

What is Zoo keeper? List the benefits of it.

## In Previous Years Questions

ZooKeeper is an open-source, distributed coordination service used by large-scale distributed systems.

It provides a central hub for applications to manage shared data, synchronize actions, and maintain consistent state across a cluster of machines.

Think of it as a “traffic controller” for distributed systems, ensuring smooth and coordinated operation.

## Some key features of ZooKeeper

- **Distributed File System:** It acts as a central repository for configuration data, service registry, and other critical information accessible by all nodes in the cluster.
- **Synchronization Primitives:** ZooKeeper provides primitives like locks, barriers, and queues to ensure consistent access and operation among distributed applications.
- **Leader Election:** It can elect a leader node to manage critical tasks and ensure consistency in case of failures.
- **High Availability:** ZooKeeper is designed to be highly available and fault-tolerant, ensuring continuous operation even if some nodes in the cluster fail.

## Benefits of ZooKeeper

- **Simple and Scalable:** ZooKeeper offers a simple API and a lightweight architecture, making it easy to use and scale for large deployments.
- **Reliable and Consistent:** It provides robust synchronization mechanisms that guarantee data consistency and prevent conflicts in distributed systems.

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- Flexible and Customizable: ZooKeeper can be configured and extended to meet the specific needs of different applications and environments.
- Open-source and Community-driven: Its open-source nature and active community contribute to continuous development and improvement.