**Problem statement** : E-Commerce Application on IBM Cloud Foundry

Steps to follow:

**1.Set up your development environment:**

Install the necessary development tools and dependencies, including a code editor (e.g., Visual Studio Code), Node.js (if using JavaScript or TypeScript), and the IBM Cloud CLI.

**2. Create ab IBM cloud account:**

If you don't already have an IBM Cloud account, sign up for one.

**3. Create an IBM cloud Foundry Application:**

Log in to your IBM Cloud account using the IBM Cloud CLI.

Create a new Cloud Foundry application using the ‘cf’ command. You can specify the runtime and build pack for your application.

**4.Develop your E-Commerce Application:**

Write the code for your e-commerce application using the programming language and framework of your choice. You may use popular web frameworks like Node.js with Express, Ruby on Rails, Python with Django, or any other stack that suits your project.

**5. Configure Databases:**

Choose a database service that IBM Cloud offers, such as IBM Db2, IBM Cloud Databases, or a third-party service.

Configure and provision your database instance.

Update your application's configuration to connect to the database.

**6. Set up security:**

Implement security measures to protect your e-commerce application, including authentication, authorization, and encryption of sensitive data.

Use IBM Cloud services like IBM App ID for authentication and IBM Key Protect for data encryption.

**7. Testing and Debugging:**

Test your application locally and resolve any issues.

Use logging and monitoring tools available on IBM Cloud to track the performance of your application.

Use the ‘cf push’ command to deploy your application to IBM Cloud Foundry. Ensure that you specify the correct build pack and runtime.

Configure environment variables and service bindings as needed.

**9. Scale your Application:**

Depending on your application's needs, you can scale it vertically (add more resources to a single instance) or horizontally (add more instances).

**10. Set up continuous Integration:**

Implement a CI/CD pipeline to automate the deployment process.

Consider using IBM DevOps services or Jenkins for this purpose.

**11. Monitoring and Maintenance:**

Continuously monitor your application's performance and security.

Apply updates and patches as necessary.

**12. Scaling and load Balancing:**

Configure load balancing if you have multiple instances of your application.

Use auto-scaling features to handle increased traffic.

**13. Backup and Disaster Recovery:**

Implement regular backups and a disaster recovery plan to ensure data integrity.

**14. Payment processing Integration:**

If your e-commerce application requires payment processing, integrate with a secure payment gateway like Stripe, PayPal, or IBM Payment Gateway.

**15. Compliance and Security Auditing:**

Ensure that your application complies with relevant industry standards and undergoes security audits.

**16. Testing and Performance Optimization:**

Continuously test and optimize the performance of your e-commerce application to provide a smooth shopping experience for users.

**CONCLUSION:**

By following these steps, you can create and deploy an e-commerce application on IBM Cloud Foundry. Be sure to consult IBM's documentation and resources for specific details related to their cloud services and best practices.