Scientific Computing on AWS

Lecture 2: Running Deep Learning Applications in AWS

Tomoyuki Mano

Okinawa Institute of Science and Technology

2021/09/24 @OIST

Lecture materials

- The main lecture material is at
  https://tomomano.github.io/learn-aws-by-coding/en/
  (sorry, I still haven't finished it all)
- The source code for the exercises is at
  https://github.com/tomomano/learn-aws-by-coding
- Supporting lecture slides are posted at
  https://github.com/tomomano/oist-aws-2021

Course details

https://groups.oist.jp/grad/mini-course-2

Date	Time	Topic
Wednesday, September 22	15:00-17:00	AWS Basics (setup & installation, EC2)
Friday, September 24	15:00-17:00	Running Deep Learning Applications in AWS
Wednesday, September 29	15:00-17:00	Running Parallel Batch Jobs (Docker & ECS)
Friday, October 1	15:00-17:00	Serverless Computing

- We will work on hands-on tutorial in all lectures, using real AWS cloud
- Let's make this interactive! Interrupt me anytime when you have questions.

AWS Educate Program

- AWS Educate program generously gave us $500 credit to use on AWS
- The credit was deposited on my personal AWS account. I created a child account for each student (see next slide). For the course exercises, please use this account, not your personal AWS account.
- We are sharing the $500 credit with the entire class. Please do not overuse it, otherwise we run out of the credit! If I observe an individual using too much AWS credit, I will need to terminate that account.
- Accounts issued for you are valid until the end of this course (10/01).

AWS Account

- I sent each student an invitation to AWS
- With this invitation, your account will be created under the "organization". Essentially, all the billing will go to the organization, not to you!
- **Once the invitation is sent to you, go to the login window, type your OIST email as account name, and click "reset password".**
- If you already have an AWS account created with OIST email, you can continue using that account. However, all cloud cost will be billed to the organization, not to you. If your account does anything other than the course exercise, please let me know.

Increasing the G-instance limit

- You can check the current EC2 limits by going to AWS console, then to the EC2 dashboard, then click ‘Limits‘ from the left menu bar. Then find an item "Running On-Demand All G instance".
- At the initial sign-up, the EC2's G-instance limit is 0.
- G instance limit needs to be increased to at least 4, so that g4dn.xlarge instance can be used.
- **Following the link below, send a limit increase request from your account.** It is usually approved within 30 min. https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-resource-limits.html
- Requested limit should be 4 to 16. If it is too large, AWS may reject it, unless you give some strong reasons to do so.

Environment setup

Read the appendix of the lecture material (https://tomomano.github.io/learn-aws-by-coding/en/#sec:appendix_settingup) and set up environment in your local machine. In particular, do the following today:

- Install Docker