Ahram Kim

Chris Campbell

CS 498

April 27, 2018

Seminar 12 (04.27.18)

The last seminar was held by Chris Champbell. He graduated of Oregon State University and he is a sophomore expert software engineer at HP. He was giving a talk titled ‘Why Docker Matters’. Before having a seminar, I searched for docker. According to the docker.com, Docker is the company driving the container movement and the only container platform provider to address every application across the hybrid cloud. A container is a lightweight, stand-alone, executable package of a piece of software that includes everything needed to run it: code, runtime, system tools, system libraries, settings.

DotCloud is Platform as a Service(PaaS) company. It focused on deploying customer applications. Utilized container technology. It is hard to run software for people. It needs correct version of runtime. It needs installed application dependencies. It must configure and start it correctly. Docker open sourced in 2013. Its components are Client, DOCKER\_HOST, and Registry. Containers are not just for PaaS Provide. It isolate the apps from each other. It is layer of security between app and host, and also easier to deploy, all apps are homogenous.

VMs are slow which could take 5-10 minutes to build or start a machine image. It is big which could be 10s of GBs on dish, 100s MBs in memory. It is wasteful which is shipping an entire machine to deploy an app. It is not portable which runs on the infrastructure it was built for. It is complex which requires domain knowledge to set up and run. Why we deploy Docker on VMs. It is available which all major cloud providers offer VM automation. It is secure which VMs offer a layer of separation from host. It is also dynamic which is created.

Container orchestration is a way to intelligently deploy applications on infrastructure. It is available computer resources, recommend high availability, and fault tolerance. Orchestration is more important than containers. However, orchestration depends on container. Google has been running containers for over a decade. Borg(2006) is the first orchestrator to use process level isolation(containers). Omega is a rewrite of Borg used mostly as POC.Kubernetes(2005) open sourced the next generation container orchestrator. Orchestration converts us to Application Oriented Infrastructure. Application Oriented Infrastructure is focused on deploying applications, not infrastructure. Developer has all the flexibility they need.

Today’s seminar was really helpful for me. I got lots of information which I didn’t know before. I realized that there are lots of things I need to know from now on. That seminar makes me to study hard.