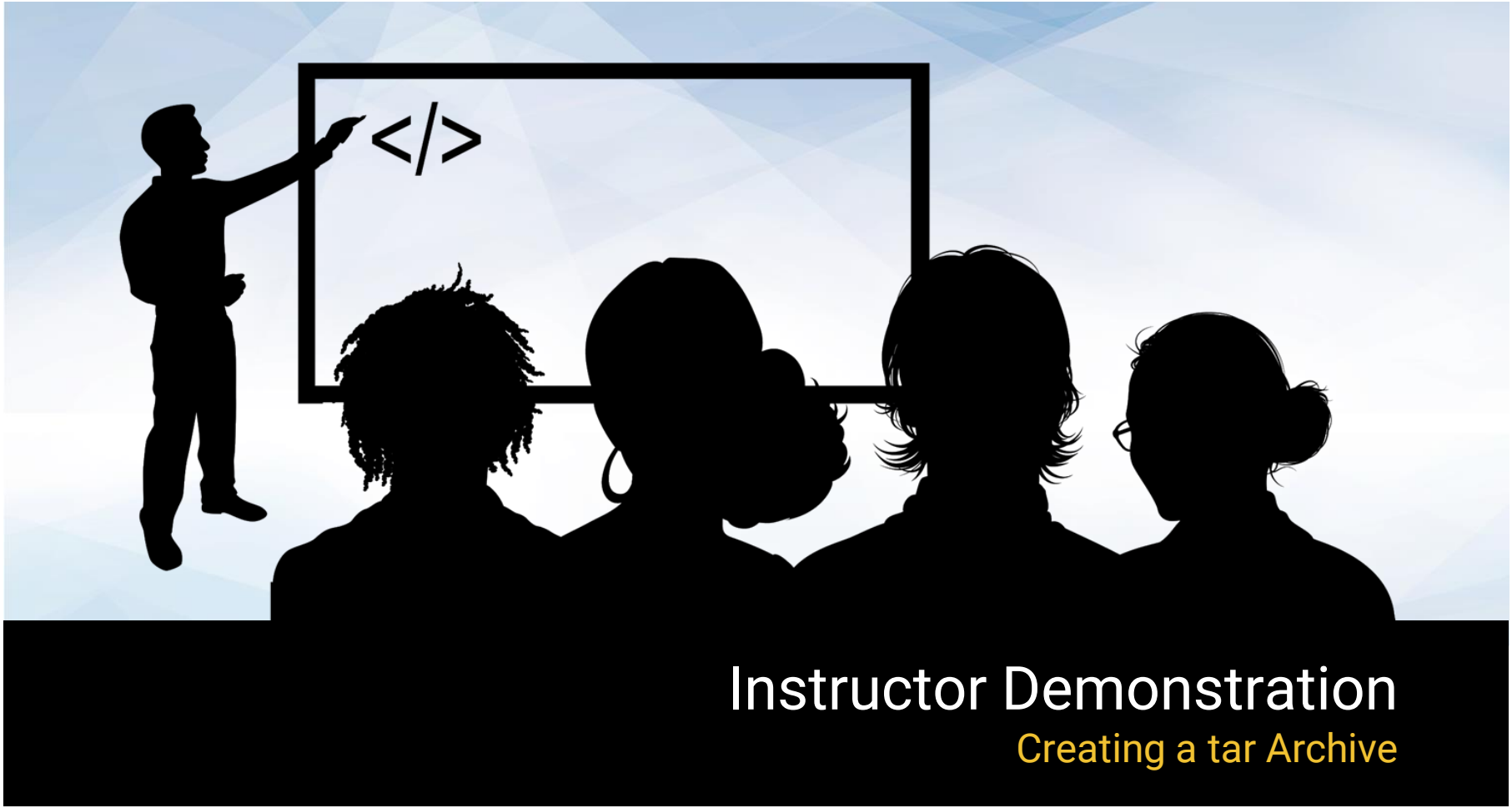
Listing and Extracting the Contents of an Archive

Activity: Listing and Untaring an Archive

In this activity, you will list and extract the contents of an archive.

Activities/01_Stu_TarListExtract/Unsolved/Stu_TarListExtract

Suggested Time:
20 Minutes



Instructor Demonstration

Creating a tar Archive

Activity: Creating a tar Archive

In this activity, you will create four archives using the `Projects/TarDocs` directory.

Activities/02_Stu_CreateTar/Unsolved/Stu_CreateTar

Suggested Time:
20 Minutes

Stick Around After The Break

Backup Data to Compressed Archive

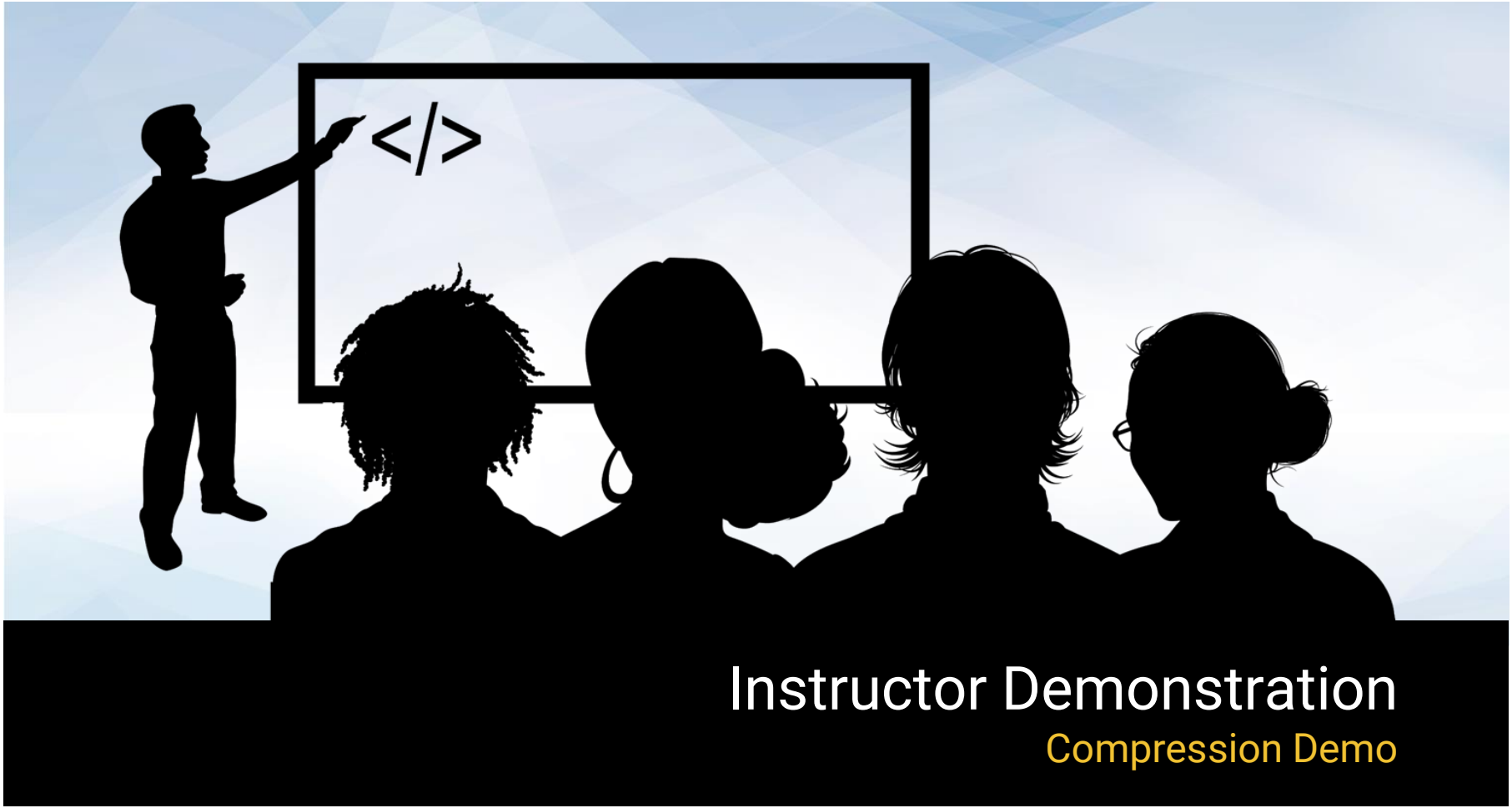
tar archives can become very large, so it’s good practice to compress them

Data compression makes the file smaller to store and faster to transfer over a network.

`tar` does not compress files by default. However, there are compression standards that tar can implement with different flags.

The two most popular compression standards are **`gzip`** and bzip2.

Now, we’ll demonstrate how to create and compress an archive in a single command using the flags for gzip and bzip2.



Instructor Demonstration

Compression Demo

Activity: Backing Up Data to Compressed Archives

In this activity, you will create `gzip` and `bz2` archives.

Activities/03_Stu_GzB2/Unsolved/Stu_GzB2

Suggested Time:
15 Minutes

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