

Lab 4

Introduction to Cloud Computing -- Live Migration Massively

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Lab 4: Live Migration in a Group

Dear VM Nomads

- After migrate your first VM, you now need to move to a place with rich resource
- Migrating many docker images and doing it lively until your system halts
- Analysis why it halts and understand the idea of resource bottleneck

Goal for Lab 4

- Objectives:
 - Understanding the basic techniques for VM migration
 - Migrate containers to test your migration skill
 - Understanding the concept of checkpoint and restore
 - Successfully migrate multiple images either one by one or in a batch
 - Writing a decent report

To Start

- Learn to do live migration in docker
- Using Checkpoint and Restore (CRIU) tool in docker to do this job
 - https://criu.org/Live_migration is your source to check
- Ask one of our friend/roommate and migrate your Golang job (with your ID or name) to his/her place
- Measure the duration of migration and collect all other runtime statistics
- New stuff: Write a script to move docker image automatically

Hints and Remarks

- CRIU tool is your best way to make it happen or you may implement your own code to do it
- More information can be found in docker-engine mail list and GitHub issues
- Either you steam your docker image or repeat your previous experiment in a fast loop
- Increase the number of concurrency and see when your system freezes
- In your report, you can show us **when your system fails, how it fails and why**
- **Bonus: if you find a way to fix the bottleneck and show us how it is being fixed based on reasons you found, you will get bonus points**

Lab 4: Submission Requirement

- Use the provided basic Markdown template for your lab report online
- Fill the report with the Markdown template, including all your test procedure
- Compile it and submit it to ncuhomework@outlook.com
- Subject shall be Course Z6110X0035 CC Lab 3 #name #ID
- The tentative deadline for this lab is postponed to **Apr. 28th, 11:59PM (Hard Deadline)**