CS 550: Advanced Operating Systems

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Consistent P2P File Sharing System: Verification Document

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Contents

Test case 1 See the list of local files

For this test case, you will need to set up **one peer** and **one super-peer**. Please refer to the manual.

1. Make sure that the `share` folder contains at least one file.
2. Start the peer.
3. Type `1` to see the list of local files.
4. Verify that the list of files corresponds to the files present in the `share` and `downloads` folders.

Test case 2 Change files and check that the push-based approach is correct

For this test case, you will need to set up **one peer** and **one super-peer** with **strategy 0**. Please refer to the manual.

1. Start the peer and super-peer.
2. Type `1` to see the list of local files.
3. Verify that the list of files corresponds to the files present in the `share` folder.
4. Update a file in the `share` folder.
5. Verify that an invalidate request corresponding to this change was made by looking in the super-peer logs.

Test case 3 Change files and check that the pull-based approach is correct

For this test case, you will need to set up **two peers** and **one super-peer** with **strategy 1 or 2**. Please refer to the manual.

1. Start the first peer and super-peer.
2. Type `1` to see the list of local files.
3. Verify that the list of files corresponds to the files present in the `share` folder.
4. Start the second peer.
5. Download a file from the first peer.
6. Update the file in the first peer's `share` folder.
7. Wait for the TTR to be outdated and verify that a pool request was made by looking in the super-peer logs and that the reply is correct.

Test case 4 Change files and check that the pull-based approach is correct (variant)

For this test case, you will need to set up **two super-peers** with **one leaf-node** and **strategy 1 or 2**. Please refer to the manual.

1. Start the first peer and super-peer.
2. Type `1` to see the list of local files.
3. Verify that the list of files corresponds to the files present in the `share` folder.
4. Start the second peer and super-peer.
5. Download a file from the first peer.
6. Update the file in the first peer's `share` folder.
7. Wait for the TTR to be outdated and verify that a pool request was made by looking in the super-peer logs and that the reply is correct.

Test case 5 Download a file from a peer

For this test case, you will need to set up **one or multiple super-peers** with **one or more leaf-nodes**. Please refer to the manual.

1. Make sure that the `share` folder of the peers contain different files.
2. Start the super-peers.
3. Start the peers.
4. On one peer, type `2` to download a file.
5. Type the name of a file only present on another peer.
6. Verify that the super-peer returns the right peer information for this file.
7. Type `1` to download this file.
8. Verify that the download was successful and that the downloaded file is now present in the `downloads` folder.

Test case 6 Search for a non-existent file

For this test case, you will need to set up **multiple peers** and **one super-peer**. Please refer to the manual.

1. Make sure that the `share` folder of the peers contain different files.
2. Start the super-peer.

3. Start all the peers.
4. On one of the peers, type `2` to download a file.
5. Type the name of a file that doesn't exist on any peer.
6. Verify that the super-peer doesn't return any peer information for this file.