

CAPSTONE PROJECT

ECOMMERCE APPLICATION

TEAM - D , BATCH - 8

JAVA J2EE

Name: Payani Dhan Sekhar

E-mail:sekhard433@gmsil.com

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Sl.	Name	Email-ID
1	Hussain Peera Pinjari	h16656970@gmail.com
2	CHINTALAPUDI DHANUSHA	dhanushachintalapudi13@gmail.com
3	Abhishek Narayan	abhisheknarayan9118@gmail.com
4	Gudisi Eekshitha	gudisieekshitha25@gmail.com
5	Payani Dhanasekhar	sekhard433@gmail.com
6	BIKKIREDDY TEJA	bikkireddyteja999@gmail.com
7	Rizwana Tadipatri	rizwanatadipatri@gmail.com
8	Zeba Qumar	zebaquamar19@gmail.com
9	ankit chauhan	ankit.chauhan0381@gmail.com
10	RAKESH KUMAR DEY	rakeshkumardey2@gmail.com

Spring Planning Sheet

Overview of Requirements

Technologies

- Java
- Spring Boot
- Spring Cloud
- Spring Data JPA
- MySQL/MariaDB
- RESTful APIs

Main Features

- Admin Management
 - Services management
 - Bookings management
 - Customers management
 - User Roles and Permissions
- User Functionalities
 - Browse services
 - User Management
 - Product Management
 - Shopping Cart
 - Order Management

Microservices

Monolith

- Before microservices, a monolithic architecture was the standard way
- In monolith all components are part of a single unit
- Everything is developed, deployed and scaled as 1 unit

Challenges of monolithic architecture

- Application is too large and complex
- Parts are more tangled into each other
- You can only scale the entire app, instead of a specific service
- Release process takes longer
- On every change, the entire application needs to be tested
- Entire application needs to be built and deployed

Microservices Architecture

- Split application into smaller, independent services
- Split based on business functionalities
- Separation of concern: 1 service for 1 specific job
- Self-contained & independent
- Developed, deployed and scaled separately
- Each microservice team can choose its own tech stack
- Each team can develop the service independently, without affecting others

Eureka

- Eureka is a service discovery tool used in spring boot
- Eureka acts as a service registry, where microservices can register themselves and discover other services
- It enable dynamic scaling by allowing services to register
- The Eureka Server is a standalone application that acts as as a service registry.it is where all the microservices register themselves. We are adding annotation '@EnableEurekaServer'
- Microservices that need to register with Eureka server are configured as eureka clients. . We are adding annotation '@EnableEurekaClient'

API Gateway

- Acts as the entry point for al client requests
- Routes requests to the appropriate microservice
- The API Gateway routes incoming requestes to the appropriate microservice based on the request path
- The Gateway can handle security concerns such as authentication and authorization at a centralized points

Service Registry and Discovery

- Observe all services at one place
- Indicate service status (UP/DOWN)
- Load balancing

API Gateway

- Validate requests
- Route requests

Authentication Service

- User authentication
- User registration
- JWT token generation
- Role-based access control

Planning

- Requirements Gathering (1 day)
 - Understand features needed for Admin and User modules
 - Identify required microservices
- Architecture Design (1 day)
 - Design microservices architecture
 - Set up Service Registry (Eureka) and API Gateway

Development

Day 1-2: Service Registry, API Gateway, and Authentication

- Service Registry
 - Set up Eureka Server for Service Registry & Discovery
- API Gateway
 - Implement API Gateway for routing requests
- Authentication Service
 - Develop Authentication Service for user login, registration, and JWT token generation

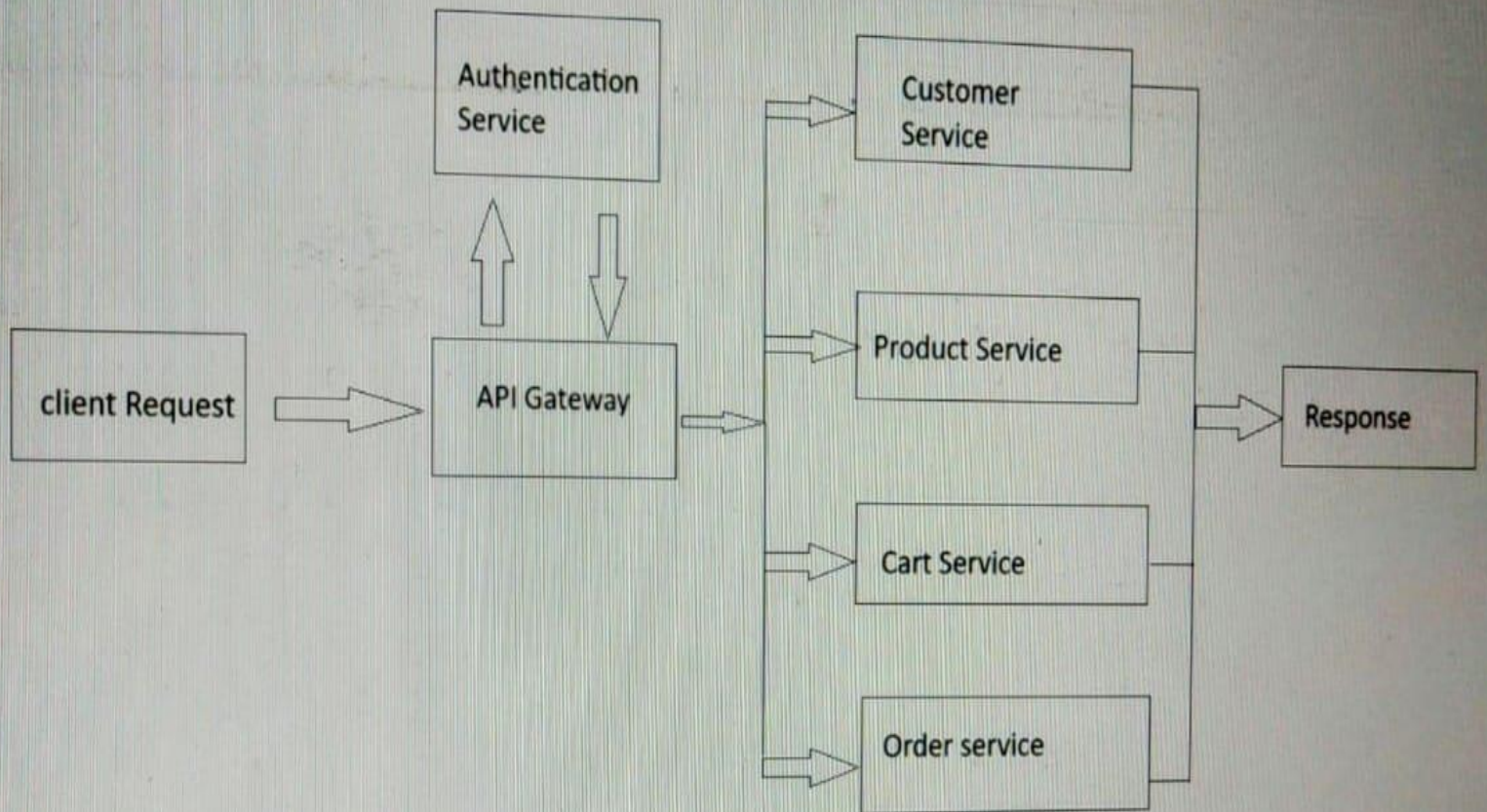
Day 3-4: Service Management and Booking Management

- Service Management Microservice
 - Build Service Management Microservice (CRUD operations for services)
- Booking Management Microservice
 - Develop Booking Management Microservice

Day 5-6: Customer Management and Remaining Tasks

- Customer Management Microservice
 - Build Customer Management Microservice (profile and booking history management)
- Remaining Tasks
 - Complete any remaining tasks or features

Use Case Diagrams:-



```
CommerceServiceReg... X ECommerceApiGate... ECommerceConfigSe... AuthServiceApplic... CustomerServiceAa... ProductServiceAp...
1 package com.wipro;

ECommerceServiceRegistryApplication [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Sep 1, 2024, 12:00:01 PM) [pid: 3824]
Standard Commons Logging discovery in action with spring-jcl: please remove commons-logging.jar from classpath in order to avoid potential conflict

:: Spring Boot ::

2024-09-01T12:00:05.057+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:05.062+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:07.154+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:07.276+05:30 WARN 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:07.282+05:30 WARN 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:07.827+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:07.846+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:07.847+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:07.971+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:07.973+05:30 INFO 3824 --- [E-commerce-service-registry] [
Standard Commons Logging discovery in action with spring-jcl: please remove commons-logging.jar from classpath in order to avoid potential conflict
2024-09-01T12:00:09.483+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:09.484+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:09.759+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:09.759+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:11.133+05:30 WARN 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:11.174+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:11.214+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:11.214+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:11.218+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:11.290+05:30 INFO 3824 --- [E-commerce-service-registry] [
2024-09-01T12:00:11.293+05:30 INFO 3824 --- [E-commerce-service-registry] [

main] c.w.ECommerceServiceRegistryApplication : Starting EC
main] c.w.ECommerceServiceRegistryApplication : No active p
main] o.s.cloud.context.scope.GenericScope : BeanFactory
main] trationDelegate$BeanPostProcessorChecker : Bean 'org.s
main] trationDelegate$BeanPostProcessorChecker : Bean 'defer
main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat init
main] o.apache.catalina.core.StandardService : Starting se
main] o.apache.catalina.core.StandardEngine : Starting Se
main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializin
main] w.s.c.ServletWebServerApplicationContext : Root WebApp

main] c.n.d.provider.DiscoveryJerseyProvider : Using JSON
main] c.n.d.provider.DiscoveryJerseyProvider : Using JSON
main] c.n.d.provider.DiscoveryJerseyProvider : Using XML e
main] c.n.d.provider.DiscoveryJerseyProvider : Using XML d
main] igation$LoadBalancerCaffeineWarmLogger : Spring Clou
main] o.s.c.n.eureka.InstanceInfoFactory : Setting ini
main] com.netflix.discovery.DiscoveryClient : Initializin
main] com.netflix.discovery.DiscoveryClient : Client conf
main] com.netflix.discovery.DiscoveryClient : Discovery C
main] c.n.eureka.DefaultEurekaServerContext : Initializin
main] c.n.eureka.cluster.PeerEurekaNodes : Adding new
```

Running E-commerce-ApiGateway:-

The screenshot shows an IDE window titled "CommerceApiGatewayApplication [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Sep 1, 2024, 12:02:02 PM) [pid: 2204]". The console tab is active, displaying the following output:

```
:: Spring Boot ::                (v3.3.2)  
  
2024-09-01T12:02:05.393+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] c.wipro.ECommerceApiGatewayApplication : Starting ECommer  
2024-09-01T12:02:05.398+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] c.wipro.ECommerceApiGatewayApplication : No active profil  
2024-09-01T12:02:07.670+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.cloud.context.scope.GenericScope : BeanFactory id=5  
2024-09-01T12:02:07.807+05:30 WARN 2204 --- [E-commerce-API-gateway] [main] trationDelegate$BeanPostProcessorChecker : Bean 'org.spring  
2024-09-01T12:02:07.812+05:30 WARN 2204 --- [E-commerce-API-gateway] [main] trationDelegate$BeanPostProcessorChecker : Bean 'deferringL  
2024-09-01T12:02:07.818+05:30 WARN 2204 --- [E-commerce-API-gateway] [main] trationDelegate$BeanPostProcessorChecker : Bean 'org.spring  
2024-09-01T12:02:07.820+05:30 WARN 2204 --- [E-commerce-API-gateway] [main] trationDelegate$BeanPostProcessorChecker : Bean 'org.spring  
2024-09-01T12:02:07.825+05:30 WARN 2204 --- [E-commerce-API-gateway] [main] trationDelegate$BeanPostProcessorChecker : Bean 'reactorDef  
2024-09-01T12:02:09.320+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.321+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.321+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.321+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.321+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.321+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.321+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.321+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.321+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.321+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.323+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.323+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.c.g.r.RouteDefinitionRouteLocator : Loaded RoutePred  
2024-09-01T12:02:09.796+05:30 INFO 2204 --- [E-commerce-API-gateway] [main] o.s.b.a.e.web.EndpointLinksResolver : Exposing 1 endpo
```


Running Auth-service:-

```
package com.wipro;

AuthServiceApplication [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Sep 1, 2024, 12:07:00 PM) [pid: 4308]

:: Spring Boot :: (v3.3.2)

2024-09-01T12:07:04.301+05:30 INFO 4308 --- [auth-service] [ restartedMain] com.wipro.AuthServiceApplication : Starting AuthServiceApplic
2024-09-01T12:07:04.306+05:30 INFO 4308 --- [auth-service] [ restartedMain] com.wipro.AuthServiceApplication : No active profile set, fal
2024-09-01T12:07:04.418+05:30 INFO 4308 --- [auth-service] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property defaults
2024-09-01T12:07:04.419+05:30 INFO 4308 --- [auth-service] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : For additional web related
2024-09-01T12:07:06.039+05:30 INFO 4308 --- [auth-service] [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data
2024-09-01T12:07:06.258+05:30 INFO 4308 --- [auth-service] [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repos
2024-09-01T12:07:06.846+05:30 INFO 4308 --- [auth-service] [ restartedMain] o.s.cloud.context.scope.GenericScope : BeanFactory id=50dadb0a-54
2024-09-01T12:07:07.125+05:30 WARN 4308 --- [auth-service] [ restartedMain] trationDelegate$BeanPostProcessorChecker : Bean 'org.springframework
2024-09-01T12:07:07.128+05:30 WARN 4308 --- [auth-service] [ restartedMain] trationDelegate$BeanPostProcessorChecker : Bean 'deferringLoadBalance
2024-09-01T12:07:07.779+05:30 INFO 4308 --- [auth-service] [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with po
2024-09-01T12:07:07.803+05:30 INFO 4308 --- [auth-service] [ restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-09-01T12:07:07.803+05:30 INFO 4308 --- [auth-service] [ restartedMain] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [
2024-09-01T12:07:07.890+05:30 INFO 4308 --- [auth-service] [ restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedd
2024-09-01T12:07:07.892+05:30 INFO 4308 --- [auth-service] [ restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext
2024-09-01T12:07:08.197+05:30 INFO 4308 --- [auth-service] [ restartedMain] o.hibernate.jpa.internal.util.LogHelper : HHH000204: Processing Pers
2024-09-01T12:07:08.311+05:30 INFO 4308 --- [auth-service] [ restartedMain] org.hibernate.Version : HHH000412: Hibernate ORM c
2024-09-01T12:07:08.374+05:30 INFO 4308 --- [auth-service] [ restartedMain] o.h.c.internal.RegionFactoryInitiator : HHH000026: Second-level ca
2024-09-01T12:07:08.920+05:30 INFO 4308 --- [auth-service] [ restartedMain] o.s.o.j.p.SpringPersistenceUnitInfo : No LoadTimeWeaver setup: i
2024-09-01T12:07:08.966+05:30 INFO 4308 --- [auth-service] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
2024-09-01T12:07:09.502+05:30 INFO 4308 --- [auth-service] [ restartedMain] com.zaxxer.hikari.pool.HikariPool : HikariPool-1 - Added conne
2024-09-01T12:07:09.505+05:30 INFO 4308 --- [auth-service] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start compl
2024-09-01T12:07:10.706+05:30 INFO 4308 --- [auth-service] [ restartedMain] o.h.e.t.j.p.i.JtaPlatformInitiator : HHH000489: No JTA platform
2024-09-01T12:07:10.759+05:30 INFO 4308 --- [auth-service] [ restartedMain] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityMana
```

Running customer-service

```
package com.wipro;

CustomerServiceApplication [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Sep 1, 2024, 12:05:49 PM) [pid: 9888]

:: Spring Boot :: (v3.3.3)

2024-09-01T12:05:54.576+05:30 INFO 9888 --- [customer-service] [ restartedMain] com.wipro.CustomerServiceApplication : Starting CustomerServi
2024-09-01T12:05:54.580+05:30 INFO 9888 --- [customer-service] [ restartedMain] com.wipro.CustomerServiceApplication : No active profile set,
2024-09-01T12:05:54.669+05:30 INFO 9888 --- [customer-service] [ restartedMain] o.s.c.c.c.ConfigServerConfigDataLoader : Fetching config from s
2024-09-01T12:05:54.669+05:30 INFO 9888 --- [customer-service] [ restartedMain] o.s.c.c.c.ConfigServerConfigDataLoader : Located environment: n
2024-09-01T12:05:54.673+05:30 INFO 9888 --- [customer-service] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property defa
2024-09-01T12:05:54.673+05:30 INFO 9888 --- [customer-service] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : For additional web rel
2024-09-01T12:05:56.663+05:30 INFO 9888 --- [customer-service] [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring D
2024-09-01T12:05:56.844+05:30 INFO 9888 --- [customer-service] [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data r
2024-09-01T12:05:57.317+05:30 INFO 9888 --- [customer-service] [ restartedMain] o.s.cloud.context.scope.GenericScope : BeanFactory id=27a1d4a
2024-09-01T12:05:57.955+05:30 WARN 9888 --- [customer-service] [ restartedMain] trationDelegate$BeanPostProcessorChecker : Bean 'org.springframew
2024-09-01T12:05:57.960+05:30 WARN 9888 --- [customer-service] [ restartedMain] trationDelegate$BeanPostProcessorChecker : Bean 'deferringLoadBal
2024-09-01T12:05:58.761+05:30 INFO 9888 --- [customer-service] [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized wit
2024-09-01T12:05:58.782+05:30 INFO 9888 --- [customer-service] [ restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomc
2024-09-01T12:05:58.782+05:30 INFO 9888 --- [customer-service] [ restartedMain] o.apache.catalina.core.StandardEngine : Starting Servlet engin
2024-09-01T12:05:58.865+05:30 INFO 9888 --- [customer-service] [ restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring em
2024-09-01T12:05:58.867+05:30 INFO 9888 --- [customer-service] [ restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationCon
2024-09-01T12:05:59.522+05:30 INFO 9888 --- [customer-service] [ restartedMain] o.hibernate.jpa.internal.util.LogHelper : HHH000204: Processing
2024-09-01T12:05:59.663+05:30 INFO 9888 --- [customer-service] [ restartedMain] org.hibernate.Version : HHH000412: Hibernate O
2024-09-01T12:05:59.758+05:30 INFO 9888 --- [customer-service] [ restartedMain] o.h.c.internal.RegionFactoryInitiator : HHH000026: Second-leve
2024-09-01T12:06:00.308+05:30 INFO 9888 --- [customer-service] [ restartedMain] o.s.o.j.p.SpringPersistenceUnitInfo : No LoadTimeWeaver setu
2024-09-01T12:06:00.344+05:30 INFO 9888 --- [customer-service] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Startin
2024-09-01T12:06:00.779+05:30 INFO 9888 --- [customer-service] [ restartedMain] com.zaxxer.hikari.pool.HikariPool : HikariPool-1 - Added c
2024-09-01T12:06:00.784+05:30 INFO 9888 --- [customer-service] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start c
```

Running Product-service:-

```
ECommerceServiceR... ECommerceApiGate... EcommerceConfigSe... AuthServiceAppl... CustomerServiceA... ProductServiceAp... X
2
ProductServiceApplication [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Sep 1, 2024, 12:08:06 PM) [pid: 824]

:: Spring Boot :: (v3.3.3)

2024-09-01T12:08:11.366+05:30 INFO 824 --- [Product-service] [ restartedMain] com.wipro.ProductServiceApplication : Starting ProductServiceA
2024-09-01T12:08:11.371+05:30 INFO 824 --- [Product-service] [ restartedMain] com.wipro.ProductServiceApplication : No active profile set, f
2024-09-01T12:08:11.455+05:30 INFO 824 --- [Product-service] [ restartedMain] o.s.c.c.c.ConfigServerConfigDataLoader : Fetching config from ser
2024-09-01T12:08:11.456+05:30 INFO 824 --- [Product-service] [ restartedMain] o.s.c.c.c.ConfigServerConfigDataLoader : Located environment: nam
2024-09-01T12:08:11.460+05:30 INFO 824 --- [Product-service] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property defaul
2024-09-01T12:08:11.460+05:30 INFO 824 --- [Product-service] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : For additional web relat
2024-09-01T12:08:13.060+05:30 INFO 824 --- [Product-service] [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Dat
2024-09-01T12:08:13.278+05:30 INFO 824 --- [Product-service] [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data rep
2024-09-01T12:08:13.723+05:30 INFO 824 --- [Product-service] [ restartedMain] o.s.cloud.context.scope.GenericScope : BeanFactory id=437a8d30-
2024-09-01T12:08:13.947+05:30 WARN 824 --- [Product-service] [ restartedMain] trationDelegate$BeanPostProcessorChecker : Bean 'org.springframework
2024-09-01T12:08:13.951+05:30 WARN 824 --- [Product-service] [ restartedMain] trationDelegate$BeanPostProcessorChecker : Bean 'deferringLoadBalan
2024-09-01T12:08:14.714+05:30 INFO 824 --- [Product-service] [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with
2024-09-01T12:08:14.736+05:30 INFO 824 --- [Product-service] [ restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-09-01T12:08:14.737+05:30 INFO 824 --- [Product-service] [ restartedMain] o.apache.catalina.core.StandardEngine : Starting Servlet engine:
2024-09-01T12:08:14.902+05:30 INFO 824 --- [Product-service] [ restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embe
2024-09-01T12:08:14.905+05:30 INFO 824 --- [Product-service] [ restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationConte
2024-09-01T12:08:15.156+05:30 INFO 824 --- [Product-service] [ restartedMain] o.hibernate.jpa.internal.util.LogHelper : HHH000204: Processing Pe
2024-09-01T12:08:15.245+05:30 INFO 824 --- [Product-service] [ restartedMain] org.hibernate.Version : HHH000412: Hibernate ORM
2024-09-01T12:08:15.295+05:30 INFO 824 --- [Product-service] [ restartedMain] o.h.c.internal.RegionFactoryInitiator : HHH000026: Second-level
2024-09-01T12:08:15.804+05:30 INFO 824 --- [Product-service] [ restartedMain] o.s.o.j.p.SpringPersistenceUnitInfo : No LoadTimeWeaver setup:
2024-09-01T12:08:15.845+05:30 INFO 824 --- [Product-service] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
2024-09-01T12:08:16.358+05:30 INFO 824 --- [Product-service] [ restartedMain] com.zaxxer.hikari.pool.HikariPool : HikariPool-1 - Added con
2024-09-01T12:08:16.363+05:30 INFO 824 --- [Product-service] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start com
```

Running Cart-service:-

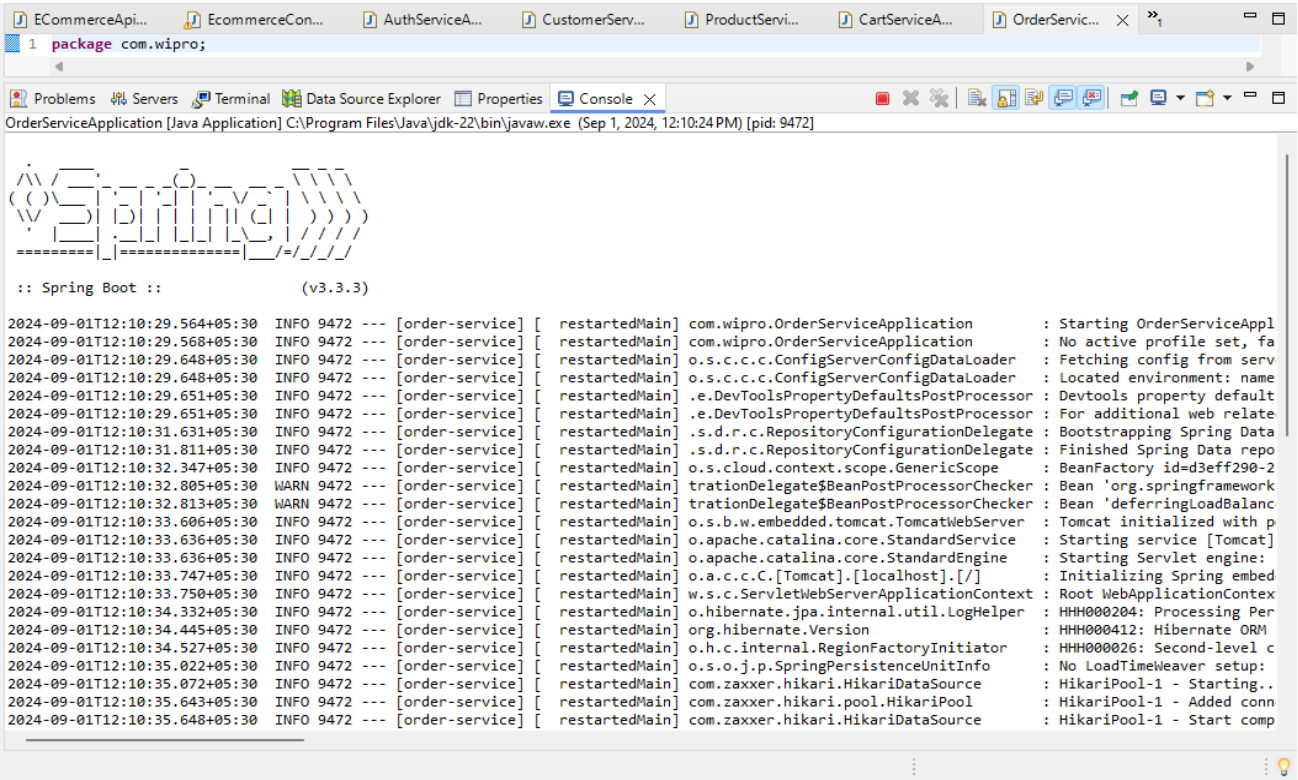
```
ECommerceServ... ECommerceApi... EcommerceConfig... AuthServiceAp... CustomerServi... ProductServic... CartServiceAp... X
1 package com.wipro;

CartServiceApplication [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Sep 1, 2024, 12:09:10 PM) [pid: 6268]

:: Spring Boot :: (v3.3.3)

2024-09-01T12:09:15.477+05:30 INFO 6268 --- [cart-service] [ restartedMain] com.wipro.CartServiceApplication : Starting CartServiceAppl
2024-09-01T12:09:15.480+05:30 INFO 6268 --- [cart-service] [ restartedMain] com.wipro.CartServiceApplication : No active profile set, fal
2024-09-01T12:09:15.566+05:30 INFO 6268 --- [cart-service] [ restartedMain] o.s.c.c.c.ConfigServerConfigDataLoader : Fetching config from serve
2024-09-01T12:09:15.567+05:30 INFO 6268 --- [cart-service] [ restartedMain] o.s.c.c.c.ConfigServerConfigDataLoader : Located environment: name=
2024-09-01T12:09:15.570+05:30 INFO 6268 --- [cart-service] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property defaults
2024-09-01T12:09:15.570+05:30 INFO 6268 --- [cart-service] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : For additional web related
2024-09-01T12:09:17.486+05:30 INFO 6268 --- [cart-service] [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data
2024-09-01T12:09:17.688+05:30 INFO 6268 --- [cart-service] [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repos
2024-09-01T12:09:18.142+05:30 INFO 6268 --- [cart-service] [ restartedMain] o.s.cloud.context.scope.GenericScope : BeanFactory id=3af9937c-9d
2024-09-01T12:09:18.669+05:30 WARN 6268 --- [cart-service] [ restartedMain] trationDelegate$BeanPostProcessorChecker : Bean 'org.springframework
2024-09-01T12:09:18.674+05:30 WARN 6268 --- [cart-service] [ restartedMain] trationDelegate$BeanPostProcessorChecker : Bean 'deferringLoadBalance
2024-09-01T12:09:19.507+05:30 INFO 6268 --- [cart-service] [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with po
2024-09-01T12:09:19.535+05:30 INFO 6268 --- [cart-service] [ restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-09-01T12:09:19.536+05:30 INFO 6268 --- [cart-service] [ restartedMain] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [
2024-09-01T12:09:19.636+05:30 INFO 6268 --- [cart-service] [ restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedd
2024-09-01T12:09:19.638+05:30 INFO 6268 --- [cart-service] [ restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext
2024-09-01T12:09:20.207+05:30 INFO 6268 --- [cart-service] [ restartedMain] o.hibernate.jpa.internal.util.LogHelper : HHH000204: Processing Pers
2024-09-01T12:09:20.322+05:30 INFO 6268 --- [cart-service] [ restartedMain] org.hibernate.Version : HHH000412: Hibernate ORM c
2024-09-01T12:09:20.390+05:30 INFO 6268 --- [cart-service] [ restartedMain] o.h.c.internal.RegionFactoryInitiator : HHH000026: Second-level ca
2024-09-01T12:09:20.934+05:30 INFO 6268 --- [cart-service] [ restartedMain] o.s.o.j.p.SpringPersistenceUnitInfo : No LoadTimeWeaver setup: i
2024-09-01T12:09:20.982+05:30 INFO 6268 --- [cart-service] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
2024-09-01T12:09:21.603+05:30 INFO 6268 --- [cart-service] [ restartedMain] com.zaxxer.hikari.pool.HikariPool : HikariPool-1 - Added conne
2024-09-01T12:09:21.607+05:30 INFO 6268 --- [cart-service] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start compl
```

Running Order-service:-



This is the Eureka Service where we show all Microservices:

DS Replicas			
localhost			
Instances currently registered with Eureka			
Application	AMIs	Availability Zones	Status
AUTH-SERVICE	n/a (1)	(1)	UP (1) - anabolic:auth-service:9092
CART-SERVICE	n/a (1)	(1)	UP (1) - anabolic:cart-service:9097
CUSTOMER-SERVICE	n/a (1)	(1)	UP (1) - anabolic:customer-service:9096
E-COMMERCE-API-GATEWAY	n/a (1)	(1)	UP (1) - anabolic:E-commerce-Api-gateway:9098
ECOMMERCE-CONFIG-SERVER	n/a (1)	(1)	UP (1) - anabolic:ecommerce-config-server:8888
ORDER-SERVICE	n/a (1)	(1)	UP (1) - anabolic:order-service:9094
PRODUCT-SERVICE	n/a (1)	(1)	UP (1) - anabolic:Product-service:9093
General Info			
Name	Value		
total-avail-memory	74mb		

product-controller

GET /api/product/{id}

PUT /api/product/{id}

DELETE /api/product/{id}

POST /api/product

GET /api/getproductsbycategory/query

GET /api/getproductsbyavailability/query

GET /api/getallproducts

Schemas

ProductDto >

Servers

http://localhost:9096 - Generated server url

customer-controller

GET /api/customer/{customerId}

PUT /api/customer/{customerId}

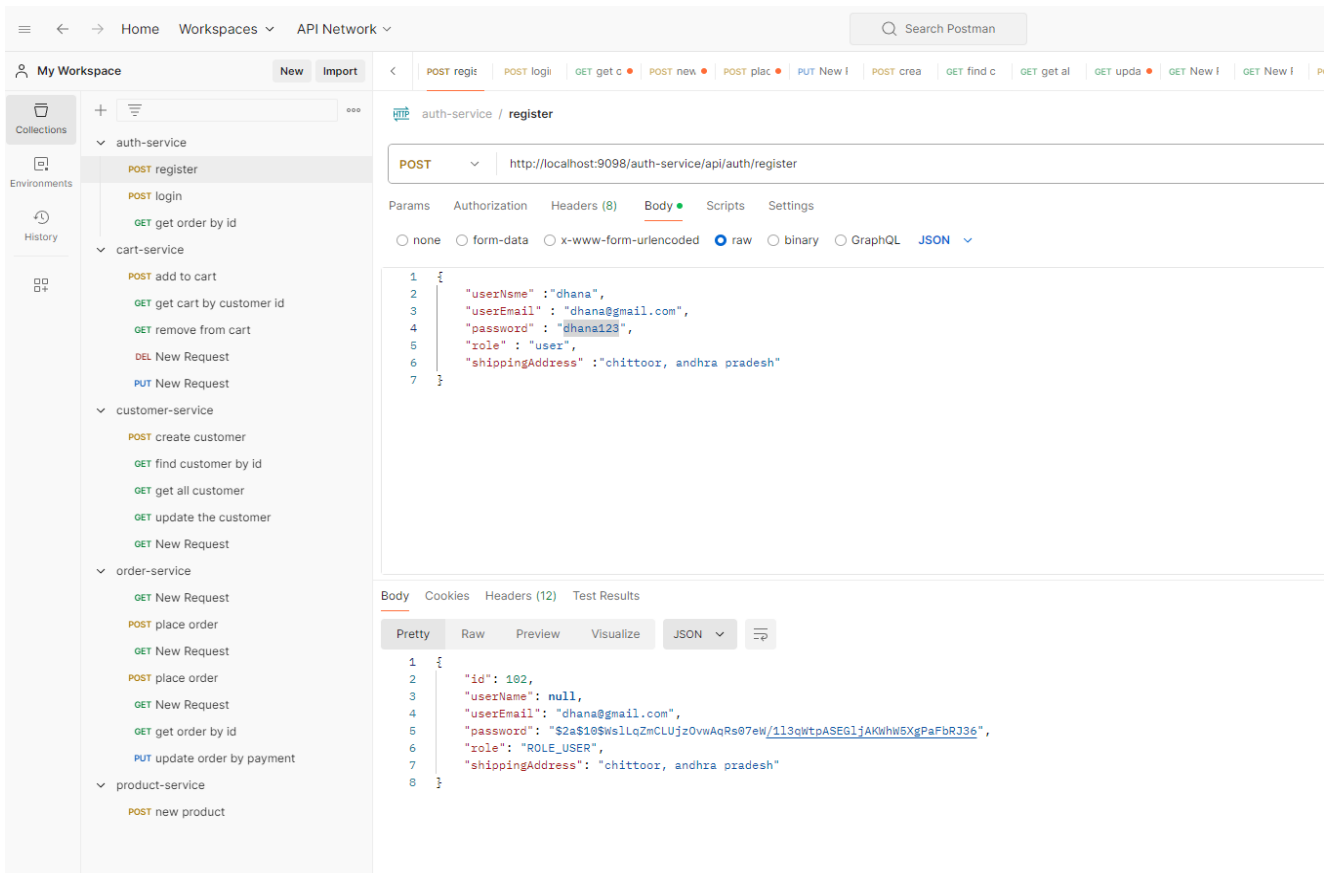
GET /api/customer

POST /api/customer

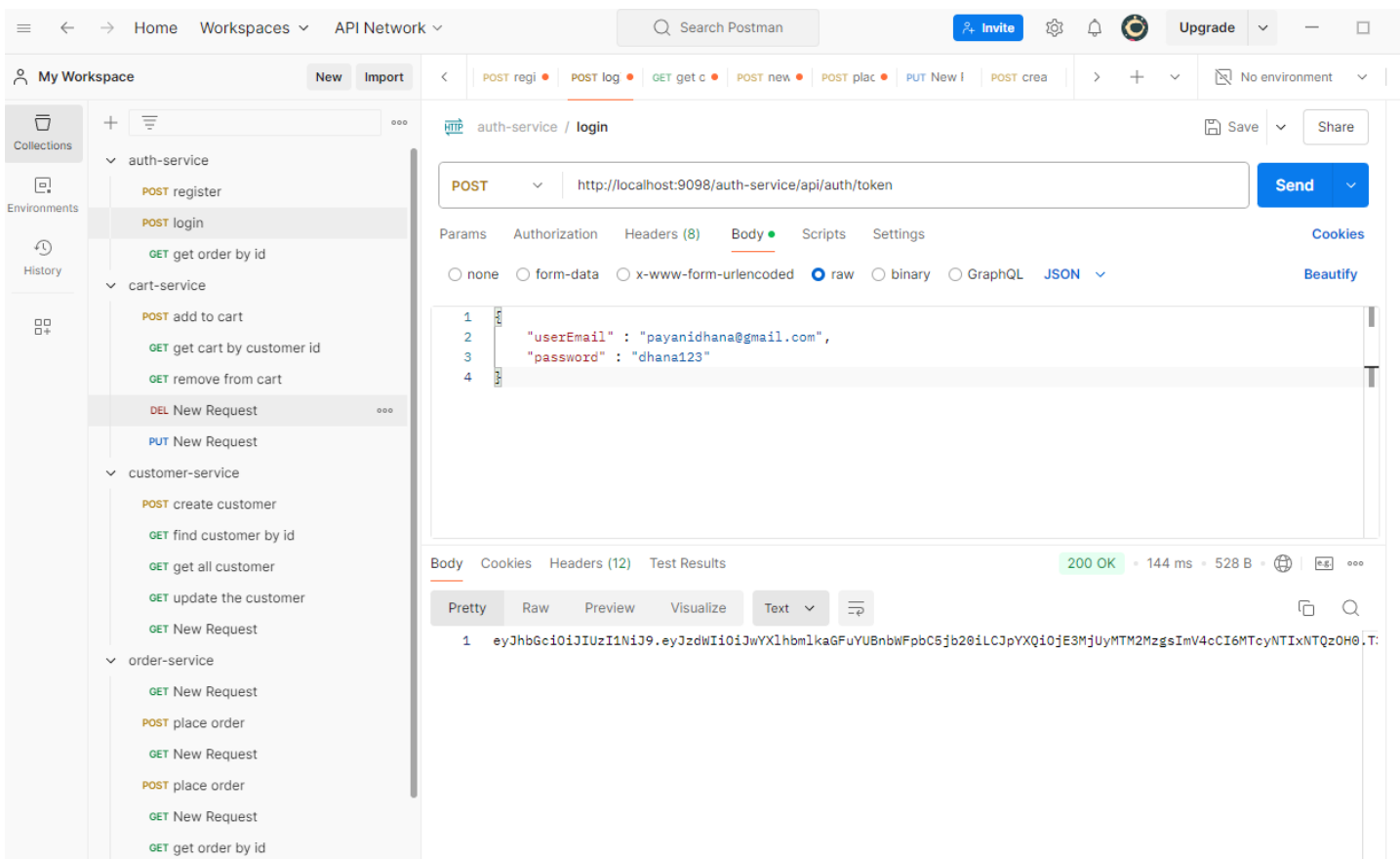
Schemas

CustomerDto >

Registrare User



Token generation



- users: id, shipping_address ,user_name, password, user_email, role

MySQL Workbench

Local instance MySQL80 (ecom... x) Local instance MySQL80 (eco... x)

File Edit View Query Database Server Tools Scripting Help

Navigator: Filter objects

SCHEMAS

- auth_service_db
 - Tables
 - user
 - user_seq
 - Views
 - Stored Procedures
 - Functions
- bookstore
- cart_db
- customer_db
- department_db
- ecommerce_db
 - Tables
 - Views
 - Stored Procedures
 - Functions
- employee_db
- new_schema
- order_db
- sys

Query 1 user

```
SELECT * FROM auth_service_db.user;
```

Result Grid

	id	password	role	shipping_address	user_email	user_name
5		\$2a\$10\$JebU2U.CQ6xQvjouR0W4ceOIP4mIc/n...	ROLE_USER	chittoor	dhanaSekhar@gmail.com	Dhana sekhar
6		\$2a\$10\$04E3WmGbhcvvhrRikNjzx2OeNN56z6Y...	ROLE_USER	chittoor	sekhar@gmail.com	sekhar
7		\$2a\$10\$3yG73pE29bF6FgQ2uEshXeJhPiNrGTC...	ROLE_USER	chittoor	sekhar@gmail.com	sekhar
52		\$2a\$10\$Y/8xdlbLN7Wyr9LbvgGWg.keEh5WVJ...	ROLE_USER	chittoor	hari@gmail.com	hari
53		\$2a\$10\$JzsgH605/xiZKudgX3EteWyZHfEctxy...	ROLE_USER	chittoor, andhra pradesh	dhana@gmail.com	dhana
102		\$2a\$10\$WslqZmCUjzOvwAgRs07eW/1l3qW...	dhanaSekhar@gmail.com	andhra pradesh	dhana@gmail.com	dhana
103		\$2a\$10\$7CxQqarIEt6T094QkzENBuxVC56PLr...	andhra pradesh	andhra pradesh	dhana@gmail.com	dhana
104		\$2a\$10\$dfGG6cCkBD8UAT6AINJNO.RUXw3uoo...	ROLE_USER	chittoor, andhra pradesh	oavanidhana@gmail.com	dhana

Table: user

- customers: customer_id, customer_name, customer_email, shipping_address

MySQL Workbench

Local instance MySQL80 (ecom... x) Local instance MySQL80 (eco... x)

File Edit View Query Database Server Tools Scripting Help

Navigator: Filter objects

SCHEMAS

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 - Views
 - Stored Procedures
 - Functions
- department_db
- ecommerce_db
 - Tables
 - Views
 - Stored Procedures
 - Functions
- employee_db
- new_schema
- order_db
- sys

Query 1 customer

```
SELECT * FROM customer_db.customer;
```

Result Grid

	customer_id	customer_email	customer_name	shipping_address
7		sekhar@gmail.com	sekhar	chittoor
52		hari@gmail.com	hari	chittoor
53		dhana@gmail.com	dhana	chittoor, andhra pradesh
102		dhanaSekhar@gmail.com	dhana sekhar	chittoor
152		dhana@gmail.com	dhana	chittoor, andhra pradesh
153		dhana@gmail.com	dhana	chittoor, andhra pradesh
154		payanidhana@gmail.com	dhana	chittoor, andhra pradesh

Table: customer

Columns:

- customer_id int PK
- customer_email varchar(25)
- customer_name varchar(25)
- shipping_address varchar(25)

Action Output

	Time	Action	Message
1	23:46:19	SELECT * FROM auth_service_db.user LIMIT 0, 1000	12 row(s) returned
2	23:48:10	SELECT * FROM customer_db.customer LIMIT 0, 1000	13 row(s) returned

products: id, name, description, price, category, stock, available

The screenshot shows MySQL Workbench with the 'product' table selected in the 'ecommerce_db' database. The table structure is displayed in the 'Table: product' panel, and the query results are shown in the 'Result Grid'.

Table: product

Columns:

- id: bigint PK
- available: bit(1)
- category: varchar(255)
- description: varchar(255)
- name: varchar(255)
- price: double
- stock: int

Query Results:

id	available	category	description	name	price	stock
57	1	mobies	Apple A15 Bionic chipset, 32400 mAh battery	iPhone-12 pro	540000	30
58	1	mobies	Apple A15 Bionic chipset, 32400 mAh battery	iPhone-12 pro	540000	30
59	1	mobies	Apple A15 Bionic chipset, 32400 mAh battery	iPhone-18 pro	840000	3000
60	1	mobies	Apple A15 Bionic chipset, 32400 mAh battery	iPhone-18 pro	840000	3000
61	1	mobies	nothing A15 Bionic chipset, 32400 mAh battery	nothing2	840000	3000
62	1	mobies	nothing A15 Bionic chipset, 32400 mAh battery	nothing	840000	3000

Query Log:

#	Time	Action	Message
1	23:46:19	SELECT * FROM auth_service_db.user LIMIT 0, 1000	12 row(s) returned
2	23:48:10	SELECT * FROM customer_db.customer LIMIT 0, 1000	13 row(s) returned
3	23:49:15	SELECT * FROM ecommerce_db.product LIMIT 0, 1000	15 row(s) returned

○ carts: cart_id, customer_id, cart_price

The screenshot shows MySQL Workbench with the 'cart' table selected in the 'cart_db' database. The table structure is displayed in the 'Table: cart' panel, and the query results are shown in the 'Result Grid'.

Table: cart

Columns:

- cart_id: bigint PK
- cart_price: double
- customer_id: bigint

Query Results:

cart_id	cart_price	customer_id
1	1520000.00	53
*	NULL	NULL

Thank You