Azure DevOps Assessment 2

E-Commerce Application

PART 1 – Work Item Breakdown

Epic 1: Product Catalog

- **Feature: Product Data Management**
  - User Story: Manage Product Listings
    - Tasks:
      - Design product schema (Database)
      - Create ETL pipeline for product ingestion
      - Implement API for product data retrieval
      - Validate product data quality

- **Feature: Search & Filtering**
  - User Story: Product Search & Filter
    - Tasks:
      - Build indexing pipeline (Elasticsearch/SQL indexing)
      - Implement search API
      - Optimize queries for fast retrieval
      - Write unit tests for search functionality

175	👑 Product Catalog	EM Elakkiya M	● New	elakkiya-hexa-assessment
176	🏆 Product Data Management	EM Elakkiya M	● New	elakkiya-hexa-assessment
177	📊 Manage Product Listings	EM Elakkiya M	● New	elakkiya-hexa-assessment
178	📋 Design product schema	EM Elakkiya M	● New	elakkiya-hexa-assessment
179	📋 Create ETL pipeline for product ingestion	EM Elakkiya M	● New	elakkiya-hexa-assessment
180	📋 Implement API for product data retrieval	EM Elakkiya M	● New	elakkiya-hexa-assessment
181	📋 Validate product data quality	EM Elakkiya M	● New	elakkiya-hexa-assessment
182	🏆 Search & Filtering	EM Elakkiya M	● New	elakkiya-hexa-assessment
183	📊 Product Search & Filter	EM Elakkiya M	● New	elakkiya-hexa-assessment
184	📋 Build indexing pipeline	EM Elakkiya M	● New	elakkiya-hexa-assessment
185	📋 Implement search API	EM Elakkiya M	● New	elakkiya-hexa-assessment
186	📋 Optimize queries for fast retrieval	EM Elakkiya M	● New	elakkiya-hexa-assessment
187	📋 Write unit tests for search functionality ⋯	EM Elakkiya M	● New	elakkiya-hexa-assessment

Epic 2: Shopping Cart

- **Feature: Cart Operations**
  - o User Story: Add/Update Cart Items
    - ▪ Tasks:
      - ▪ Create cart table schema (Database)
      - ▪ Develop cart API (Add/Update/Delete)
      - ▪ Unit test for cart APIs

- **Feature: Cart Analytics**
  - o User Story: Track Cart
    - ▪ Tasks:
      - ▪ Build pipeline to capture cart events (Kafka/Events DB)
      - ▪ Store abandoned cart logs
      - ▪ Generate cart abandonment report
      - ▪ Validate analytics accuracy

188	Shopping Cart	Elakkiya M	New	elakkiya-hexa-assessment
189	Cart Operations	Elakkiya M	New	elakkiya-hexa-assessment
190	Add/Update Cart Items	Elakkiya M	New	elakkiya-hexa-assessment
191	Create cart table schema (Database)	Elakkiya M	New	elakkiya-hexa-assessment
192	Develop cart API (Add/Update/Delete)	Elakkiya M	New	elakkiya-hexa-assessment
193	Unit test for cart APIs	Elakkiya M	New	elakkiya-hexa-assessment
194	Cart Analytics	Elakkiya M	New	elakkiya-hexa-assessment
195	Track Cart	Elakkiya M	New	elakkiya-hexa-assessment
196	Build pipeline to capture cart events	Elakkiya M	New	elakkiya-hexa-assessment
197	Store abandoned cart logs	Elakkiya M	New	elakkiya-hexa-assessment
198	Generate cart abandonment report	Elakkiya M	New	elakkiya-hexa-assessment
199	Validate analytics accuracy	Elakkiya M	New	elakkiya-hexa-assessment

Epic 3: Checkout & Payments

- **Feature: Payment Processing**
  - o User Story: Payment Transaction Flow
    - ▪ Tasks:
      - ▪ Define payment transaction schema
      - ▪ Ingest payment logs into data lake
      - ▪ Develop fraud detection pipeline
   - ▪ Implement API monitoring dashboards
- **Feature: Invoice & Receipt**
  - o User Story: Generate Payment Receipts
    - ▪ Tasks:
      - ▪ Build ETL pipeline to generate invoices (PDF/JSON)
      - ▪ Store invoices in blob storage
      - ▪ Create invoice retrieval API
      - ▪ Test invoice pipeline

200	👑 Checkout & Payments	EM Elakkiya M	● New	elakkiya-hexa-assessment
201	🏆 Payment Processing	EM Elakkiya M	● New	elakkiya-hexa-assessment
202	📊 Payment Transaction Flow	EM Elakkiya M	● New	elakkiya-hexa-assessment
203	📋 Define payment transaction schema	EM Elakkiya M	● New	elakkiya-hexa-assessment
204	📋 Ingest payment logs into data lake	EM Elakkiya M	● New	elakkiya-hexa-assessment
205	📋 Develop fraud detection pipeline	EM Elakkiya M	● New	elakkiya-hexa-assessment
206	📋 Implement API monitoring dashboards	EM Elakkiya M	● New	elakkiya-hexa-assessment
207	🏆 Invoice & Receipt	EM Elakkiya M	● New	elakkiya-hexa-assessment
208	📊 Generate Payment Receipts	EM Elakkiya M	● New	elakkiya-hexa-assessment
209	📋 Build ETL pipeline to generate invoices	EM Elakkiya M	● New	elakkiya-hexa-assessment
210	📋 Store invoices in blob storage	EM Elakkiya M	● New	elakkiya-hexa-assessment
211	📋 Create invoice retrieval API	EM Elakkiya M	● New	elakkiya-hexa-assessment
212	📋 Test invoice pipeline	⋯ EM Elakkiya M	● New	elakkiya-hexa-assessment

Epic 4: Order Management

- **Feature: Order Tracking**
  - o User Story: Track Order Status
    - ▪ Tasks:
      - ▪ Create order history schema
      - ▪ Build real-time order update pipeline (Kafka/CDC)
      - ▪ Implement order status API
      - ▪ Dashboard for order tracking
- **Feature: Order Analytics**
  - o User Story: Sales Reports
    - ▪ Tasks:
      - ▪ Build ETL pipeline for daily order data
      - ▪ Aggregate orders by region/product
      - ▪ Generate Power BI dashboards
      - ▪ Automate data refresh schedules

213	👑 Order Management	EM Elakkiya M	● New	elakkiya-hexa-assessment
214	🏆 Order Tracking	EM Elakkiya M	● New	elakkiya-hexa-assessment
215	📊 Track Order Status	EM Elakkiya M	● New	elakkiya-hexa-assessment
216	📋 Create order history schema	EM Elakkiya M	● New	elakkiya-hexa-assessment
217	📋 Build real-time order update pipeline	EM Elakkiya M	● New	elakkiya-hexa-assessment
218	📋 Implement order status API	EM Elakkiya M	● New	elakkiya-hexa-assessment
219	📋 Dashboard for order tracking	EM Elakkiya M	● New	elakkiya-hexa-assessment
220	🏆 Order Analytics	EM Elakkiya M	● New	elakkiya-hexa-assessment
221	📊 Sales Reports	EM Elakkiya M	● New	elakkiya-hexa-assessment
222	📋 Build ETL pipeline for daily order data	EM Elakkiya M	● New	elakkiya-hexa-assessment
223	📋 Aggregate orders by region/product	EM Elakkiya M	● New	elakkiya-hexa-assessment
224	📋 Generate Power BI dashboards	EM Elakkiya M	● New	elakkiya-hexa-assessment
225	📋 Automate data refresh schedules	⋯ EM Elakkiya M	● New	elakkiya-hexa-assessment

Epic 5: User Profile & Security

- **Feature: Profile Management**
  - o User Story: Manage User Data
   - Tasks:
      - Create user profile schema
      - ETL for user data enrichment
      - Develop profile API

- **Feature: Security & Audit**
  - o User Story: User Activity Logging
    - Tasks:
      - Build pipeline for login events
      - Store logs in secure storage (Blob/SQL)
      - Monitor suspicious activity
      - Automate audit reports

| 226 | 👑 User Profile & Security | EM Elakkiya M | ● New | elakkiya-hexa-assessment |
227	🏆 Profile Management	EM Elakkiya M	● New	elakkiya-hexa-assessment
228	📖 Manage User Data	EM Elakkiya M	● New	elakkiya-hexa-assessment
229	📝 Create user profile schema	EM Elakkiya M	● New	elakkiya-hexa-assessment
230	📝 ETL for user data enrichment	EM Elakkiya M	● New	elakkiya-hexa-assessment
231	📝 Develop profile API	EM Elakkiya M	● New	elakkiya-hexa-assessment
232	🏆 Security & Audit	EM Elakkiya M	● New	elakkiya-hexa-assessment
233	📖 User Activity Logging	EM Elakkiya M	● New	elakkiya-hexa-assessment
234	📝 Build pipeline for login events	EM Elakkiya M	● New	elakkiya-hexa-assessment
235	📝 Store logs in secure storage	EM Elakkiya M	● New	elakkiya-hexa-assessment
236	📝 Monitor suspicious activity	EM Elakkiya M	● New	elakkiya-hexa-assessment
237	📝 Automate audit reports ⋯	EM Elakkiya M	● New	elakkiya-hexa-assessment

PART 2 – Azure DevOps Git Setup
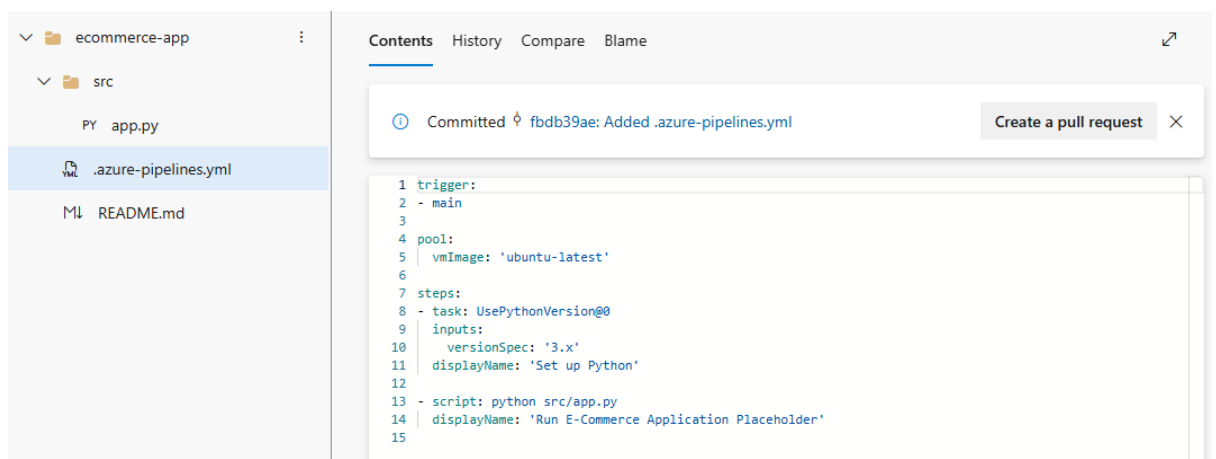
1. Create a Git Repo
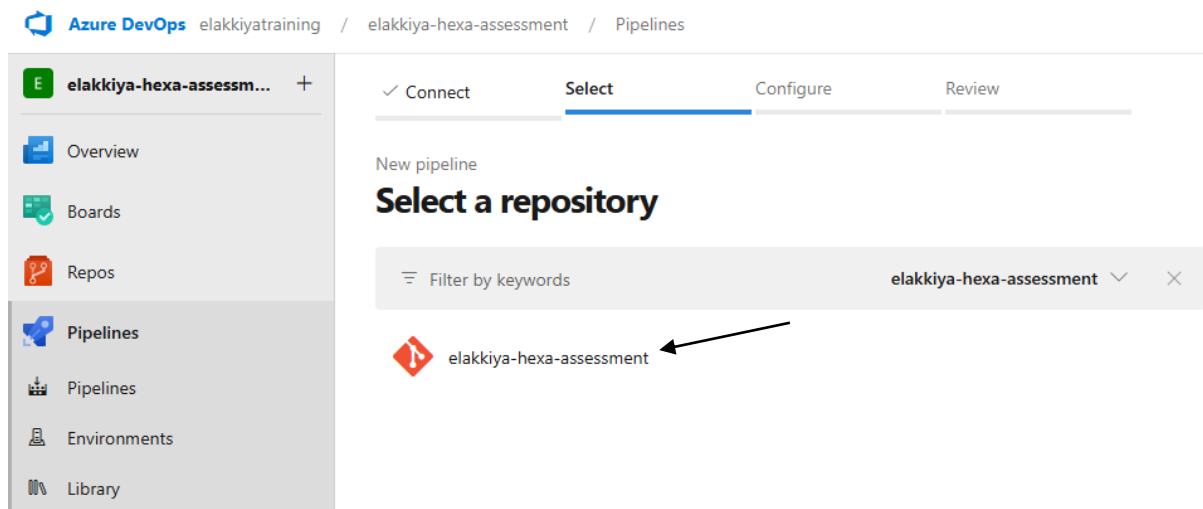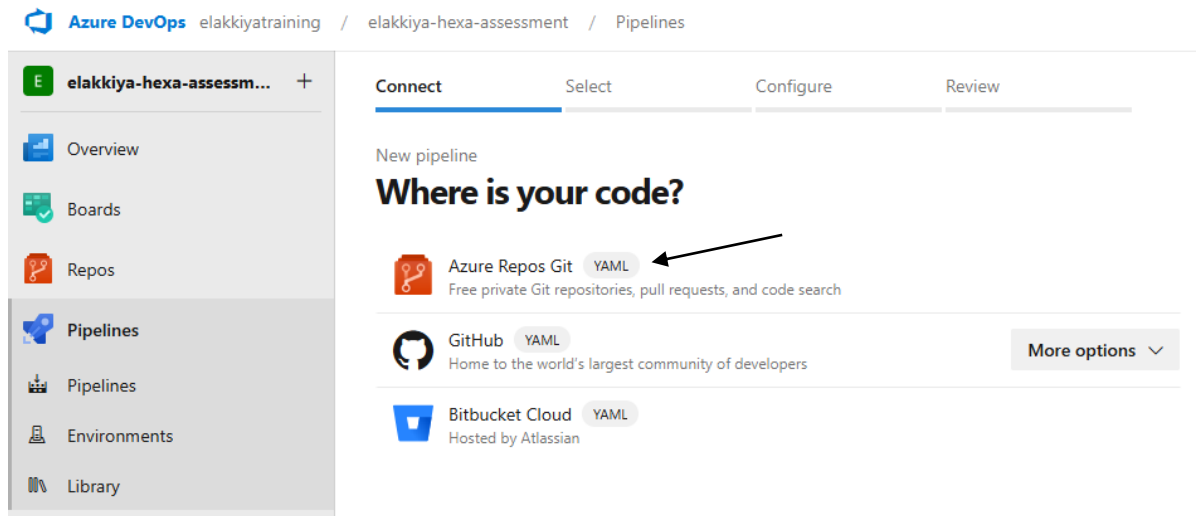
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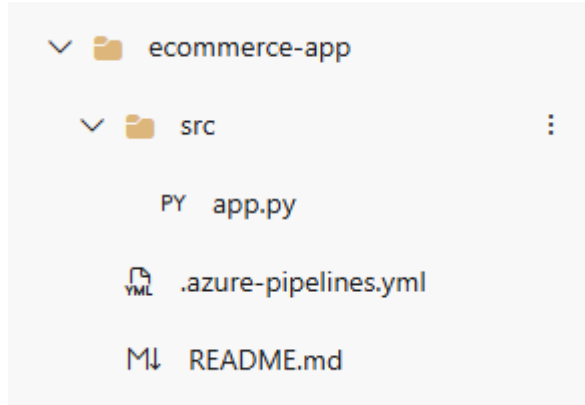
app.py:
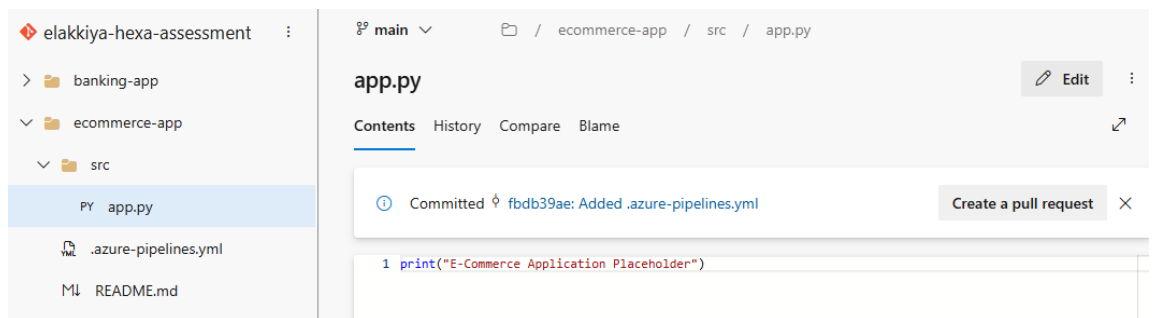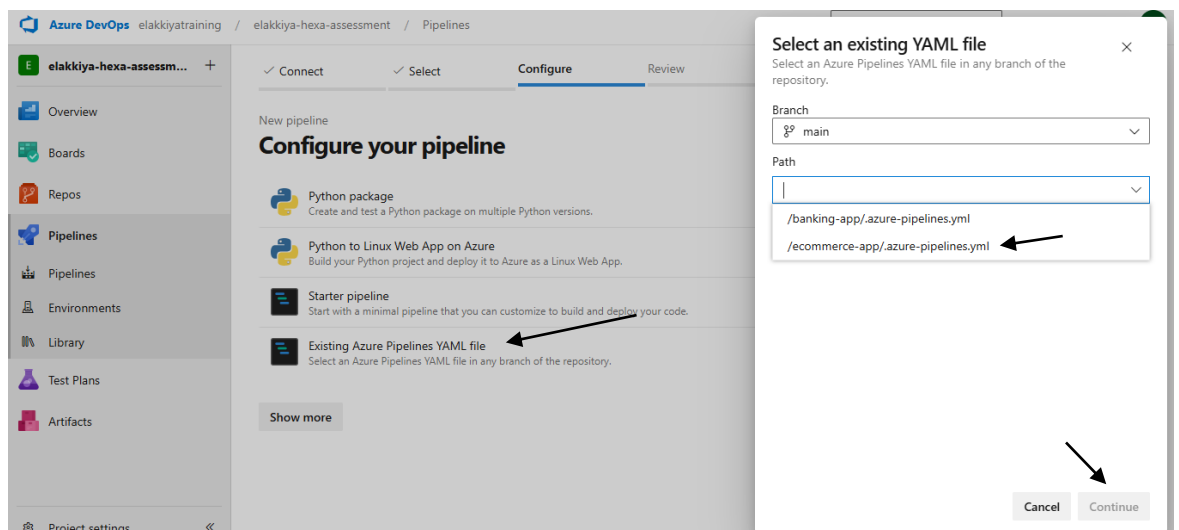

PART 3 - Configure CI/CD Pipeline
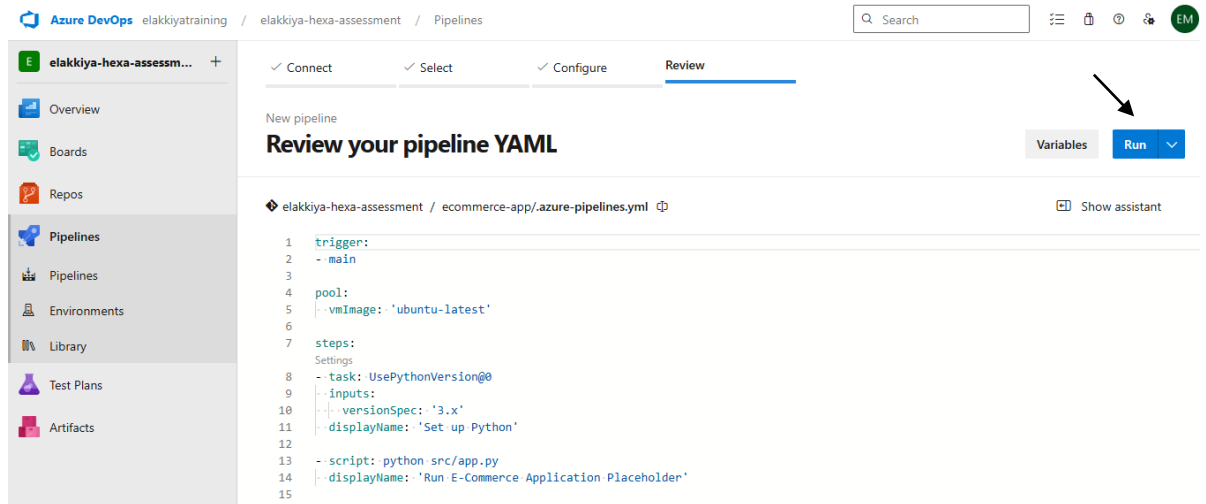
Create Simple Pipeline

1. Go to Azure DevOps Portal → Pipelines→ New Pipeline → Connect your repo → Select YAML.

2. I have the yaml file in repo so I am selecting the existing then select the path and click continue:

3. Save & Run.

This is how we create the pipeline in azure DevOps but we need subscription to run the job successfully.