COMP311 Linux Lab

Lab3: Creating Links (hard and soft links)

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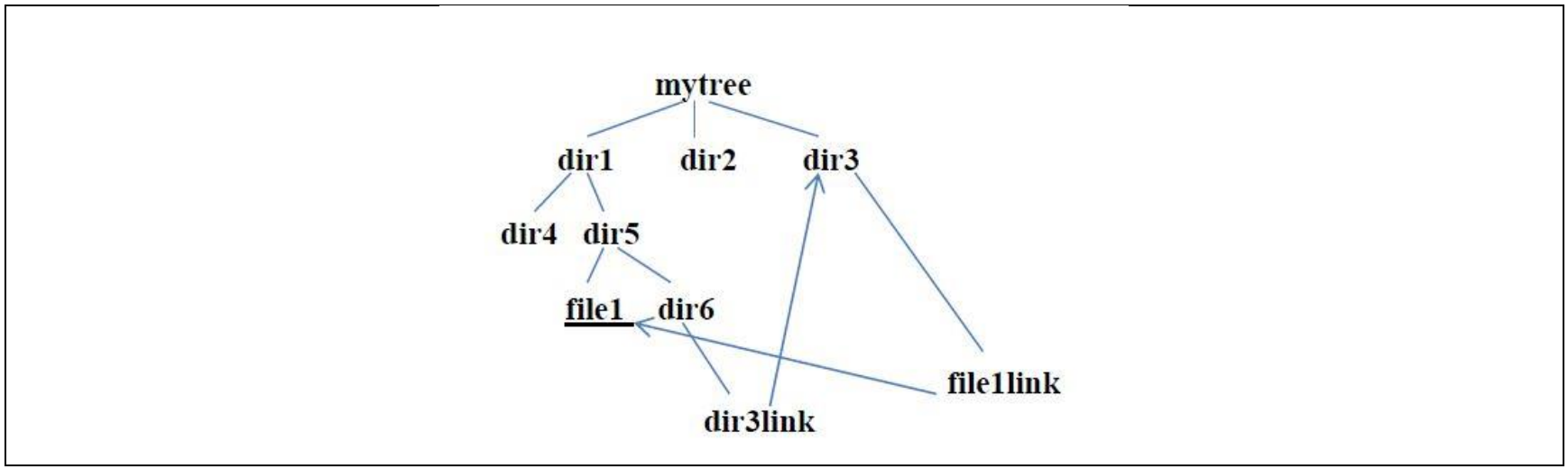
This tutorial will guide you through the essential steps for creating both hard and soft links. We will explore two methods: one without utilizing the 'cd' command and the other by incorporating the 'cd' command. These methods offer flexibility and cater to diverse preferences when it comes to creating links.



Solution one (Without using cd command)

Hard links (between files)

1. **Identify the Original File**: In our example, the original file is named 'file1.' Take note of the pointer with the direction (←), which always points to the original file.
2. **Designate the Destination File Link:** In our scenario, it's 'file1link.' Observe the pointer with the base (→), which always starts from the destination file.
3. **Determine Your Current Location:** Use the pwd command to find your current directory. In our case, let's assume we are in the home directory (~).
4. **Utilize the Command:**
   [ln original_path destination_path]
5. **In Our Case: The command would be as follows:**

ln ./mytree/dir1/dir5/file1 ./mytree/dir3/file1link

Symbolic links (between directories)

1. **Identify the Original Directory**: In our example, the original directory is 'dir3.' Take note of the pointer with the direction (←), which always points to the original directory.
2. **Designate the Destination Directory Link**: In our scenario, it's 'dir3link.' Observe the pointer with the base (→), which always starts from the destination directory.
3. **Determine Your Current Location**: Use the pwd command to find your current directory. In our case, let's assume we are in the home (~).
4. **Utilize the Command**
   [ln -s original_path destination_path]
5. **Consider Relative Paths:** Note that the path of the destination directory is always relative to the path of the original directory. For instance, if you are inside 'dir6' and want to link to 'dir3' (original), the path will be '../../../dir3.' In other words, the path to dir3 from dir6
6. **Determine destination Directory:** The link directory ('dir3link') inside dir6 can be represented as './mytree/dir1/dir5/dir6/dir3link,' assuming that you are in the home directory (~).
7. **The Command: The command to create the link should look like this:**
   ln -s ../../../dir3 mytree/dir1/dir5/dir6/dir3link

Solution two (using cd command)

Hard links (between files)

1. **Identify the Original Directory**: In our example, the original directory is 'file1.' Notice the pointer with a head symbol (←), which always points to the original file.
2. **Designate the Destination Directory Link**: In our scenario, it's 'file1link.' Observe the pointer with a base symbol (→), which always starts from the destination file.
3. **Determine Your Current Location**: Use the **pwd** command to find your current directory.
4. **Change the Directory Path:** Use the **cd** command to navigate to the destination directory that contains 'file1link.' For example, you can use **cd mytree/dir3.**
5. **Relate the Original and Destination Paths**: The original path should be relative to the destination path. In other words, you need to determine the path of 'file1' from 'dir3.'
6. **Utilize the Command:**

   [ln original_path destination_path]
7. **Command Example:** In our case, the command should look like the following:

   Ln ./../dir1/dir5/file1 file1link

Symbolic links (between directories)

1. **Identify the Original Directory**: In our example, the original directory is 'dir3.' Notice the pointer with a head symbol (←), which always points to the original file.
2. **Designate the Destination Directory Link**: In our scenario, it's dir3link.' Observe the pointer with a base symbol (→), which always starts from the destination file.
3. **Determine Your Current Location**: Use the **pwd** command to find your current directory.
4. **Change the Directory Path**: Use the **cd** command to navigate to the destination directory that contains 'dir3link.' For example, you can use **cd mytree/dir1/dir5/dir6**.
5. **Relate the Original and Destination Paths**: The original path should be relative to the destination path. In other words, you need to determine the path of dir3 from dir6.
6. **Utilize the Command**

   [ln -s original_path destination_path]
7. **Command Example**: In our case, the command should look like the following:

   ln -s ./../../../dir3 dir3link

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