**Individual Weekly Report – Week 5**

**Project: E-commerce Web Application TechPlaza**

**Role: DevOps Engineer**

**Completed Tasks:**

1. **Azure App Services Implementation**: Initiated the implementation of Azure App Services for the test and production environments. Azure App Services, a fully managed platform for building, deploying, and scaling web apps, is being leveraged due to its high productivity and global scale.
2. **Docker Implementation**: Implemented Docker in the project. Docker plays a crucial role in the development, testing, and deployment process, as it packages the application code, configuration, and dependencies into a single object. This allows the application to run consistently across different environments, eliminating any "it works on my machine" problems. Docker's role is pivotal in providing consistency, isolation, portability, and scalability to our application.
3. **Docker Multi-Stage Builds**: Utilized Docker's multi-stage builds to optimize the construction and deployment of our application. The first stage focuses on building the React frontend components, while the second stage focuses on setting up the Express.js server and serving the React static files. This process ensures the final Docker image is as lean as possible.
4. **Docker Compose for Development Phase**: Implemented Docker Compose to manage application services during the development phase. Docker Compose simplifies the management of services, volumes, and networks, making the development environment efficient and accessible for developers.

**Ongoing/In-Progress Tasks:**

1. **Azure Services Optimization**: Continuously optimizing Azure Services, addressing any potential issues that might impact the performance, cost, and scalability of our application.

**Issues/Challenges:**

**Issue 1**: Managing Docker's learning curve for some team members. We're mitigating this by providing proper documentation to the members.

**Issue 2**: Ensuring seamless integration of Docker, Express.js, and React in our development process. We're managing this by thorough testing and iterating on our configuration.