Centre of Professional Development and Community Outreach
ICT Upskilling Program – Assignment Brief Description

Technical Track Name	DevOps Track
Technical Instructor Name	Eng. Yazan Al-Shannik
Soft Skills Instructor Name	Sawsan Alsayeh
English Language for Business	Dr. Hala Arar

OVERVIEW

This assignment provides the requirement for the capstone project for candidates enrolled in the YGA Upskilling Programme. The assignment provides learners with the opportunity to present evidence of their learning in the technical, soft skills, and English language components.

The learners work will be assessed by the instructors according to the criteria specified herein. Learners who do not meet the pass criteria will not be qualified to receive a certificate.

SUBMISSION FORMAT

Technical Component Submission

Submit a ZIP folder containing the following:

Technical Report (MS Word)

- o Font: Times New Roman, 12 pt
- o Line spacing: 1.5, justified
- o Pages: 10–100
- o IEEE citation format
- o Consistent headings
- o Footer on every page (student name, course, project title, page number)
- o Figures captioned below, tables above, all numbered

Bash Scripts

- o All Bash scripting files used in the project

Logs

- o Any relevant log files

Soft Skills Component:

- 5 - 10-minute recorded video or live presentation at HTU

English Language component:

5 - 10-minute recorded video or live presentation at HTU

DELIVERABLES

Component	Deliverable	Deadline
Technical	ZIP folder containing: • Technical Report (MS Word) • Bash Scripts • Relevant Logs • Required Screenshots / Images	Thursday, 5th of Feb, 2026
English	Technical Report	Thursday, 5th of Feb, 2026
Soft Skills	Presentation at HTU	Thursday, 5th of Feb, 2026

LEARNING OUTCOMES

Technical Skills

• LO1: Administer and troubleshoot Linux systems
• LO2: Manage source code and collaboration using Git and GitHub and GitHub Action
• LO3: Provision and manage cloud services using AWS
• LO4: Build and manage containerized applications using Docker

Language Skills

LO1: Content and Organization

- Participants show structure and organization
- Participants show strong content

LO2: Coherence and Clarity

- Participants show coherence and cohesion
- Participants speak clearly with proper pronunciation

LO3: Language Accuracy and Range

- Participants show grammatical accuracy
- Participants use a range of vocabulary

LO4: Presentation Skills and Visual Support

- Participants use well-prepared visual aids
- *(Visual aids are written and integrated effectively into the presentation)*

Presentation Skills

1. Communication Skills
Verbal Communication:

- Clarity of speech, appropriate volume, tone, and pace.
- Use of expressive voice (para-lingual elements) to engage the audience.
- Ability to deliver messages confidently and professionally.
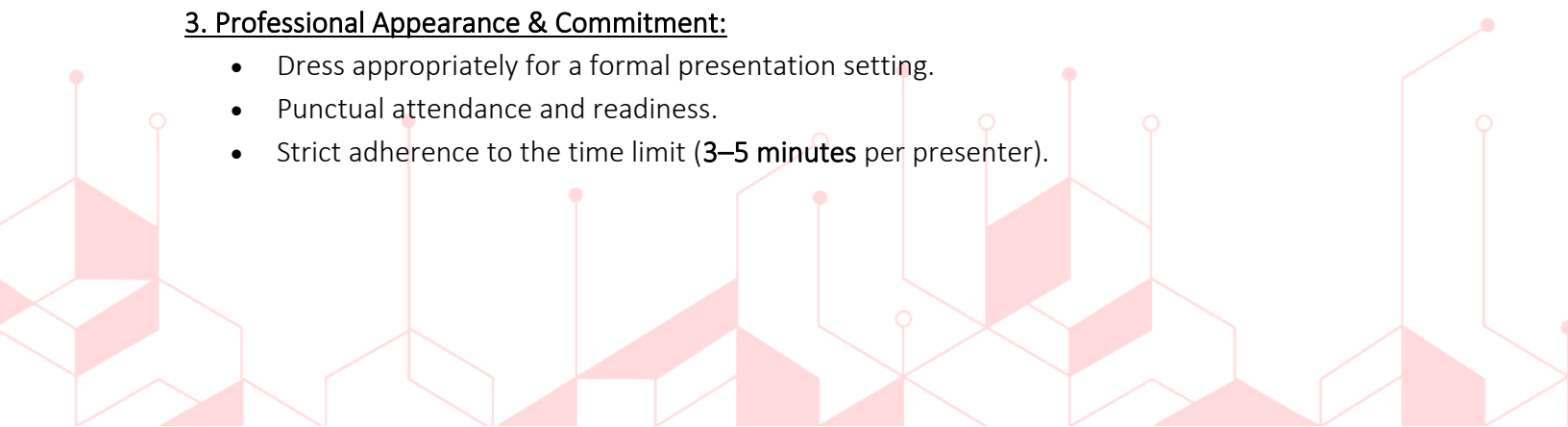
Non-Verbal Communication:

- Consistent eye contact with the audience.
- Positive body posture and purposeful movement.
- Natural and supportive hand gestures.
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2. Presentation Skills
PowerPoint Slides (Visual Aid):

- Use of professional design (*consistent fonts, appropriate colors, clean layout).*
- <u>Includes</u>*:*
- Title slide (with project title and presenter's name).
- Objectives or agenda slide.
- Visually supported content (images, diagrams, not text-heavy).
- Closing slide (Thank You and/or Q&A).
- Slides enhance understanding and support the spoken message.

3. Professional Appearance & Commitment:

- Dress appropriately for a formal presentation setting.
- Punctual attendance and readiness.
- Strict adherence to the time limit (**3–5 minutes** per presenter).

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ASSIGNMENT BRIEF AND GUIDANCE

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This assignment contains four scenarios. Each scenario has a GitHub repository link. You are required to visit each repository, open the README file, read the task details, and complete the tasks one by one.

1. [HTU-Environment-Rebuild](#)

Type: Server Rebuild / Infrastructure Setup
Technologies: AWS, Linux
Goal: Rebuild the university server environment and prepare it to run required services reliably.

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2. [HTU-Schedemy-Website](#)

Type: Web Application Hosting
Technologies: AWS, Linux
Goal: Deploy the HTU-Schedemy website (course schedule builder) on an AWS Linux server.

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3. [HTU-Schedemy-Website (CI/CD)](#)

Type: Automation Pipeline
Technologies: GitHub Actions, AWS, Linux
Goal: Create CI/CD so that any **merge to main** automatically **pulls**, **builds**, and **deploys** the app.

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4. [Pixelfed-Photo-Sharing-App](#)

Type: Containerization & Automation
Technologies: Docker, Docker Compose, CI/CD
Goal: Containerize the Pixelfed photo-sharing application using Docker and Docker Compose, then build a CI/CD pipeline to automate build and deployment processes.

FINAL REPORT

Final Report Must Include:

- **Project Overview**
  Brief description of the application, objectives, and overall system architecture.

- **Technologies Used**
  Tools, platforms, and services used (Linux, Git & GitHub, GitHub Actions, Docker, Docker Compose, AWS, Kubernetes, Terraform, etc.).

- **System Architecture & Design**
  Explanation of the containerized setup, services, networking, and data persistence.

- **Configuration & Deployment Details**
  Environment variables, service dependencies, volumes, and deployment steps.

- **CI/CD Workflow Overview**
  Description of Git and GitHub Actions pipelines for build, test, and deployment.

- **Testing & Validation**
  Manual testing steps, verification of services, and validation of application functionality.

- **Monitoring & Logging**
  Tools used for logs, monitoring, and performance observation (if applicable).

- **Screenshots, Logs, and Evidence**
  Screenshots of running containers, pipelines, logs, dashboards, and application output.

- **Challenges & Troubleshooting**
  Issues faced during implementation and how they were resolved.

- **Conclusion & Future Improvements**
  Summary of outcomes and suggested enhancements.

TECHNICAL COMPONENT PASSING REQUIREMENTS

Requirement	Description
Linux Administration	Basic Linux system management, process monitoring, and troubleshooting
Git Usage	Project source code managed using Git with a clear commit history
Docker Containers	Application containerized and running successfully using Docker
AWS Cloud Services	Application deployed or tested using AWS services (EC2, S3, IAM, or VPC)
Data Persistence	Ensure that application data is not lost when the system is stopped or restarted.
Debugging	Deployment issues identified and resolved using logs and exec commands
GitHub Actions	Automated CI workflow implemented using GitHub Actions
Final Technical Report	Professional report covering architecture, tools used, deployment, and results

ASSIGNEMENT LEARING AND ASSESSMENT CRITEIRA

ASSIGNMENT LEARNING OUTCOMES AND ASSESSMENT CRITERIA (TECHNICAL)		
PASS %50	MERIT %25	DISTINCTION %25
LO1: Administer and troubleshoot Linux systems		
Perform basic Linux administration tasks, including file management, user permissions, and process monitoring.	Configure Linux networking and host an application, ensuring services are accessible and running correctly.	Evaluate and optimize a Linux system by managing storage, networking, and hosted services to ensure reliability, and security.
LO2: Manage source code and collaboration using Git and GitHub and GitHub Action		
Use Git and GitHub to manage source code with a clear commit history.	Apply branching and merging strategies using Git and GitHub to support collaborative development.	Design and optimize GitHub Actions workflows to automate build and integration processes.
LO3: Provision and manage cloud services using AWS		

ASSIGNMENT LEARNING OUTCOMES AND ASSESSMENT CRITERIA (TECHNICAL)		
PASS %50	MERIT %25	DISTINCTION %25
Provision basic AWS resources such as EC2 or S3 to support application deployment.	Design a secure cloud solution architecture by selecting and configuring appropriate AWS services and networking components.	Use Infrastructure as Code to automate the provisioning and management of infrastructure resources.
LO4: Build and manage containerized applications using Docker		
Build and run Docker containers to deploy an application.	Configure Docker images and containers with environment variables and persistent storage.	Optimize and troubleshoot containerized applications to ensure reliable and efficient operation.