KubeCon | CloudNativeCon

OPEN SOURCE SUMMIT

China 2019
在Kubernetes上运行AI/DL作业

Da Ma (@k82cn)
- **Job/Queue Management**
  - Queue status/configuration
  - Hierarchical queue
  - Job with multiple pod template
  - Lifecycle management of Job, e.g. restart, suspend/resume
  - Error Handling, e.g. restart job if pod failed (MPI, TFJob)
  - Indexed Job
  - Task dependency, e.g. Spark (executor/driver)
  - Delay Pod Creation
  - ...

- **Runtime**
  - Singularity
  - ...

- **Scheduler**
  - Coscheduling
  - Faire-share
  - Queue
  - Preemption/Reclaim
  - Reserve/Backfill
  - Topology (network, accelerator)
  - ...

- **Others**
  - Throughput
  - Round-trip
  - Data locality (Data Aware Scheduling)
  - ...

---

**Gaps**
Volcano: A Kubernetes Native Batch System

Website: https://volcano.sh
Github: http://github.com/volcano-sh/volcano
Twitter: https://twitter.com/volcano_sh
Slack: http://volcano-sh.slack.com
Email: volcano-sh@googlegroups.com
Job/Queue Demo

- Queue status/configuration
- Hierarchical queue
- Job with multiple pod template, (MPI, TensorFlow)
- Lifecycle management of Job, e.g. restart, suspend/resume
- Error Handling, e.g. restart job if pod failed
- Indexed Job
- Task/Job dependency, e.g. Spark (executor/driver)
- Delay Pod Creation
Scheduler Demo

- Gang-Scheduling (e.g. MPI, TensorFlow training)
- Fair-Sharing between jobs (e.g. Spark)
- Fair-Sharing between namespaces cross queue
- Task priority
- Proportion between queues
- Preemption/Reclaim
- Backfill
- Reservation
Q & A