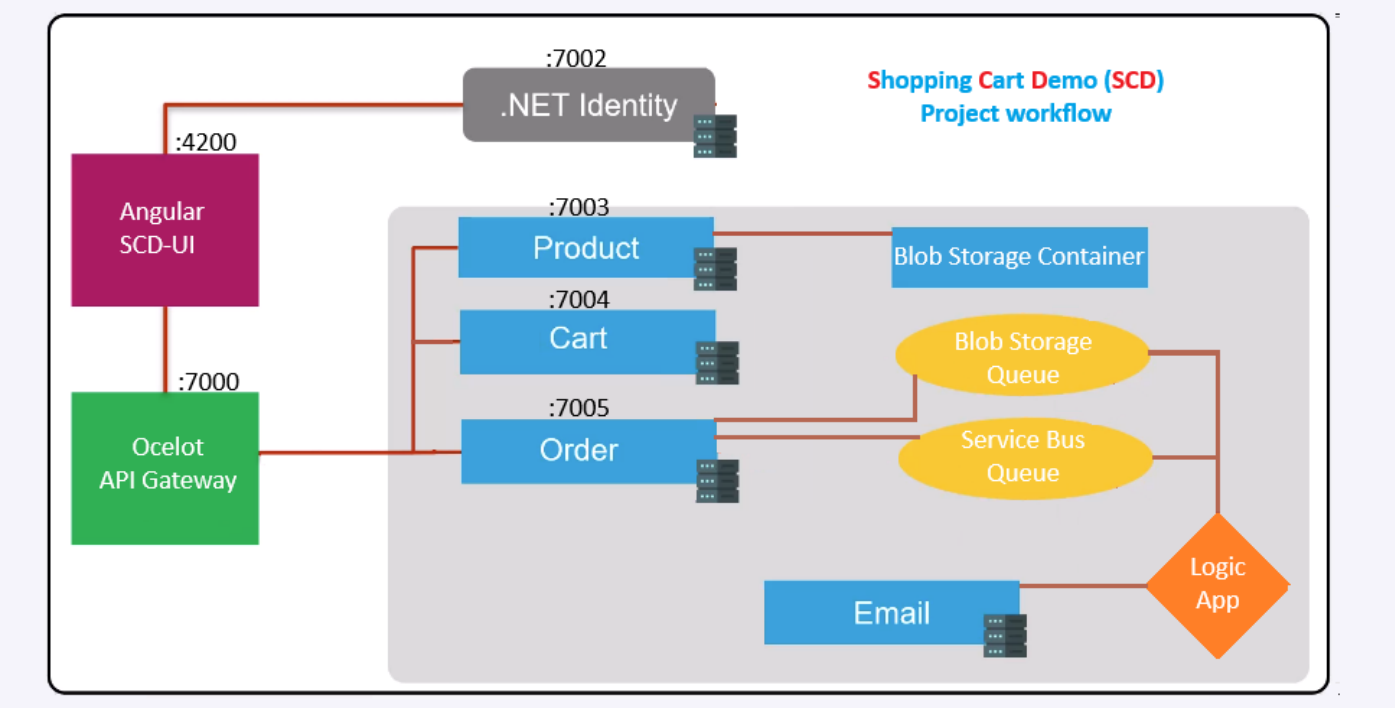
# Shopping Cart Demo (SCD)

I have created a shopping portal in microservice architecture and tried to cover all basic areas in Azure Cloud. Below is the workflow of my demo application:




## This solution is microservice architecture

### Angular UI (SCD_UI)

- ✓ Developed using Angular:20.x
- ✓ Will be expose on http://localhost:4200
- ✓ Key pages:
  - Sign In
  - Signup
  - Product Dashboard (MyShop)
  - View Cart
  - Checkout
  - My Orders

**Note**: just for quick login customer details are prefilled in login screen for Customer (customer@nagarro.com / Pass@123) and for Admin (admin@nagarro.com / Pass@123) Further you can sign up as Customer/Admin role with correct email address to get emails and the same credentials will work immediately for sign in.

### Ocelot API Gateway (SCD.GatewayProject)

- ✓ Gateway base url http://localhost:7000
- ✓ Upstream url will be http://localhost:4200
- ✓ Downstream url be
  - For Product: http://localhost:7003
  - For Cart: http://localhost:7004
  - For Orders: http://localhost:7005

## .Net Core Api (SCD.Services.AuthAPI)

- ✓ Developed using .Net Core Web App (net 8.0)
- ✓ Will be expose on http://localhost:4200
- ✓ Key Action Methods:
  - Register
  - Login

## .Net Core Api (SCD.Services.ProductAPI)

- ✓ Developed using .Net Core Web App (net 8.0)
- ✓ Will be expose on http://localhost:7003
- ✓ Key Action Methods:
  - Get (get all products)
  - Get/{id} (get product by id)
  - Post(Add products) for ADMIN role only

## .Net Core Api (SCD.Services.CartAPI)

- ✓ Developed using .Net Core Web App (net 8.0)
- ✓ Will be expose on http://localhost:7004
- ✓ Key Action Methods:
  - CartUpsert (Add/Update Items in Cart)
  - RemoveCart (Delete items from cart)
  - GetCart/{UserId} (Get cart by userid)
  - ClearCart (Clear cart)

## .Net Core Api (SCD.Services.OrderAPI)

- ✓ Developed using .Net Core Web App (net 8.0)
- ✓ Will be expose on http://localhost:7005
- ✓ Key Action Methods:
  - CreateOrder (Place a order for cart items)
  - GetOrders/{Userid} (Get all orders list for logged in user)
  - GetPendingOrders(List all newly created orders) for ADMIN role only
  - UpdateOrderStatus(Admin can approve/reject order) for ADMIN role only

## .Net Library (SCD.MessageBus)

- ✓ Utility library to send message in Azure bus Queue
- ✓ This library is reference from CartApi and OrderApi send message in queue

## Azure Function App (SCD.EmailProcessorFunction)

- ✓ This is ServiceBusTrigger azure function to read messages from azure message bus queue
- ✓ Once we receive any messages, we create a mail template (to, subject, body) and send message to Azure Logic App to send mail
- ✓ Also send a new message to read BlobStorageQueue if admin as approved this order, so that next order can be set as Delivered status.

# Features(Complete workflow defined)

## Customer Features and Workflow:

- ✓ User Sign up as Customer
- ✓ User Sign in as (Customer) and get Auth token (JWT)
- ✓ MyShop (List of products) page/Add product to cart
- ✓ Checkout Cart
  - Inter service call to CartAPI to get Cart Details
  - Inter service call to ProdctAPI to get Product Details
  - Insert Create Order
  - Inter service call to CartApi to clear cart
  - Send Order confirmation Mail to customer from Azure Logic App
  - Redirect to Order confirmation page which will show order number and link to Orders list page
- ✓ User can track order from order list

## Admin Feature and workflow:

- ✓ User Sign up as Admin
- ✓ User Sign in as (Admin) and get Auth token (JWT)
- ✓ MyShop (List of products) page to view all products
- ✓ Add Product (To register new products)
- ✓ Pending Orders
  - This page will list all new order places
  - Admin can Approve or Reject the order
  - Send Message in azure message bus queue

## Azure Function:

- ✓ Read Azure Message Bus queue
- ✓ Send Approved/Reject Mail to customer from Azure Logic App
- ✓ If order is Approve send a message in Blob Storage Queue

## Azure Storage Queue Worker (in OrderAPI):

- ✓ Read message
- ✓ Update order status to (Delivered) assuming that process between order status and order delivery is done.
- ✓ Send Delivered Mail to customer from Azure Logic App