ເອກະສານກະກຽມ ແລະ ຕາຕະລາງການເຝິກອົບຮົມ

ຊັບພະຍາກອນທີ່ຕ້ອງໃຊ້:

- ອິນເຕີເນັດສ່ວນຕົວຕະຫຼອດການຝຶກອົບຮົມ (ມີ Wifi ໃຫ້ໃຊ້ ແຕ່ຄວນມີເຜື່ອກໍລະນີຕ້ອງໂຫຼດໄຟລ໌ພ້ອມໆກັນ)
- ຄອມພິວເຕີສ່ວນຕົວ:
    - Hardware Spec Requirements:
        - CPU ຂັ້ນຕ່ຳ **2** core, ແນະນຳ **4** core ຂຶ້ນໄປ
        - RAM ຂັ້ນຕ່ຳ **8GB**, ແນະນຳ **16GB** ຂຶ້ນໄປ
        - ພື້ນທີ່ວ່າງ 20GB ຂຶ້ນໄປ
    - ສຳລັບ Windows:
        - Windows 10 64-bit: Pro, Enterprise, Education (Build 16299 ຂຶ້ນໄປ)
        - *ຖ້າສາມາດຕິດຕັ້ງ VMWare ຫຼື VirtualBox ເພື່ອນຳໃຊ້ Docker ຢູ່ Linux ໄດ້ຍິ່ງດີ
    - ສຳລັບ Mac:
        - Mac ລຸ້ນຕັ້ງແຕ່ປີ 2010 ຂຶ້ນໄປ
        - macOS ຕ້ອງແມ່ນ version 10.14 (Mojave ຫຼື Catalina) ຂຶ້ນໄປ
    - ສຳລັບ Linux:
        - Ubuntu 16+, CentOS 7, Debian 9+, Fedora 30+ ເປັນ 64-bit ເທົ່ານັ້ນ

ຕາຕະລາງການເຝິກອົບຮົມ:

- ເຝິກອົບຮົບທຸກໆວັນອາທິດ ເລີ່ມແຕ່ວັນທີ 13 ທັນວາ 2020 ຮອດ ວັນທີ 10 ມັງ ກອນ 2021
- ສະຖານທີ່: ວິທະຍາເຂດໂສກປ່າຫຼວງ ມະຫາວິທະຍາໄລແຫ່ງຊາດ, ຄະນະວິສະວະກຳສາດ, ຫ້ອງປະຊຸມນ້ອຍ ພາກວິຊາ ວິສະວະກຳຄອມພິວເຕີ ແລະ ເຕັກໂນໂລະຊີຂໍ້ມູນຂ່າວສານ (ຕຶກ JICA ITSD) (https://goo.gl/maps/C3ZJsHWgeTdv5TRF8)

Week 1 (13/12/2020):

	Topic	Note
09:00 - 09:30	Introduction to Microservices, Docker	Demo using rancher
09:30 - 10:00	Run your first Docker Container	
10:00 - 10:15	**BREAK**	
10:15 - 10:45	Create your first docker image	NodeJS Project
10:45 - 11:00	Docker Commands	
11:00 - 11:30	Docker Registry	
LUNCH BREAK		
13:30 - 1:45	Wrap-up and Q&A	
13:45 - 14:00	Create and use custom Docker base image	
14:00 - 14:15	Understanding Image building layer	
14:15 - 14:30	Docker Volume	
14:30 - 14:45	Docker Network	
14:45 - 15:00	**BREAK**	
15:00 - 15:30	Sample Project: Frontend - Vue or ReactJS	
15:30 - 16:00	Sample Project: Backend - NodeJS Express	
16:00 - 16:30	Sample Project: Database - MySQL	
16:30 - 17:00	Conclusion and Q&A	Homework

Week 2 (20/12/2020):

	Topic	Note
09:00 - 09:30	Wrap-up last week's sessions and Q&A	
09:30 - 10:00	Introduction to Docker Compose and docker-compose.yaml	
10:00 - 10:15	**BREAK**	
10:15 - 10:45	Docker Compose commands	
10:45 - 11:00	Docker Compose Volume & Network	
11:00 - 11:30	Docker Compose with last week project & Java Project	
LUNCH BREAK		
13:30 - 1:45	Wrap up and Q&A	
13:45 - 14:00	Introduction to Kubernetes	Why to use it?
14:00 - 14:30	Understanding Kubernetes Components & Objects	
14:30 - 14:45	Kubernetes Demo	Using Rancher
14:45 - 15:00	**BREAK**	
15:00 - 15:30	Install Minikube	
15:30 - 16:00	Create Pod and Service, Deployment	
16:00 - 16:30	Kubernetes best practices	Labels and Selectors, Resource request and limit
16:30 - 17:00	Wrap up and Q&A	Homework

Week 3 (27/12/2020):

	Topic	Note
09:00 - 09:30	Wrap-up last week's sessions and Q&A	
09:30 - 10:00	Kubernetes Volume	
10:00 - 10:15	**BREAK**	
10:15 - 10:45	Continue: Kubernetes best practices	Liveness probe and Readiness probe, configMaps and Secrets
10:45 - 11:30	Real world use cases on real Kubernetes Cluster	Horizontal Pod Scaling, Name-spacing, Ingress, etc…
LUNCH BREAK		
13:30 - 1:45	Wrap up and Q&A	
13:45 - 14:00	Modern Infrastructure Overview	
14:00 - 14:45	Install On-Premise Docker Registry	
14:45 - 15:00	**BREAK**	
15:00 - 15:30	Install On-Premise Kubernetes	
16:00 - 16:30	Deploy on Kubernetes	
16:30 - 17:00	Wrap up and Q&A	Homework

Week 4 (10/01/2021):

	Topic	Note
09:00 - 09:30	Wrap-up last week's sessions and Q&A	
09:30 - 10:00	Monolithic vs Microservice Architecture	Discussion, Development and Infrastructure Concept Sharing
10:00 - 10:15	**BREAK**	
10:15 - 11:30	Tools & Project Setup	InteliJ IDEA IDE, Java Spring Boot project connecting Mysql DB
LUNCH BREAK		
13:30 - 1:45	Wrap up and Q&A	
13:45 - 14:15	Deep Dive into Microservices Development Pattern	Advantages and Disadvantages of Microservices
14:00 - 14:45	Breaking up Project into Microservices	
14:45 - 15:00	**BREAK**	
15:00 - 15:30	Deploy Microservices on Kubernetes Cluster	
16:00 - 16:30	Microservices Communication on Kubernetes Cluster	
16:30 - 17:00	Wrap up and Q&A	

Week 5 (17/01/2021):

	Topic	Note
09:00 - 09:30	Wrap-up last week's sessions and Q&A	
09:30 - 10:00	Advanced Microservices and Kubernetes Usage	
10:00 - 10:15	**BREAK**	
10:15 - 11:30	Workshop Wrap-up and Q&A, Discussion on Modern Technology Stack and learning curve	Includes books, video courses, websites, etc… for further learning
END WORKSHOP		