**Task 1: Document a migration plan including potential pitfalls and lessons learned.**

**Plan:**

* First, check if our systems and team are ready (tech + skills).
* Decide how we move:
  + *Rehost* (lift and shift),
  + *Refactor* (tweak stuff for the cloud),
  + or *Rebuild* (start from scratch).
* Plan how to move the data safely.
* Run some test migrations to spot issues.
* Do the actual migration (probably in phases).
* After moving, test everything and train people.

**Common pitfalls:**

* No proper plan or goals.
* Thinking it'll be cheaper and faster than it really is.
* Not preparing the team for change.

**Lessons learned:**

* Be realistic cloud isn’t magic.
* Make sure you’ve got the right people.
* Security and compliance need to be sorted early.

**Task 2: Develop a basic disaster recovery plan and incident response procedure.**

**Disaster Recovery Plan:**

* **Risk Assessment:** Figure out what could go wrong.
* **Impact Analysis:** Know what’s critical and how long we can be down.
* **Recovery Strategy:** How we’ll bounce back (backups, failovers, etc).
* **Comms Plan:** Who tells who what, and how.

**Incident Response Steps:**

1. Detect and confirm the incident.
2. Notify the right people.
3. Contain and investigate the issue.
4. Recover systems.
5. Do a review so we can improve next time.

**Task 3: Understand your company’s monitoring setup and investigate designing your own monitoring “dashboard”.**

**Current Setup:**

* Use **Azure Monitor** to:
  + Check metrics, logs, and set up alerts.
  + Create dashboards for visibility.

**Your Own Dashboard Idea:**

* Use Python to build something custom.
* Collect metrics (CPU, memory, app errors, etc).
* Show data on a simple web interface.
* Hook it up with alerts if things go wrong.

*from flask import Flask, render\_template\_string*

*import psutil*

*import datetime*

*app = Flask(\_\_name\_\_)*

*HTML = """*

*<!DOCTYPE html>*

*<html>*

*<head>*

*<title>Monitoring Dashboard</title>*

*<meta http-equiv="refresh" content="5" />*

*<style>*

*body { font-family: Arial; background: #f0f0f0; padding: 20px; }*

*.card { background: white; padding: 20px; border-radius: 10px; box-shadow: 2px 2px 10px #ccc; max-width: 400px; margin: auto; }*

*h2 { color: #333; }*

*</style>*

*</head>*

*<body>*

*<div class="card">*

*<h2>System Monitoring Dashboard</h2>*

*<p><strong>Time:</strong> {{ time }}</p>*

*<p><strong>CPU Usage:</strong> {{ cpu }}%</p>*

*<p><strong>Memory Usage:</strong> {{ memory }}%</p>*

*</div>*

*</body>*

*</html>*

*"""*

*@app.route("/")*

*def dashboard():*

*cpu = psutil.cpu\_percent(interval=1)*

*memory = psutil.virtual\_memory().percent*

*now = datetime.datetime.now().strftime("%Y-%m-%d %H:%M:%S")*

*return render\_template\_string(HTML, cpu=cpu, memory=memory, time=now)*

*if \_\_name\_\_ == "\_\_main\_\_":*

*app.run(debug=False)*