

# File and Folder Sharing

## Objectives:

At the end of this episode, I will be able to:

1. Describe file and printer sharing in macOS 11.
2. Make a folder or printer available for access on a network.
3. Describe alternative resource sharing protocols supported by macOS.

Additional resources used during the episode can be obtained using the download link on the overview episode.

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- Printer Sharing
  - File Sharing
    - Allows sharing files/folders with other users on the network
    - Shared contents are linked to the /Network path
    - Separate links are maintained because share permissions may differ from disk permissions
  - Several different ways
    - SFTP
    - FTP
    - DVD/CD Sharing
  - Two primary connection methods
    1. `Finder -> Go -> Connect to Server`
      - Mounts shared so it remains accessible
      - Mounts to the /Volumes folder
      - Useful for persistent connections
    2. `Finder -> Sidebar -> Shared`
      - Temporarily connects to a share
      - Useful for one-off access
  - AppleShare
    - Apple File Protocol (AFP)
    - `afp://computer/folder`
    - Current version of AFP is 3.4 introduced in 10.8
    - Versions prior to 3.1 can cause issues as they don't support newer features
    - 3.1 was introduced in 10.2
    - File forks
      - Basis for Time Machine
  - Service Discovery Protocols
    - Detects services on the network (LAN and WAN)
      - File Shares
      - Printers
      - Messages Clients
      - iTunes
      - OS X Server
      - Many more
    - Bonjour
    - Automatic discovery of systems on the network

- Zero configuration
  - Leverages IPv6 Link Local addresses
  - Leverages Multicast DNS (mDNS) for name lookups
    - Requests are sent to a multicast address
  - Name format
    - DonsMacbookPro.local
    - DonsMacbookPro-2.local
    - DonsMacbookPro-3.local
  - [More on Bonjour](https://developer.apple.com/library/ios/documentation/Cocoa/Conceptual/NetServices/Articles/about.html)  
(<https://developer.apple.com/library/ios/documentation/Cocoa/Conceptual/NetServices/Articles/about.html>)
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## External Resources:

During this episode, you can reference the following external resources for supplementary tools and information:

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