

Distributed Systems - CS7NS6
Assignment 1
Group 9

The Apache ZooKeeper

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Table of content for the central theme of the presentation on Apache ZooKeeper

1. Introduction to ZooKeeper

Scope: Brief introduction to ZooKeeper.

Source:

- Youtube
https://www.youtube.com/playlist?list=PLb0pWz-jnz9_GjuzMQ4b5gZGONjyHjWlb
- Apache
<https://zookeeper.apache.org/>
- Tutorial
<https://www.guru99.com/zookeeper-tutorial.html>
- Research Paper
https://www.usenix.org/legacy/event/usenix10/tech/full_papers/Hunt.pdf

2. Key Problems ZooKeeper Solves

Scope: Need of ZooKeeper. A brief discussion about its application in Distributed Systems.

Source:

- Youtube
https://www.youtube.com/playlist?list=PLb0pWz-jnz9_GjuzMQ4b5gZGONjyHjWlb
- Research Paper
https://www.usenix.org/legacy/event/usenix10/tech/full_papers/Hunt.pdf
- Book
https://books.google.ie/books?hl=en&lr=&id=LnYcAgAAQBAJ&oi=fnd&pg=PR2&dq=zookeeper&ots=MLofBROuC&sig=10k_XeLBR-ETARX2sFK5sFBvnVA&redir_esc=y#v=onepage&q=zookeeper&f=false

3. The architecture of ZooKeeper - The main components

Scope: Key components of ZooKeeper application.

Source:

- ZooKeeper Programmer's Guide
<https://zookeeper.apache.org/doc/r3.4.13/zookeeperProgrammers.html>
- Youtube
https://www.youtube.com/playlist?list=PLb0pWz-jnz9_GjuzMQ4b5gZGONjyHjWlb
- Tutorial
<https://www.guru99.com/zookeeper-tutorial.html>
- Research Paper
https://www.usenix.org/legacy/event/usenix10/tech/full_papers/Hunt.pdf
- Book
https://books.google.ie/books?id=Ym9uBgAAQBAJ&printsec=frontcover&source=gbs_atb&redir_esc=y#v=onepage&q&f=false

4. Key Advantages Scalability, High Reliability, High Availability, and High Performance

Scope: Role of ZooKeeper in solving the critical challenges of Distributed Systems and their advantages.

Source:

- Research Paper
https://www.usenix.org/legacy/event/usenix10/tech/full_papers/Hunt.pdf
- Book
https://books.google.ie/books?id=Ym9uBgAAQBAJ&printsec=frontcover&source=gbs_atb&redir_esc=y#v=onepage&q&f=false

5. Major platforms using ZooKeeper

Scope: Highlight the utilization of ZooKeeper in some major platforms and the role it plays to keep these platforms running smoothly.

Source:

- ZooKeeper at Twitter
https://blog.twitter.com/engineering/en_us/topics/infrastructure/2018/zookeeper-at-twitter
- ZooKeeper with Kubernetes
<https://kubernetes.io/docs/tutorials/stateful-application/zookeeper/>
- ZooKeeper with Kafka
<https://www.conduktor.io/kafka/zookeeper-with-kafka/>
<https://www.cloudkarafka.com/blog/cloudkarafka-what-is-zookeeper.html>
- ZooKeeper at Meta
<https://engineering.fb.com/2018/07/19/data-infrastructure/location-aware-distribution-configuring-servers-at-scale/>
- Book
https://books.google.ie/books?id=Ym9uBgAAQBAJ&printsec=frontcover&source=gbs_atb&redir_esc=y#v=onepage&q&f=false

6. Key Limitations of ZooKeeper

Scope: Some main challenges and limitations of ZooKeeper applications.

Source:

- Tutorial
<https://www.guru99.com/zookeeper-tutorial.html>
- Book
https://books.google.ie/books?hl=en&lr=&id=LnYcAgAAQBAJ&oi=fnd&pg=PR2&dq=zookeeper&ots=MLofBROuC&sig=10k_XeLBR-ETARX2sFK5sFBvnVA&redir_esc=y#v=onepage&q=zookeeper&f=false