



COMSATS University Islamabad Attock Campus

Program: BS

Spring 2024

Midterm Task

TICS

April 25, 2024

Total Marks: (20)

Due date: 26/04/2024

Please find the task corresponding to your registration number listed below. For this task, you'll need to create a detailed step-by-step guide with screenshots that outlines how to complete the assigned task.

Once your guide is complete, please submit it via email to farhan.aadil@cuiatk.edu.pk with the subject line "Midterm Task - [Your Registration Number]".

Task #	Registration Number	Task #	Registration Number	Task #	Registration Number
1	FA20-BCS-034 SP21-BCS-034 SP21-BSE-027	2	SP21-BCS-010 SP21-BSE-009 SP21-BSE-029	3	SP21-BCS-024 FA20-BSE-022 SP21-BSE-031
4	SP21-BCS-001 SP21-BCS-036 SP21-BSE-025	5	SP21-BCS-011 SP21-BSE-007 SP21-BSE-030	6	SP21-BCS-025 FA20-BSE-030 SP21-BSE-037
7	SP21-BCS-004 SP21-BCS-037 SP21-BSE-024	8	SP21-BCS-012 SP21-BSE-010 SP21-BSE-035	9	SP21-BCS-027 FA20-BSE-047
10	SP21-BCS-005 SP21-BSE-023	11	SP21-BCS-013 SP21-BSE-015	12	SP21-BCS-028 FA20-BSE-079
13	SP21-BCS-006 SP21-BSE-021	14	SP21-BCS-015 SP21-BSE-016	15	SP21-BCS-029 SP21-BSE-001
16	SP21-BCS-007 SP21-BSE-020	17	SP21-BCS-020 SP21-BSE-017 SP21-BSE-034	18	SP21-BCS-032 SP21-BSE-002 SP21-BSE-032
19	SP21-BCS-009 SP21-BSE-019	20	SP21-BCS-022 SP21-BSE-018	21	SP21-BCS-033 SP21-BSE-003

Taks 1

Running Legacy Games: "Dockerize" old, unsupported games to run smoothly on modern systems with minimal compatibility issues.

Taks 2

Building Chatbots: Develop and deploy chatbots within isolated Docker containers for easier experimentation and scaling based on user traffic.

Taks 3

File Conversion and Processing: Containerize file conversion tools (e.g., ImageMagick, FFmpeg) for reliable and isolated batch processing tasks.

Taks 4

Running Proxies: Deploy reverse proxies like Nginx or HAProxy in Docker containers for load balancing, caching, and securing access to backend applications.

Taks 5

Running Network Analysis Tools: Isolate network monitoring and analysis tools like Wireshark or tcpdump in containers for on-demand network traffic analysis.

Taks 6

Building Security Scanners: Containerize security scanners (e.g., Nessus, OpenVAS) for automated vulnerability scanning of your systems or deployments.

Taks 7

Running Honeypots: Deploy honeypots (decoy systems) in Docker containers to attract and analyze malicious attacks in a controlled environment.

Taks 8

Building Continuous Integration (CI) Servers: Host CI servers like Jenkins within containers for isolated and scalable management of your CI pipeline.

Taks 9

Building Continuous Delivery (CD) Pipelines: Containerize deployment tools (e.g., Ansible, Chef) for reliable and consistent deployments across different environments.

Taks 10

Anonymous Browsing: Set up secure and anonymous browsing environments like Tor in Docker containers for enhanced privacy.

Taks 11

Running Version Control Systems: Containerize version control systems like GitLab or Gogs to provide on-demand private Git repositories for development teams.

Taks 12

Managing Workflow Automation Tools: Deploy workflow automation tools like Airflow in containers for scalable and reliable orchestration of complex workflows.

Taks 13

Running Collaboration Tools: Deploy collaboration tools like Etherpad or Hackpad in containers for isolated and secure real-time document editing.

Taks 14

Building Continuous Monitoring Dashboards: Host Grafana dashboards within containers to visualize system metrics and monitor application health effectively.

Taks 15

Running Scientific Computing Software: Dockerize scientific computing tools like MATLAB, R, or Julia for consistent research environments and streamlined data analysis pipelines.

Taks 16

Running Containerized Testing Frameworks: Deploy testing frameworks like Selenium or Cypress in containers to ensure consistent testing environments and simplify test execution.

Taks 17

Static Site Generators (Jamstack): Explore building serverless websites using Jamstack architecture by containerizing tools like Netlify Build or Vercel CLI.

Taks 18

Media Streaming Servers: Containerize media streaming servers like Plex or Jellyfin to manage and stream media content within a controlled environment.

Taks 19

Email Servers: Set up secure and scalable email servers like Postfix or Dovecot using Docker containers for internal or personal email handling.

Taks 20

Code Editors/IDEs: Explore running specialized code editors or IDEs like Visual Studio Code or PyCharm in Docker containers with pre-configured extensions and environments.

Taks 21

Document Management Systems: Containerize document management systems like Alfresco or ONLYOFFICE for secure and collaborative document management solutions..