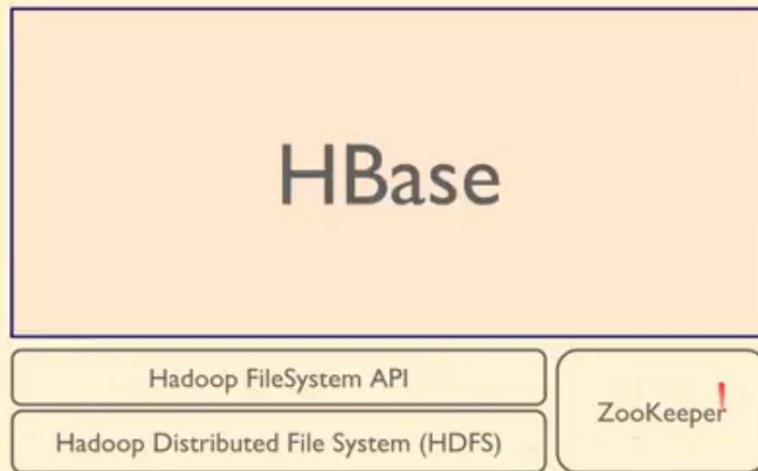


HBase Architecture

HBase - Architecture - Overview

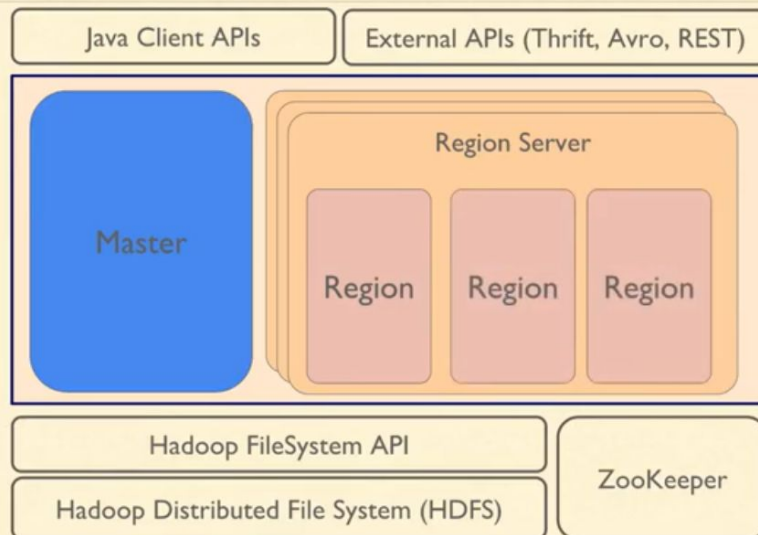


HBase

CLOUD x LAB



HBase - Architecture - Overview



HBase

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HBase Architecture - Regions

HBase - Architecture



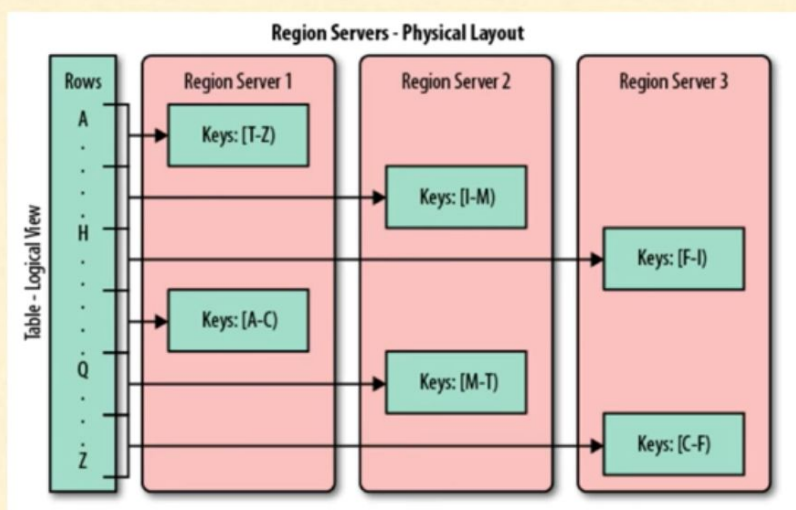
- As size of the region grows beyond threshold, it splits into 2 halves
- As the table grows, the number of its regions grows.

HBase

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HBase - Region Servers

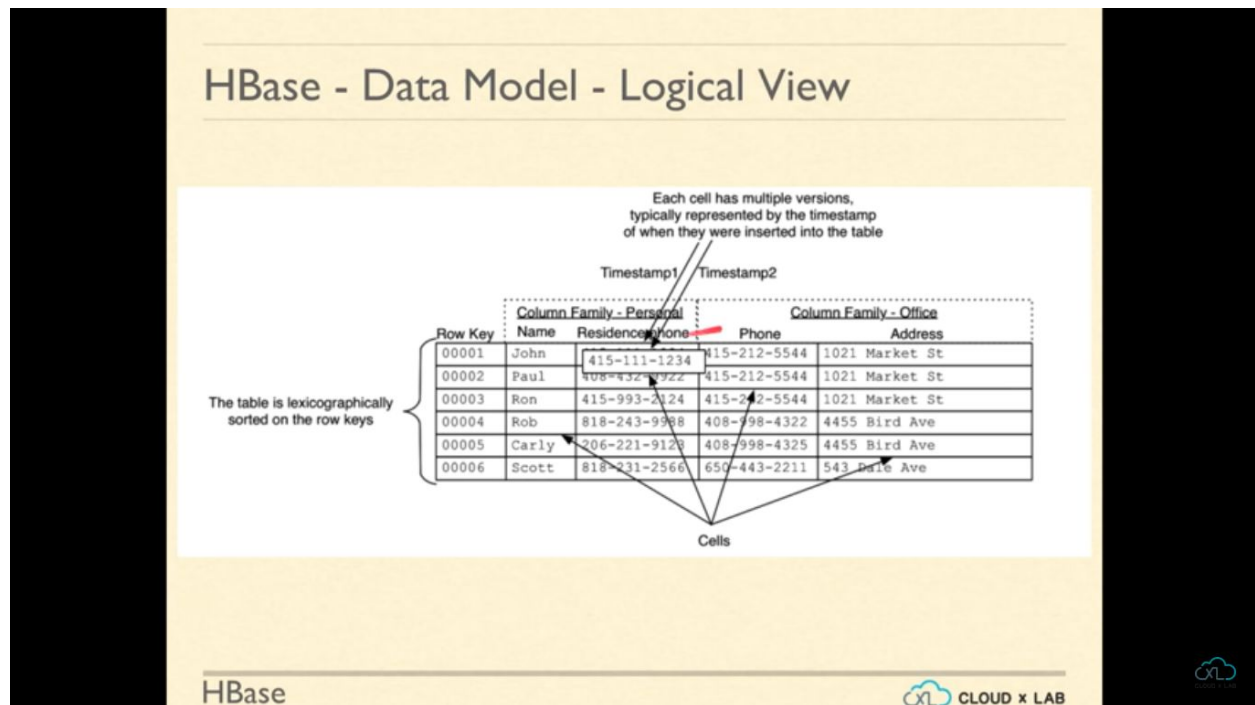


HBase

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HBase - Data Model



HBase Design Guidelines

HBase - Data Model Example

```
noahsheldon063907@cxln4:~$ ssh -X noahsheldon063907@ecloudxlab.com
cxln4 login: noahsheldon063907
Password:
Last login: Tue Apr 28 15:49:44 on pts/20
[noahsheldon063907@cxln4 ~]$ hbase shell
HBase Shell; enter 'help<RETURN>' for list of supported commands.
Type "exit<RETURN>" to leave the HBase Shell
Version 1.1.2.2.6.2.0-205, r5210d2ed88d7e241646beab51e9ac147a973bdcc, Sat Aug 26 09:33:50 UTC 2017

hbase(main):001:0> create 'noahsheldon063907_sales', 'contents', 'values'
0 row(s) in 1.4500 seconds

=> Hbase::Table - noahsheldon063907_sales
hbase(main):002:0> help
HBase Shell, version 1.1.2.2.6.2.0-205, r5210d2ed88d7e241646beab51e9ac147a973bdcc, Sat Aug 26 09:33:50 UTC 2017
Type 'help "COMMAND"', (e.g. 'help "get"' -- the quotes are necessary) for help on a specific command.
Commands are grouped. Type 'help "COMMAND_GROUP"', (e.g. 'help "general"') for help on a command group.

COMMAND GROUPS:
Group name: general
Commands: status, table_help, version, whoami

Group name: ddl
Commands: alter, alter_async, alter_status, create, describe, disable, disable_all, drop, drop_all, enable, enable_all, exists, get_table, is_disabled, is_enabled, list, locate_region, show_filters

Group name: namespace
Commands: alter_namespace, create_namespace, describe_namespace, drop_namespace, list_namespace, list_namespace_tables

Group name: dml
Commands: append, count, delete, deleteall, get, get_counter, get_splits, incr, put, scan, truncate, truncate_preserve

Group name: tools
Commands: assign, balance_switch, balancer, balancer_enabled, catalogjanitor_enabled, catalogjanitor_run, catalogjanitor_switch, close_region, compact, compact_rs, flush, major_compact, merge_region, move, normalize, normalizer_enabled, normalizer_switch, split, splitormerge_enabled, splitormerge_switch, trace, unassign, wal_roll, zk_dump

Group name: replication
Commands: add_peer, append_peer_tableCfs, disable_peer, disable_table_replication, enable_peer, enable_table_replication, list_peers, list_replicated_table
```