

Assignment-1

In this assignment you have to develop a news service system. There is a centralized news server which maintains a library of news. There are three types of clients, namely reporters, who contribute news items, readers, who read news items, and administrator.

1. The news server maintains two news groups, named academic and non-academic. Each news group may have several news items. Each news item has a headline, date, and text (which is the main news body).
2. A reporter is a client process which connects to the server and contributes a news item. The reporter must specify the news group to which it will contribute the news item.
3. A reader is a client process which connects to the server to read the news. Initially the reader is asked to select a news group. Then the headlines of all news items in the selected newsgroup are enumerated in reverse chronological order (that is, starting with the most recent news item down to the least recent news item). When the user selects an item, the text of the news item is displayed in a separate xterm using the more filter. This continues until the user quits the client application. You must provide an appropriate mechanism for a client to quit. (Use # as quit character)
4. An administrator is a client process which mainly recommends the deletion of old news items. The authenticity of an administrator client must be verified by the server, using a password checking mechanism. The administrator can specify a date and time such that the server preserves only news items that have arrived after the specified date, and delete all other news items.
5. The action of administrator may cause certain inconvenience to a reader who is reading at the time of deletion. To overcome this problem next implement a temporary buffer (assuming no file will be more than 1 Mb) to store the file while reading. (Discover what problem still exists)
6. This is optional -- but we welcome a full-proof solution to this problem.

Develop the application and demonstrate using at least two parallel readers and at least two reporters, one server and one administrator.

Reader and Reporter talks to server using TCP and administrator using UDP.

No two news articles are identical.

Use Wireshark to capture the packets during the socket communication, and apply filters to segregate data packets for (1) Reader to the Server or vice versa, (2) Reporters to the Server or vice versa, and (3) Administrator to the Server or vice versa.