1. **Kafka Integration with C#:**

KafkaProducerApp/program.cs:

using Confluent.Kafka;

class Program

{

static async Task Main()

{

var config = new ProducerConfig { BootstrapServers = "localhost:9092" };

using var producer = new ProducerBuilder<Null, string>(config).Build();

Console.WriteLine("Kafka Producer started. Type messages (type 'exit' to quit):");

while (true)

{

var message = Console.ReadLine();

if (message?.ToLower() == "exit") break;

await producer.ProduceAsync("chat-room", new Message<Null, string> { Value = message });

Console.WriteLine($"Sent: {message}");

}

}

}

KafkaConsumerApp/program.cs:

using Confluent.Kafka;

class Program

{

static void Main()

{

var config = new ConsumerConfig

{

BootstrapServers = "localhost:9092",

GroupId = "chat-group",

AutoOffsetReset = AutoOffsetReset.Earliest

};

using var consumer = new ConsumerBuilder<Ignore, string>(config).Build();

consumer.Subscribe("chat-room");

Console.WriteLine("Kafka Consumer started. Listening for messages...");

while (true)

{

var cr = consumer.Consume();

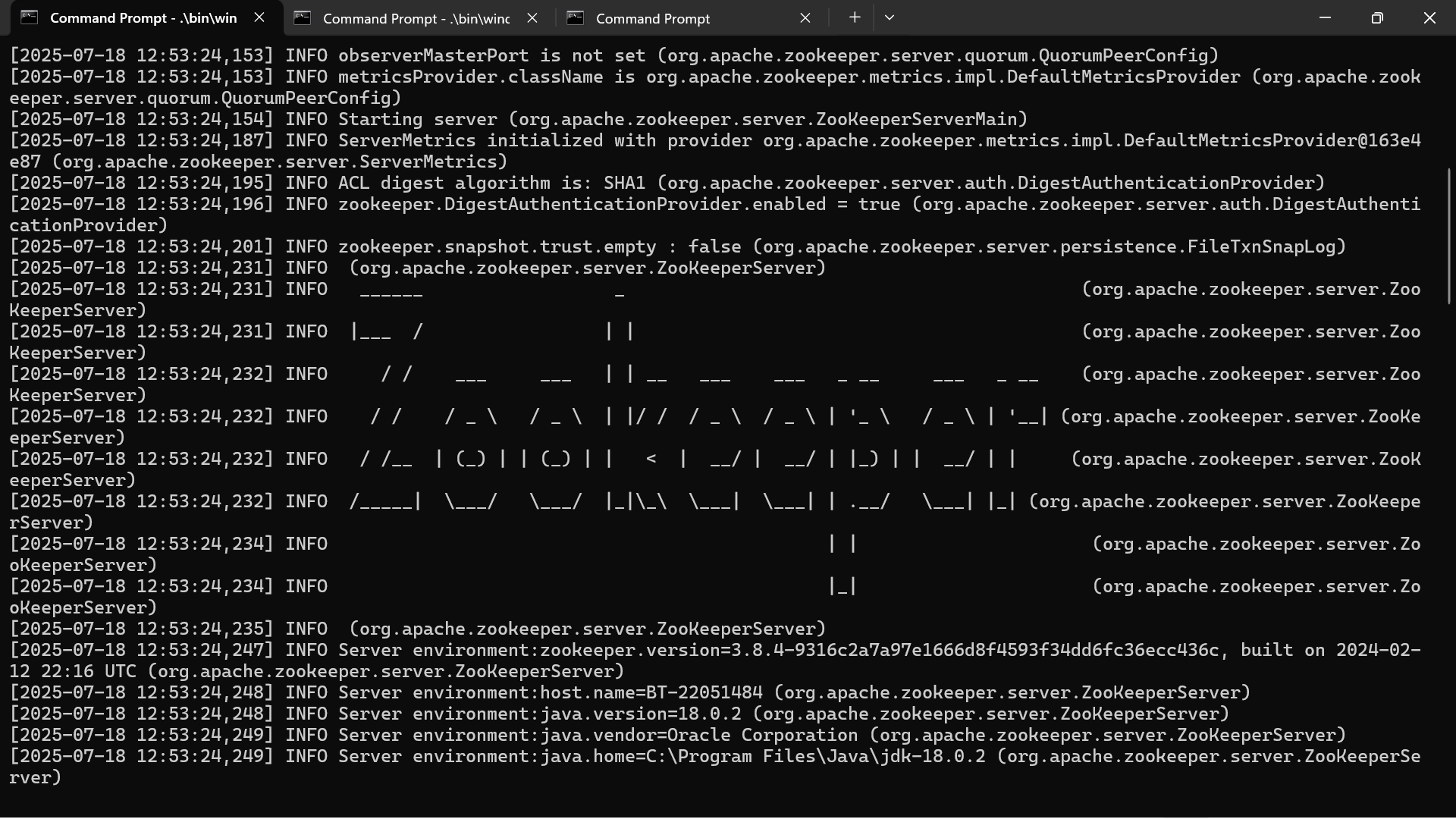
Console.WriteLine($"Received: {cr.Message.Value}");

}

}

}

OUTPUT:

A screenshot of a computer screen

AI-generated content may be incorrect.A screen shot of a computer

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