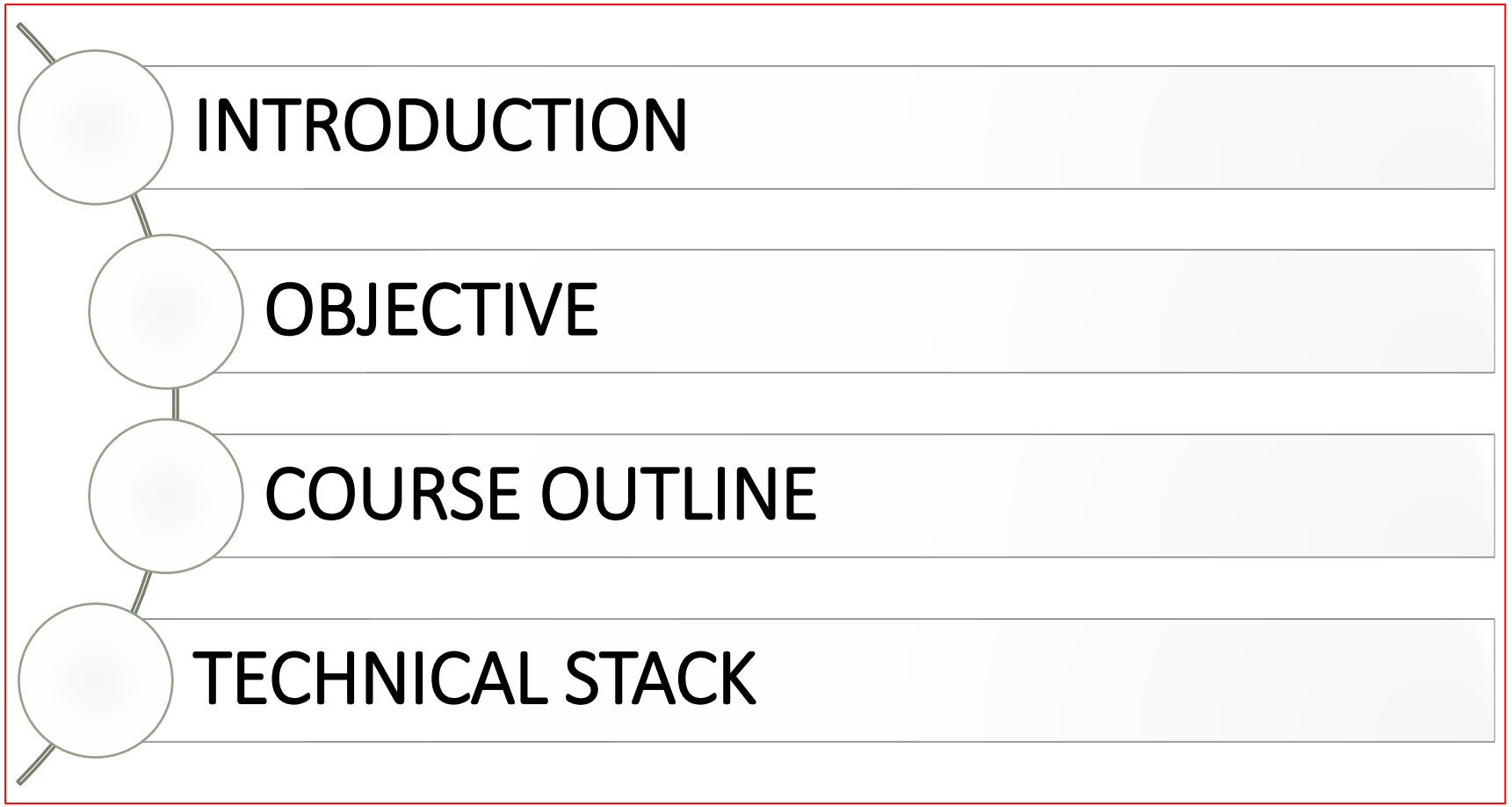
iPMAC
NET YOUR WORK

DEVSECOPS COURSE

INITIAL SESSION

TRAINER: TRAN HUU HOA

AGENDA



INTRODUCTION

Tell us the following:

- First name
- Organization and role
- What do you expect of this course?
- Can you describe your team's software development lifecycle now ?
- What are your pain points/concerns in software development lifecycle ?

OBJECTIVE

- Understand overview and apply a full process of DevOps/DevSecOps for the enterprise
- Understand about method, terms that are used widely in DevOps/DevSecOps
- Be familiar with populars tools in DevOps/DevSecOps

COURSE OUTLINE

Day	Section	Content	Type	Description
1	1.1.Introduction - Fundamental knowldeges of DevSecOps	DevOps Concepts	Lecture	basic concepts of DevOps
		Benefits	Lecture	What we can have if adopt DevOps
		Principle and Culture	Lecture	Basic success factors
		Features	Lecture	Basic features of DevOps
		DevSecOps concept	Lecture	DevSecOps concept
		Toolchains	Lecture	how-to choose and integrate tools to build ultimated pipelines
		Maturity model	Lecture	plan to grow and get mature with DevSecOps
	1.2.Software development framework - Defiine of how all stackholder can collaborate together to reach common targets	Agile/scrum	Lecture	Most popular software development framework
		Progressive elaboration (PE)	Lecture	Enhanced processes based on Agile
		Large-Scale Scrum (LeSS)	Lecture	Agile implementation way at large scale
		some Bank case studies	Case study	some local and international case studies on digital transformation
2	2.1.Source code management - Source of trust where we can init all flows	Concepts	Lecture	what is source of trust for initial everything
		How GIT works	Lecture	explain main function of GIT
		branching strategy	Lecture/lab	Explain how we can adopt git at large scale
		how-to manage source code in an Enterprise	Lecture/lab	Describe how to manage source code at Enterprise level
	2.2.Artefact management - manage meterials that used for build and deployment	Introduction	Lecture	introduce why and how we use an arterfact management tool
		Nexus	Lecture/lab	the most popular artefact management tool in Vietnam
	2.3.Secret management - manage secrets and parameters that used for deployment independently	Introduction	Lecture	introduce why and how we use a secret management tool
		HashiCorp Vault	Lecture/lab	the most popular secret management tool in Vietnam
3	3.Containerized - new way to host IT systems	Containerized	Lecture/lab	
		Container runtime	Lecture/lab	introduce standards popular containerized tools
		Container registry	Lecture/lab	container image storage tool
4	4.Container Orchestration- Provision and manage containers at any scale, any environments	Kubernetes	Lecture/lab	the most popular container runtime orchestration tool
		Rancher	Lecture/lab	Popular tool for managing multiple kubernetes clusters
		OpenShift	Lecture/lab	Comercial container runtime platform based on kubernetes
5	Infrastructure as code - manage and provision infrastructure, configuration, data structure using code, templates automatically instead	Introduction	Lecture	
		Terraform	Lecture/lab	Most popular cross-platform infrastructure as code tool
		Ansible	Lecture/lab	Most popular cross-platform configuration as code tool
6	Continous integration Continous Deployment - automated build, integration and deployment in pipelines	Introduction	Lecture	
		Pipelines design	Lecture/lab	principle and best pracitces to define a suitable pipeline
		Gitlab runner	Lecture/lab	Popular built-in CI tool - easy to start
		Jenkins	Lecture/lab	Popular custom CI tool - flexible to scale
		ArgoCD	Lecture/lab	Popular CD tool - specific for Kubernetes environment
		integration with automation test	Lecture/lab	how-to test continously, regurlarly your functional changes
		integration with perfromance test	Lecture/lab	how-to test continously, regurlarly your environment non functional pefromance
		integration with external system (API, Database,...)	Lecture/lab	how-to automate all things you need to setup or configure environments
7	7.1.DevSecOps in practical - Associate every DevOps pipelines stages/steps with security	introduction	Lecture	
		Design enhanced security process	Lecture	principle and best pracitces to define a security pipeline
		SAST tools	Lecture/lab	Static scanning tools for vulnerabilities of code, dependencies, docker image,...
		DAST tools	Lecture/lab	Dynamic scanning tool
	7.2. Observability - The way we have insight into systems	Logging tools	Lecture/lab	the way we know insight our system
		Monitoring tools	Lecture/lab	the way we look after our system
8	Capstone project - a complex working that including all components to solve real work problems	Introduction	Lecture/lab	
		Scenarios	Lecture/lab	

TECHNICAL STACK

Spec	Cloud native	Note
Containerized	Docker/containerd	
	Cri-O	
Container Orchestration	Kubernetes/Rancher	
	OpenShift	
Container registry	Harbor	
Artefact management	Nexus	
Source code management	Gitlab	
Package management	Gradle	Java
	Yarn	Java scripts
Secret management	HS Vault	
Infrastructure as code	Terraform	
automation test	Selenium	
perfromance test	Jmeter	
CICD	Jenkins	
	Gitlab	
	ArgoCD	
API management	Kong	
Database	PostgreSQL	
	MongoDB	
SAST tools	SonarQube	
	Trivy	
DAST tools	Acunetix	
SCA tools	Wiz	
Logging	EFK	
Monitoring	Prometheus and Grafana	