Clone Share – Molecule Sharing

Installation Instructions - Windows

The Clone Share companion to Clone Manager is used to facilitate molecule sharing across your network. It is installed on a central computer and runs as a web server using standard HTTP, or HTTPS, protocols to allow Clone Manager 10 clients to load, save and share molecules. The following steps outline how to install and configure the system on Microsoft Windows. (Separate documents provide information on installing on Linux and on setting up user accounts and access security.)

Requirements

- Computer to host a .Net Core web server application
- Internet connection for license activation
- The host computer must be online, and available, when users want to use molecules.
- The Clone Share application is written to place minimal demands on the host computer. Any reasonably modern computer can run it as a shared resource.

Web Server Installation – Microsoft Windows

The recommended host is a windows server running 'Internet Information Services' (IIS) as the web server hosting package. You can also use IIS Express running on Windows 10. The following instructions assume you are using IIS or IIS Express. If you are using a different web host server then refer to their documentation on how to install a web site.

1. **Install IIS web hosting environment**
   a. Windows Server: Install IIS and management console
      - Server 2016 or newer recommended (Server 2012 minimum)
      - Run Server Manager, click Manage and select the option to Add Roles, Role-based installation
      - Select Role: Web Server (IIS), accept additional features and complete the wizard to install.

   b. Windows 10: Install IIS Express and management console.
      - Start menu, Settings
      - In the Search box, type 'Turn Windows features on or off' and select
      - Check the box for 'Internet Information Services' to select the default options
      - Expand the nodes: IIS, World wide web services, Application Development Features and check the box for ASP.NET 4 (current windows 10 releases show version 4.8)
      - Now click the OK button to complete the installation

2. **Install .Net Core hosting runtime package**

   a. Download from https://dotnet.microsoft.com/download/dotnet-core/3.1

      - Select ASP.Net Core Runtime OS=Windows, Installers=Hosting Bundle to download the installer
      - Server operating systems typically block downloading files, so you may need to download the runtime package on a client computer and then copy it to the server

   b. Run the installer

   c. Restart the IIS web server

      - Run IIS Manager (Start menu search for 'iis' or use Admin Tools)
      - Click the server node
      - Under Actions, click Restart

3. **Prepare where on your server you will be storing Clone Share data.**

   - Create a folder (e.g. c:\CloneShareData) where you want to store all your Clone Share data; each named Clone Share will be stored as a sub folder of this master root folder.
   - Right click on the folder and select Properties, Security
   - Select Edit, Add and type in IIS_IUSRS and click OK
   - Select user IIS_IUSRS and check the box 'Write' under Allow permissions, click OK
   - It is recommended that you add this location to your routine server backup so that your data is periodically backed up and can be restored in the event of a server failure.

4. **Install Clone Share**

   a. Create a folder to install the Clone Share executable code, e.g. c:\inetpub\SciEdCloneShare

   b. Enable access to the Clone Share code folder

      - Right click on the folder and select Properties, Security
      - Select Edit, Add and type in "IIS_IUSRS" and click OK
      - Select user IIS_IUSRS and check the box 'Write' under Allow permissions, click OK

   c. Now copy the Clone Share installation files into the created folder

      - Download the Clone Share installation file from the downloads section of our website
      - Double click to open the compressed file
      - Copy all of the included files and folders to your Clone Share code folder.

5. **Create website**

   a. Run IIS Manager (Start menu search for 'iis' or use Admin Tools)

   b. Expand the host server node

   c. Right click Sites and select 'add website'

      - Enter name = 'SciEdCloneShare'
      - Set Physical Path = folder where you installed CloneShare
      - Set binding to http or https and select an available port (e.g. http and port 800). If your IT support department recommends using https, they will provide a security certificate and instructions for enabling secure communication

You can verify that the website is running by clicking Browse Website under Actions and you should get the Welcome page. We recommend that you wait to enter your license information until you have enabled remote access

6. **Enable remote access**
   a. Run Windows Firewall app.
      - Click Start button and search for 'firewall' (or select from Administrative Tools)
      - Server
        - Server 2012 and R2, 2016 – select Windows Firewall with Advanced Security
        - Server 2019 – select Windows Defender Firewall, then click 'Advanced settings'
      - Windows 10 – select Windows Defender Firewall, then click 'Advanced settings'

   b. Select Inbound rules, Actions, click 'New Rule'

   c. Select option 'Port', TCP and enter the port you assigned above (e.g. 800)

   d. Under 'Profile' uncheck any access modes that are not appropriate for security reasons (e.g. uncheck 'public' to limit access to your internal organization)

   e. Enter the name 'SciEdCloneShare'

   You are now ready to configure the web site.

Web Server Configure

Now that you have installed the Clone Share system as a web server, you need to configure it so that it best represents your needs. You can configure Clone Share using any browser and this can be done remotely.

1. **Configure Clone Share web site**
   a. Open a web browser to the URL that you assigned to the Clone Share web site
      Example: http://<server>:<port> (e.g. http://server1.university.edu:800)
      - Where server = the name of the web hosting server or its IP address
      - Where port = the port that you assigned when you created the Clone Share site.
      - If you receive a 500.19 error it means your environment is not configured correctly. Check that you have installed the .Net Core hosting package and that IIS is correctly installed. In particular IIS Express on windows 10 requires ASP.NET 4 to be installed

   b. Enter your license information
      - Enter the License ID and password for your license. These are typically sent to you in an email. If you do not already have assigned license keys, please contact us. At present each Clone Manager 10 registered user email address is eligible for one free license (limited time offer).
      - It is recommended that you also enter a short description of the installation location. This is not required, but is helpful if you subsequently need assistance in locating where you installed the license.
      - Your web server must have internet access to enable license activation.
      - When you get the message 'Activation successful' you can click the Close button to move to the next step.

c. Enter the location where you want to store your Clone Share data – this is the folder that you created when you installed the Clone Share system (e.g. c:\CloneShareData).

- If this location is not included in your routine server backup then you should ensure that your data will be backed up so that your data will not be lost in the event of a failure of your web server computer.
- This location needs to be writable. If you receive an error message, you should enable write access to the folder by the server account that your web hosting service is running under. Please refer to the installation instructions for your operating system.
- Click Submit to continue.

d. Create a new administrator account to enable you to login and administer the Clone Share server.

- Enter the account name and password for the person who will be the primary administrator for the Clone Share system.
- This information will be used to enable them to logon to the web site, get current configuration status and make changes.
- After configuration is complete, you can add other users and can optionally give them administrator privileges.

e. Create a Clone Share Name for your user's molecule files

- Names should be a short, but meaningful, description of the content of the share.
- It is a good idea to plan to create several different Clone Share Names so that you can organize your molecules by function or usage. E.g.
  - Vectors – commonly used vectors
  - References – important molecules that are in general use
  - Project 1 – molecules actively in use for the project
- Under 'Share Names', click the 'Add' link
- Enter the name of the Clone Share folder. To allow users to connect they will need the assigned URL for the Clone Share web site and the name of the Clone Share folder.
- Select the default guest access permission
  - See separate document (Setting Up User Accounts and Access Security) for guidance on setting permissions based on your access needs and security.
  - For the first folder, we recommend leaving the default 'Write' permission, which allows all users to read and write molecules stored in this folder.
  - Guest access permission can be changed later if needed.
- Click Cancel to return to the Status page.

f. Review the status page and make any adjustments

- If you would like to limit access to your Clone Share folders, you can select the 'Accounts' link and create specific accounts which you can use to set access permissions to your Clone Share folder(s).
- If you would like to create more Share Names, click the Add button
- If you would like to control who has access to a specific Clone Share folder, you can create a User account and then click Access permissions for the name of the folder.

2. **Maintain Clone Share web site**

a. Open a web browser to the URL that you assigned to the Clone Share web site

b. Enter your log in credentials

c. On the Status page you will have access to the configuration settings for this Clone Share web site.

- Click the appropriate hyperlink to get access to the pages where you can make changes.
- Each page will contain a description, current settings and a tip on how to make changes.

d. When you have completed your changes, close the browser window to automatically log out.

3. **Change user password**

a. If you are using account access permissions, your users can change their own password. (Please refer to document Setting up User Accounts and Access Security for more information.)

- The user should open a web browser to the URL that you assigned to the Clone Share web site
- Click the 'Change' link and enter your user name and current password. Now enter your new password.
- If the user has defined any Clone Share locations in Clone Manager 10 that use their account information, they will need to update their login password.
  - Open Clone Manager 10 and select menu File, Clone Share, Open.
  - Select each Clone Share that uses your account login. (you will likely see a failure icon because your login information is invalid)
  - Select the toolbar button to edit the Clone Share definition.
  - Enter your new account password.

4. **Advanced configuration**

a. Rename a Clone Share: Stop the website using IIS Manager, rename the folder using File Explorer and then restart the website. Note your users will need to re-enter their connection settings to reflect the new share name.

b. Remove a Clone Share: Stop the website using IIS Manager and move or delete the named folder then restart the website. Note that the data contained in the Clone Share will no longer be available to your users.

Configure Clone Manager

Once Clone Share is installed and configured, you are ready to configure your Clone Manager client computers so that you can access the Clone Share data.

1. **Install Clone Manager version 10.1 or newer if you have not already done so.** (Administrator privileges required.)

a. Download and run CM10Setup.msi from the downloads section of our website

(https://scied.com/dl_cm10.htm)

b. If you are already running an older version of Clone Manager 10, the installer will automatically update to the newer version. There is no need to uninstall the older version.

2. **Run Clone Manager 10 and select menu option File, Clone Share, Open**
(Additional information can be found in the document Clone Share User Instructions.)

a. A dialog box will appear where you can define your first Clone Share

- You will need the URL and Share Name that was used to configure the server. The administrator of your Clone Share web site will provide you with this information.
- Enter the URL where your Clone Share web site is installed (e.g. https://university.edu:5433)
- Enter the name of the Clone Share, this is the folder that was created while configuring the server.
- Enter your username and password if your administrator has configured access accounts. Leave blank to use default guest access.
- Optionally give a display name for this share. This name will be displayed in your list of available shares and is your personal label for the share.
- When you click OK, you will see a tree display of available shares in the left panel and the content of the share in the right list panel. For a newly created Clone Share folder, the right panel will be empty until you save some molecules to this location.

b. Subsequent openings of the Clone Share dialog will go directly to the display of available Clone Share folders and their content.

c. Use the toolbar to manage your Clone Share Locations in the left panel. You can add, edit, remove or reorder your shares. Hover your mouse over a toolbar button to see a popup tooltip.

d. Select a Clone Share in the left panel and see the files and folders in the right panel. Click to open a folder or load a molecule file.

e. Power options are available by right clicking an item (write access permission is required to enable these options)

- Left panel, right click on an item to add a new folder and enter the name of the folder. Folders enable you to organize molecules into logical groupings.
- Right Panel, right click on item to rename, delete or move the item.
    - Rename a molecule only changes the label displayed for that molecule and is not editing the real name of the molecule.
    - Deleting a molecule will permanently remove the molecule from the Clone Share and no one will be able to load the molecule.
    - Deleting a folder will permanently delete the folder and all molecules contained in that folder and any sub folders.
    - Moving a folder or molecule will ask you to pick where it should be moved to.