

Active Directory

Implementing the user search in the active directory takes a loop to go through the given group, an array and an input user. Although the active directory has a parent group, a child group, and a sub child group, the space complexity still depends on how many users it holds, making it $O(n)$. Because of having subdirectories, arrays are the best data structure because nesting is very simple with it. As for time complexity in searching for users, because it is an array, it is linear.

Sources

Brumfield, K. (2022, May 19). *Capacity Planning for Active Directory Domain Services*. Microsoft Learn. From

<https://learn.microsoft.com/en-us/windows-server/administration/performance-tuning/role/active-directory-server/capacity-planning-for-active-directory-domain-services>