

Deployment of Virtual Cluster on a Commercial Cloud Platform for Molecular Docking and Elasticity of the Clusters

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Overview

- Objective: upload a virtual machine that runs a protein-ligand interaction simulating program (Dock6) onto FutureGrid
- Purpose: having Dock6 onto the commercial cloud will allow tasks to be performed cheaply and efficiently
- 3 areas will be investigated:
 - Elasticity of the clusters (Katy)
 - Fault tolerance of the system (Derek)
 - Use of several virtual clusters on various commercial clouds to form a single system (Anthony)

Week 6 Progress

- Fixed an error related to namenode not being connected – we reformatted the filesystem
- Fixed the error related to datanode not being properly connected –we deleted the directory “hadoopdata”, then reformatted the namenode again and re-started the dfs services
- Finished the tutorial for regular execution for pseudo-distributed operation
- Started and finished the tutorial for YARN pseudo distributed operation – did not run into any errors
- Checked if the namenode and datanode were connected properly – they work fine
- Cloned Front End 1(containing hadoop already installed) → named the clone “fanship”
- Checked if hadoop was working properly on fanship. Completed the standalone execution, ran into problem with datanode during pseudo-distributed (fixed by deleting the directory in hadoopdata & reformatting the filesystem)
- Discovered that due to yarn, pseudo-distributed operation was not working properly on Fanship (still unsure the exact reason why), our solution: renamed yarn configuration files and disabled yarn
- Cloned Front End 1 new clone: “Tokyo” based on edits made on Front End 1 in order to have pseudo-distributed operation working
- Completed Standalone operation, pseudo-distributed operation on Tokyo. Ran into “connecting to server” problems – fixed them by deleting hadoop directory & reformatting (still worried about this error because it reappears even in the clones and not sure why)
- Tried to do yarn pseudo-distributed operation, ran into error that the server could not connect. Fixed it by editing the configuration files and adding parameters, now: can connect server, but cannot run the jobs

Coming up: Next Week's Goals

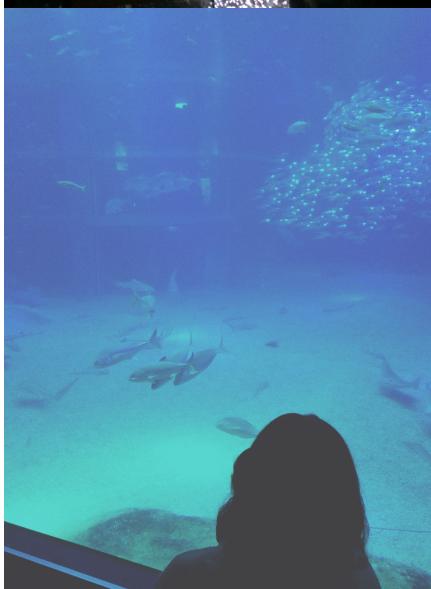
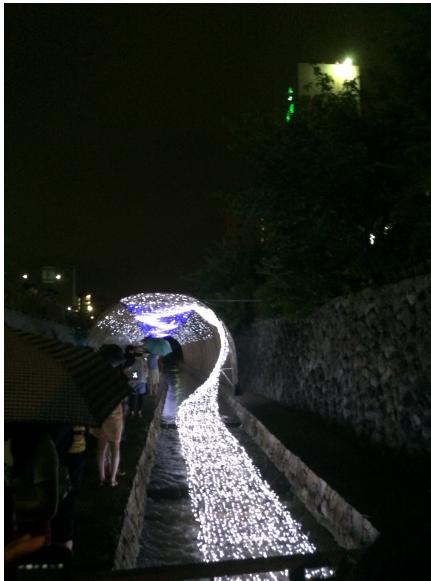
- Figure out why we cannot run jobs on Yarn during pseudo-distribution
- Create the cluster on hadoop and run tests to make sure it's working properly

Exploring the Culture

- On Saturday:
 - Kyoto night trip!
 - Celebration of the Tanabata in Kyoto
 - Walked along the river & through the “Milky Way”
 - Nijo Castle Illumination – so beautiful!!
- On Sunday
 - Osaka Day Trip
 - Visited the Osaka Aquarium
 - Used our coupons at the Tempozan Plaza
 - Went on the Tempozan Ferris Wheel (see-through cabin!!!)
 - Visited the Tsutenkaku Tower
 - It started pouring ☹
 - Dotonbori dinner (wonderful Ramen at the Green Dragon stand) – highly recommended!!!

Exploring the Culture

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Nijo Castle
Illumination
(Kyoto)— my
favorite

Exploring the Culture

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Acknowledgements

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