



5. Cloud Services

PHỤC VỤ MỤC ĐÍCH GIÁO DỤC
FOR EDUCATIONAL PURPOSE ONLY

NETWORKS AND SYSTEMS ADMINISTRATION LABS

(V09.2022)

A. OVERVIEW

1. Learning objective

This lab will help students to get started with Azure DevOps services to automate software delivery and meet business needs. Students will practice with Azure Cloud and its services, including container applications, automation deployments, etc.

2. Practice Environment

Students practice on Azure DevOps Labs, available at <https://azuredevopslabs.com>. You need a Microsoft Account (you can use the Microsoft account provided by UTT) to access the practice environment.

B. LAB TASKS

1. Deploying a multi-container application to Azure Kubernetes Services

Follow the instruction about deploying and managing containerized applications without container orchestration expertise, available at <https://azuredevopslabs.com/labs/vstsextend/kubernetes/>

2. Automating deployments

Choose one of the topics below:

1. Automation infrastructure deployments in the Cloud with Terraform and Azure Pipelines. The instruction is available at <https://azuredevopslabs.com/labs/vstsextend/terraform/> .
2. Automating Infrastructure Deployments in the Cloud in the Cloud with Ansible. The instruction is available at <https://azuredevopslabs.com/labs/vstsextend/ansible/> .

3. CI/CD pipeline (advanced task)

In this task, you will practice with Azure Pipelines to set up a highly customizable continuous integration (CI) and continuous (CD) pipeline to target app services, virtual machines, or containers in Azure. The guideline is available at <https://azuredevopslabs.com/labs/vstsextend/php/>

C. REQUIREMENTS

You are expected to complete all tasks in section B (Lab tasks). Advanced tasks are optional, and you could get bonus points for completing those tasks. We prefer you work in a team of four to get the highest efficiency.

Your submission must meet the following requirements:

- You need to submit a **detailed lab report in .docx** (*Word Document*) format, **using the report template** provided on the UIT Courses website.

- Either Vietnamese or English report is accepted, that's up to you. The report written in the mixing of multiple languages is not allowed (except for the untranslatable keywords).
- When it comes to **programming tasks** (*require you to write an application or script*), please attach all source-code and executable files (if any) in your submission. Please also list the important code snippets followed by explanations and screenshots when running your application in your report. Simply attaching code without any explanation will not receive points.
- Submit work you are proud of – don't be sloppy and lazy!

Your submissions must be your own. You are free to discuss with other classmates to find the solution. However, copying reports is prohibited, even if only a part of your report. Both reports of the owner and the copier will be rejected. Please remember to cite any source of the material (website, book,...) that influences your solution.

Notice: Combine your lab report and all related files into a single **ZIP file (.zip)**, name it as follow:

StudentID1_StudentID2_ReportLabX.zip