

## IT2234: Web Service and Server Technologies - Practical

### ICAE 02

#### Department of Physical Science

#### Faculty of Applied Science, University of Vavuniya

#### *Answer All Questions*

**Duration: 1 hour**

**02<sup>nd</sup> of August 2024**

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#### Instructions:

The Node JS project is available in the shared drive as a ZIP file, copy it to your local drive and extract it. The project is embedded with the necessary data. After finishing your code work, place only the files you created in the Z drive (don't copy the whole project folder). Please make sure to capture screenshots of the outputs for each question.

#### Scenario:

You're tasked with developing a RESTful API for a project management system with the three models User, Project, and Task. A user can manage many projects. A project can have many tasks. A task is assigned to a user. Use the provided models (User, Project, and Task) and sample data to answer the questions below.

Technology: Node JS, Express, MongoDB, and Mongoose

Editor: VS code.

#### Questions:

1. Create an endpoint to retrieve all data from the User, Project, and Task collections. Implement this task with code reusability.
2. Create an endpoint to retrieve all tasks associated with a specific project ID.  
Endpoint: GET /project/{projectId}/tasks
3. Create an endpoint to retrieve the manager of a given project ID. Return only the project name, manager name, and email address.  
Endpoint: GET /project/{projectId}/manager

```
1  [
2    {
3      "name": "Project Alpha",
4      "manager_name": "Alice Johnson",
5      "manager_email": "alice@example.com"
6    }
7  ]
```

4. Create an endpoint to retrieve the tasks and the users they are assigned to for a specific project ID. The result should contain only the task name and user name.  
Endpoint: GET /project/{projectId}/tasks-users

```
1  {
2    "title": "Design Database Schema",
3    "assigned_to": "Alice Johnson"
4  },
5  {
6    "title": "Develop User Authentication Module",
7    "assigned_to": "Bob Smith"
8  },
9  {
10   "title": "Conduct Market Research",
11   "assigned_to": "Alice Johnson"
12 }
13
14
```

5. Ensure your API handles errors gracefully and returns appropriate HTTP status codes.
6. Include validation for the request parameters where necessary.