

What is Trees?

- A tree is a non-linear data structure that represents data in a hierarchical form (like a family tree).
- It is made up of nodes connected by edges.
- A tree has one special node called root, and every node can have child nodes.
- It follows parent-child relationship.

Why We Use Trees? ⚡

- To store and organize data in a hierarchical way.
- Provides fast searching, insertion, and deletion.
- Helps in implementing efficient databases, file systems, and indexes.
- Useful for representing relationships in structured form.

Real Life Examples of Trees

- Family Tree
- File System in computers
- HTML DOM Tree in web development.
- Databases Indexing (B-Trees, B+ Trees)
- Artificial Intelligence

Types of Trees

- General Tree
- Binary Tree
- Binary Search Tree (BST)
- AVL Tree
- Heap Tree
- B-Tree / B+ Tree
- Trie