



Testes da Entrega 01

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Para a criação de testes foram usados dois terminais Servers do portal ADMIN e do ORDER. Além de dois terminais Client do portal ADMIN e do ORDER

Inicialização do sistema

```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/Projeto-Versao-MQTT-Tentativa$ python3 admin_server.py 2000
Server started, listening on 2000
Connected to MQTT Broker!

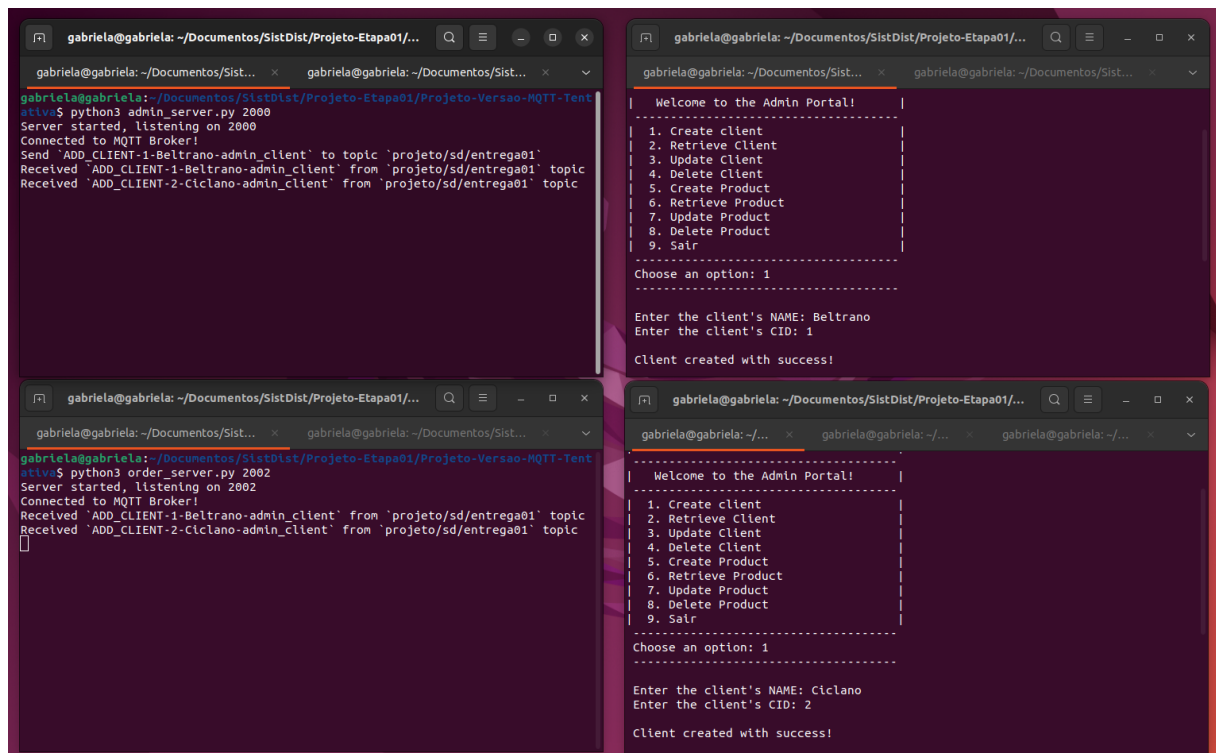
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/Projeto-Versao-MQTT-Tentativa$ python3 admin_client.py 2000
-----
| ADMIN PORTAL |
| Welcome to the Admin Portal! |
|-----|
| 1. Create client |
| 2. Retrieve Client |
| 3. Update Client |
| 4. Delete Client |
| 5. Create Product |
| 6. Retrieve Product |
| 7. Update Product |
| 8. Delete Product |
| 9. Sair |
|-----|
Choose an option:

gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/Projeto-Versao-MQTT-Tentativa$ python3 order_server.py 2002
Server started, listening on 2002
Connected to MQTT Broker!

gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/Projeto-Versao-MQTT-Tentativa$ python3 order_client.py 2002
-----
| ORDER PORTAL |
| Welcome to the Order Portal! |
|-----|
| 1. Create Order |
| 2. Retrieve Order |
| 3. Update Order |
| 4. Delete Order |
| 5. Retrieve Client Orders |
| 6. Sair |
|-----|
Choose an option:
```

Figura 1

Inserção de Cliente



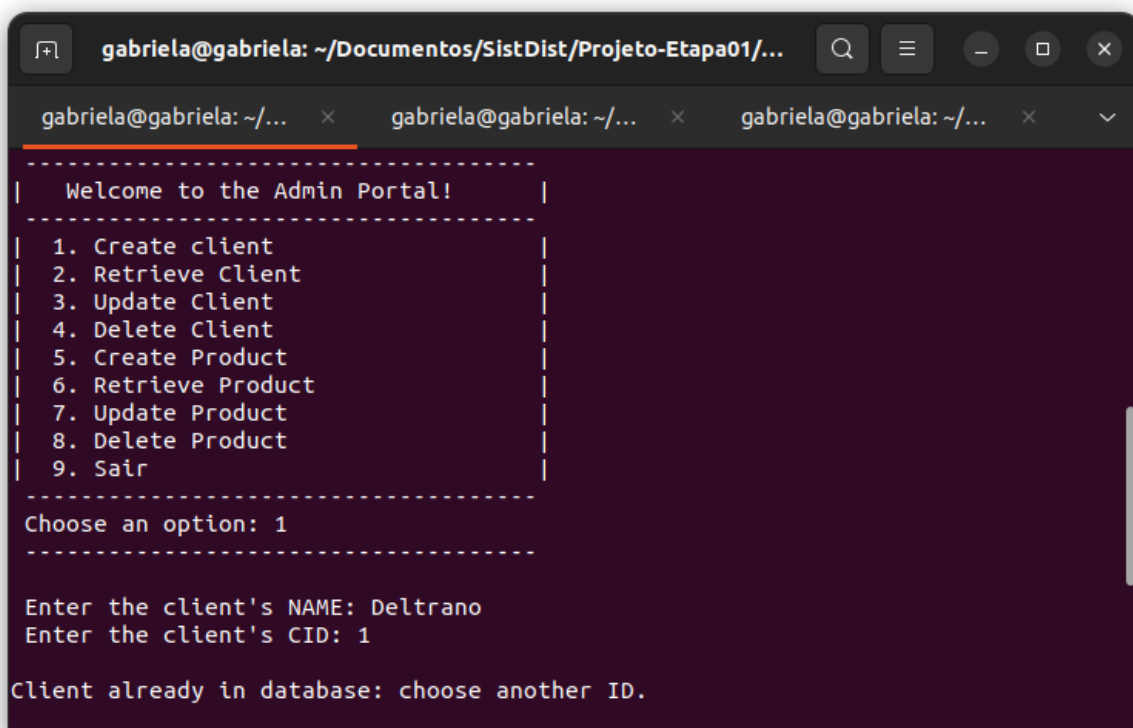
```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
gabriela@gabriela: ~/Documentos/Sist...
gabriela@gabriela:~/Documentos/SistDist/Projeto-Etapa01/Projeto-Versao-MQTT-Tent
ativa$ python3 admin_server.py 2000
Server started, listening on 2000
Connected to MQTT Broker!
Send 'ADD_CLIENT-1-Beltrano-admin_client' to topic 'projeto/sd/entrega01'
Received 'ADD_CLIENT-1-Beltrano-admin_client' from 'projeto/sd/entrega01' topic
Received 'ADD_CLIENT-2-Ciclano-admin_client' from 'projeto/sd/entrega01' topic

gabriela@gabriela:~/Documentos/SistDist/Projeto-Etapa01/Projeto-Versao-MQTT-Tent
ativa$ python3 order_server.py 2002
Server started, listening on 2002
Connected to MQTT Broker!
Received 'ADD_CLIENT-1-Beltrano-admin_client' from 'projeto/sd/entrega01' topic
Received 'ADD_CLIENT-2-Ciclano-admin_client' from 'projeto/sd/entrega01' topic
[]

Welcome to the Admin Portal!
-----
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 1
-----
Enter the client's NAME: Beltrano
Enter the client's CID: 1
Client created with success!

Welcome to the Admin Portal!
-----
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 1
-----
Enter the client's NAME: Ciclano
Enter the client's CID: 2
Client created with success!
```

Figura 2: Criação de clientes em servers com portas diferentes

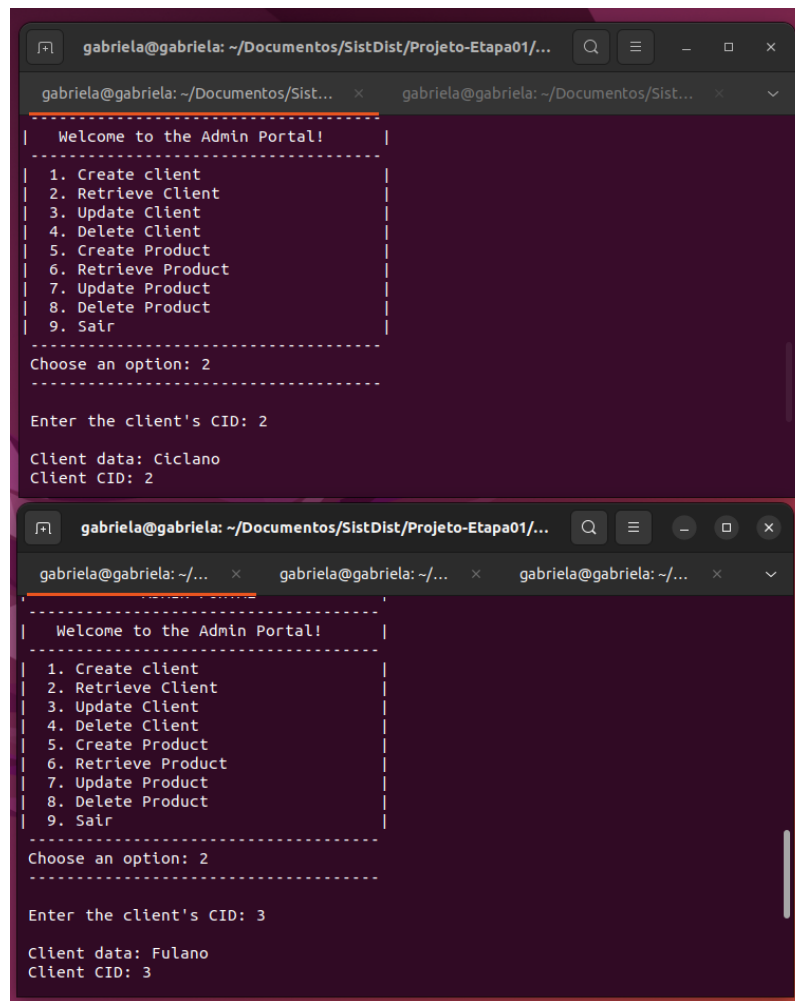


```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...

Welcome to the Admin Portal!
-----
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 1
-----
Enter the client's NAME: Deltrano
Enter the client's CID: 1
Client already in database: choose another ID.
```

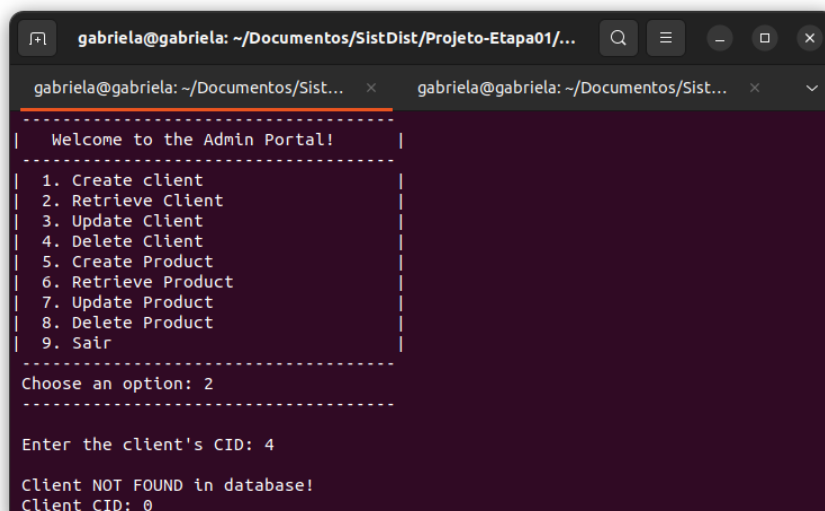
Figura 3: Caso de falha ao criar um cliente com CID já existente

Recuperação de Cliente



```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...  
gabriela@gabriela: ~/Documentos/Sist... x gabriela@gabriela: ~/Documentos/Sist... x  
-----  
Welcome to the Admin Portal!  
-----  
1. Create client  
2. Retrieve Client  
3. Update Client  
4. Delete Client  
5. Create Product  
6. Retrieve Product  
7. Update Product  
8. Delete Product  
9. Sair  
-----  
Choose an option: 2  
-----  
Enter the client's CID: 2  
Client data: Ciclano  
Client CID: 2  
-----  
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...  
gabriela@gabriela: ~/... x gabriela@gabriela: ~/... x gabriela@gabriela: ~/... x  
-----  
Welcome to the Admin Portal!  
-----  
1. Create client  
2. Retrieve Client  
3. Update Client  
4. Delete Client  
5. Create Product  
6. Retrieve Product  
7. Update Product  
8. Delete Product  
9. Sair  
-----  
Choose an option: 2  
-----  
Enter the client's CID: 3  
Client data: Fulano  
Client CID: 3  
-----
```

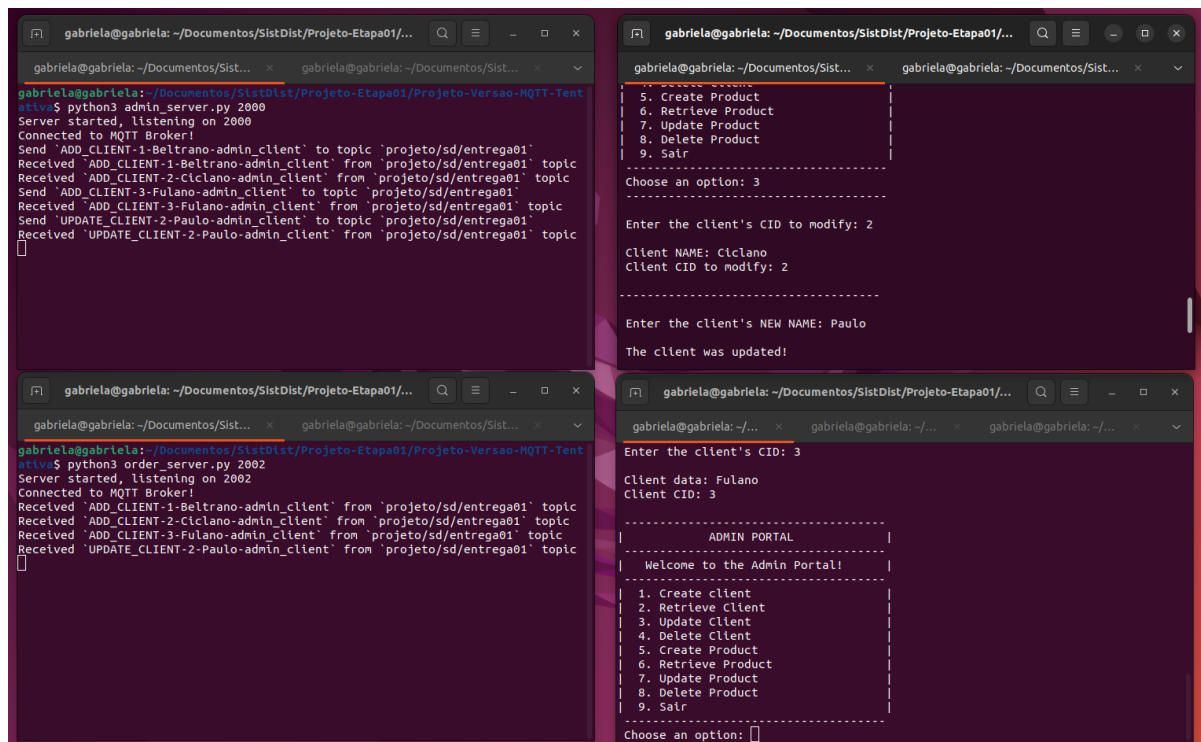
Figura 4



```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...  
gabriela@gabriela: ~/Documentos/Sist... x gabriela@gabriela: ~/Documentos/Sist... x  
-----  
Welcome to the Admin Portal!  
-----  
1. Create client  
2. Retrieve Client  
3. Update Client  
4. Delete Client  
5. Create Product  
6. Retrieve Product  
7. Update Product  
8. Delete Product  
9. Sair  
-----  
Choose an option: 2  
-----  
Enter the client's CID: 4  
Client NOT FOUND in database!  
Client CID: 0  
-----
```

Figura 5: Caso de falha ao buscar um CID não existente

Modificação de Cliente



The figure consists of four terminal windows arranged in a 2x2 grid, showing the interaction between an admin server and an order server.

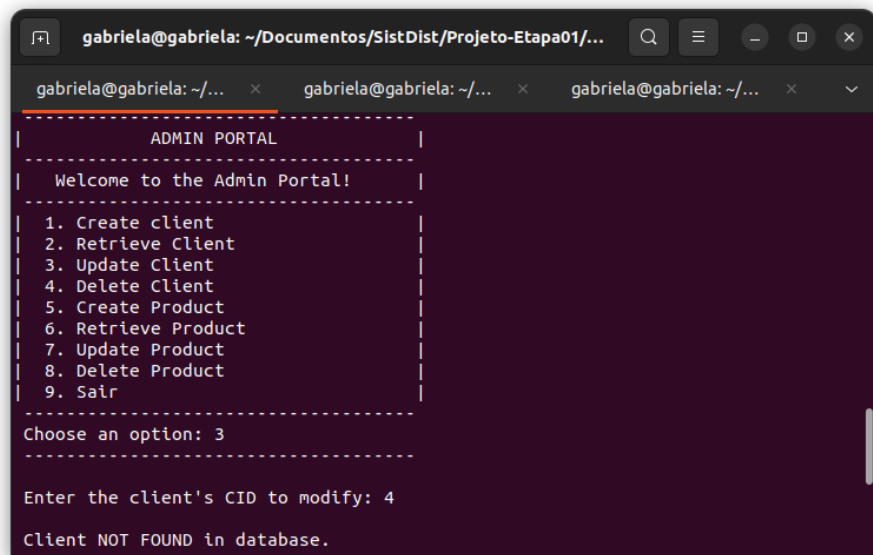
Top-left window (admin_server.py 2000): Shows the server starting and listening on port 2000. It receives MQTT messages from the order server: 'ADD_CLIENT-1-Beltrano-admin_client', 'ADD_CLIENT-2-Ciclano-admin_client', 'ADD_CLIENT-3-Fulano-admin_client', 'UPDATE_CLIENT-2-Paulo-admin_client', and 'UPDATE_CLIENT-3-Fulano-admin_client'.

Top-right window (admin_server.py 2000): Shows the admin portal menu with options 1-9. Option 3 (Update Client) is chosen. The user enters client CID 2, and the client name is updated to Paulo.

Bottom-left window (order_server.py 2002): Shows the server starting and listening on port 2002. It receives MQTT messages from the admin server: 'ADD_CLIENT-1-Beltrano-admin_client', 'ADD_CLIENT-2-Ciclano-admin_client', 'ADD_CLIENT-3-Fulano-admin_client', 'UPDATE_CLIENT-2-Paulo-admin_client', and 'UPDATE_CLIENT-3-Fulano-admin_client'.

Bottom-right window (order_server.py 2002): Shows the admin portal menu with options 1-9. Option 3 (Update Client) is chosen. The user enters client CID 3, and the client data is retrieved: Fulano, CID 3.

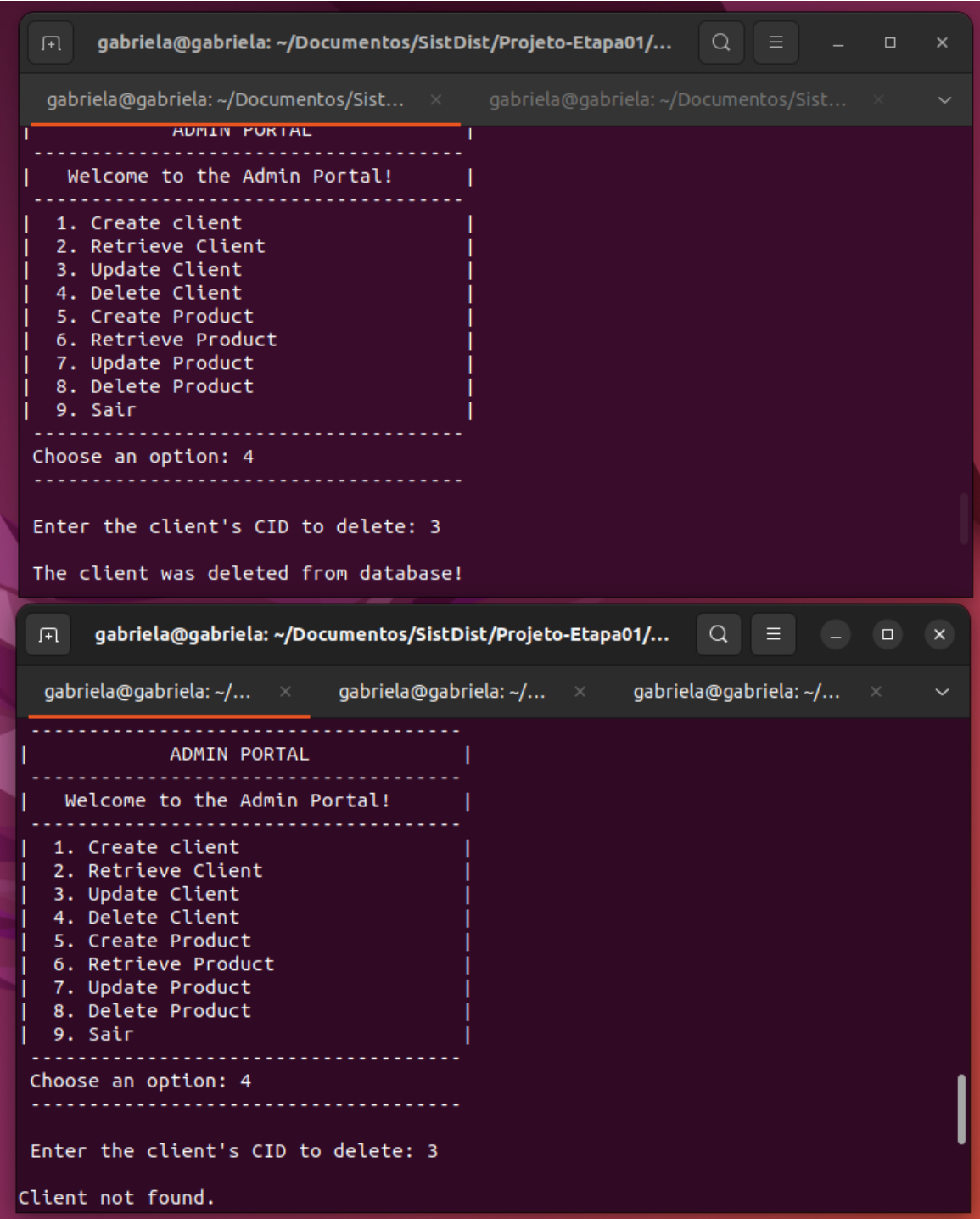
Figura 6:Modificação do nome do cliente



The figure shows a terminal window with the admin portal menu. Option 3 (Update Client) is chosen. The user enters client CID 4, and the system responds with the error message: "Client NOT FOUND in database."

Figura 7: Caso de falha ao modificar o nome de um cliente em que CID não existe

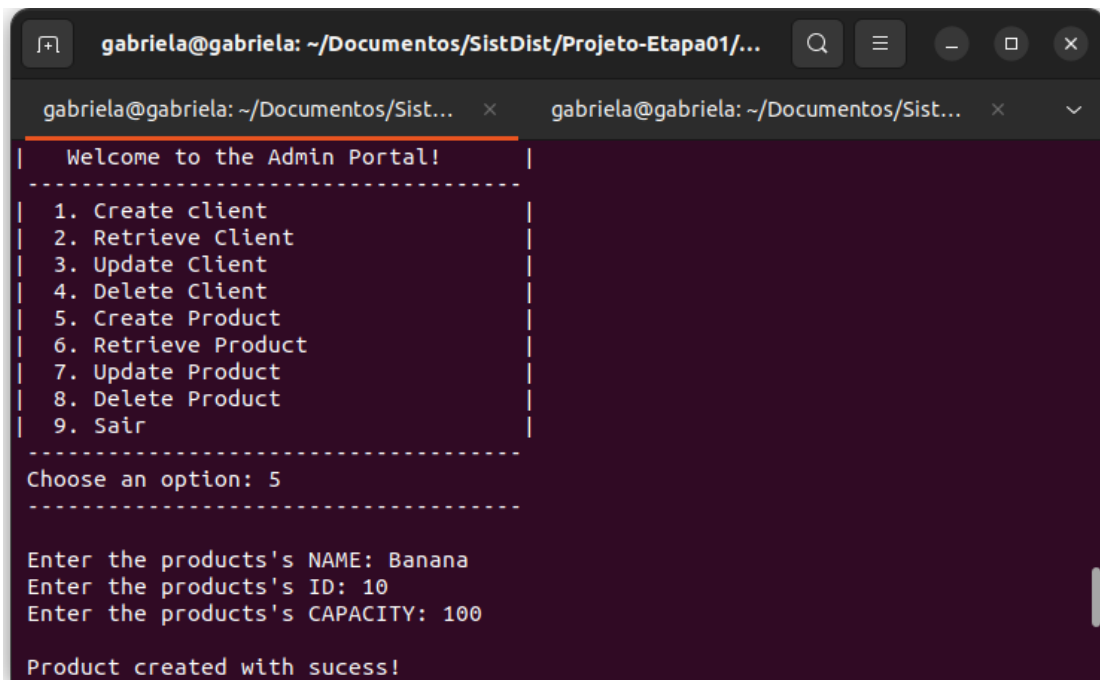
Remoção de Cliente



```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...  
-----  
| ADMIN PORTAL |  
|-----|  
| Welcome to the Admin Portal! |  
|-----|  
| 1. Create client |  
| 2. Retrieve Client |  
| 3. Update Client |  
| 4. Delete Client |  
| 5. Create Product |  
| 6. Retrieve Product |  
| 7. Update Product |  
| 8. Delete Product |  
| 9. Sair |  
|-----|  
| Choose an option: 4 |  
|-----|  
| Enter the client's CID to delete: 3 |  
| The client was deleted from database! |  
|-----|  
-----  
gabriela@gabriela: ~/... x gabriela@gabriela: ~/... x gabriela@gabriela: ~/... x  
-----  
| ADMIN PORTAL |  
|-----|  
| Welcome to the Admin Portal! |  
|-----|  
| 1. Create client |  
| 2. Retrieve Client |  
| 3. Update Client |  
| 4. Delete Client |  
| 5. Create Product |  
| 6. Retrieve Product |  
| 7. Update Product |  
| 8. Delete Product |  
| 9. Sair |  
|-----|  
| Choose an option: 4 |  
|-----|  
| Enter the client's CID to delete: 3 |  
| Client not found. |  
|-----|
```

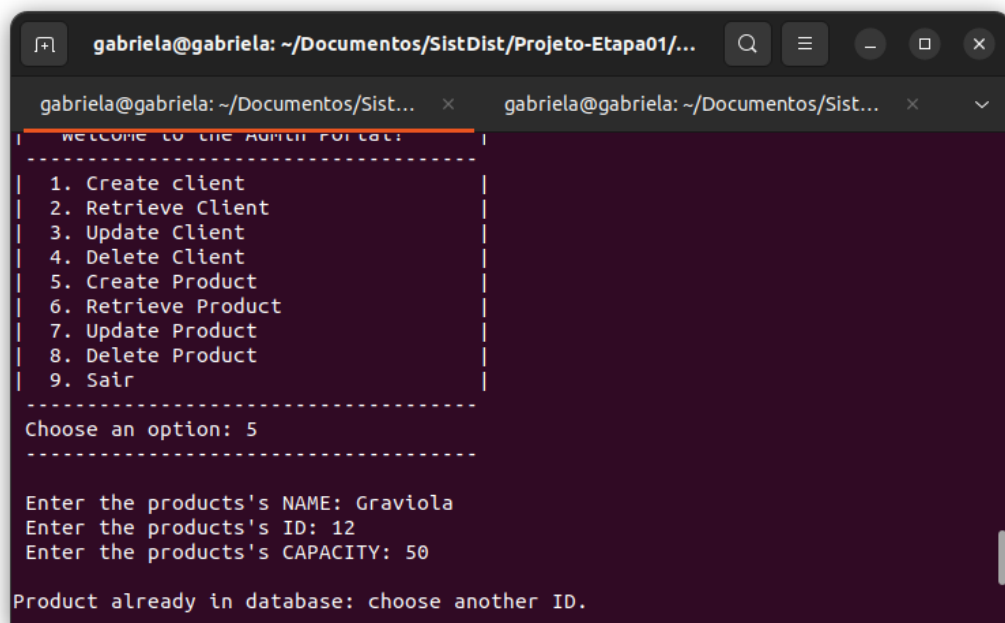
Figura 8: Terminal de cima mostra o cliente de CID '3' sendo deletado e o terminal abaixo tenta deletar o mesmo CID e não o encontra

Inserção de Produto



```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
Welcome to the Admin Portal!
-----
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 5
-----
Enter the products's NAME: Banana
Enter the products's ID: 10
Enter the products's CAPACITY: 100
Product created with sucess!
```

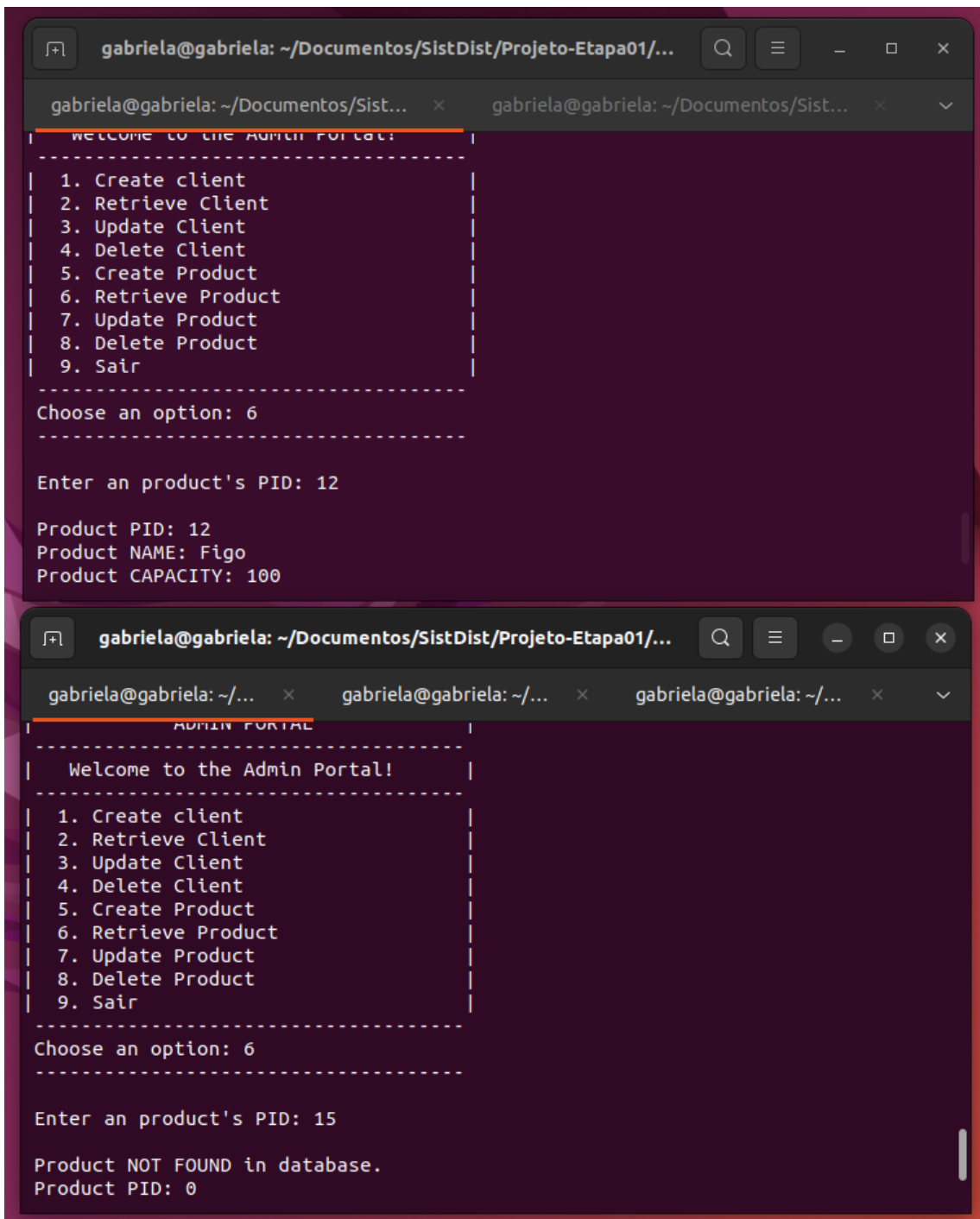
Figura 9



```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
Welcome to the Admin Portal!
-----
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 5
-----
Enter the products's NAME: Graviola
Enter the products's ID: 12
Enter the products's CAPACITY: 50
Product already in database: choose another ID.
```

Figura 10: Caso de falha ao criar um produto com PID já existente

Recuperação de Produto



```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...  
-----  
Welcome to the Admin Portal!  
-----  
1. Create client  
2. Retrieve Client  
3. Update Client  
4. Delete Client  
5. Create Product  
6. Retrieve Product  
7. Update Product  
8. Delete Product  
9. Sair  
-----  
Choose an option: 6  
-----  
Enter an product's PID: 12  
  
Product PID: 12  
Product NAME: Figo  
Product CAPACITY: 100  
  
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...  
-----  
ADMIN PORTAL  
-----  
Welcome to the Admin Portal!  
-----  
1. Create client  
2. Retrieve Client  
3. Update Client  
4. Delete Client  
5. Create Product  
6. Retrieve Product  
7. Update Product  
8. Delete Product  
9. Sair  
-----  
Choose an option: 6  
-----  
Enter an product's PID: 15  
  
Product NOT FOUND in database.  
Product PID: 0
```

Figura 11: Terminal de cima é encontrado o PID solicitado e o terminal abaixo é o caso de falha em que é solicitado um PID inexistente

Modificação de Produto

```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 6
-----
Enter an product's PID: 13
Product PID: 13
Product NAME: Graviola
Product CAPACITY: 50

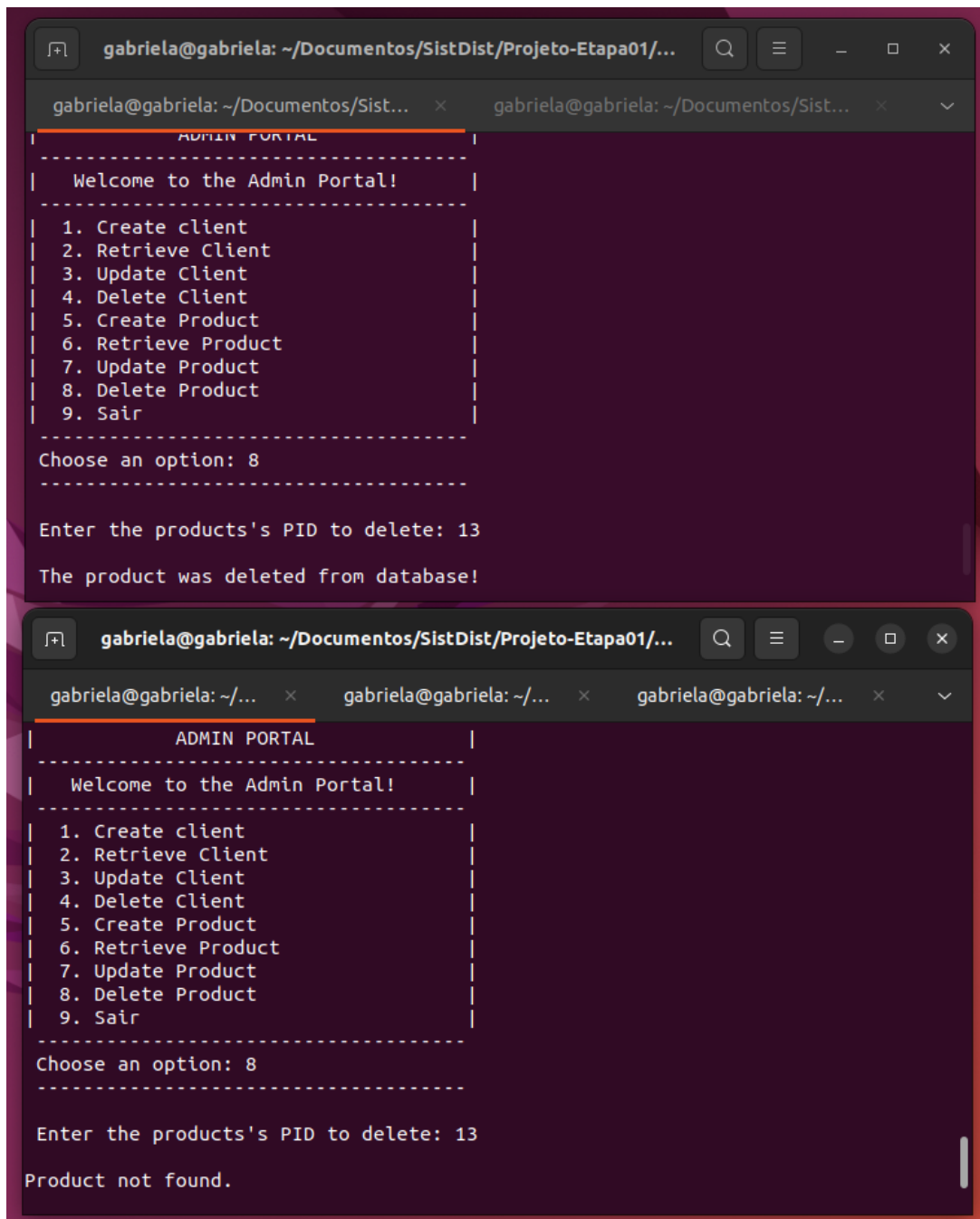
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 7
-----
Enter the product's PID to modify: 13
-----
Enter the products's NEW NAME: Golaba
Enter the products's NEW CAPACITY: 100
The product was updated!
```

Figura 12: Terminal de cima tem as informações do produto PID = '13' e o terminal abaixo é mostra o update em que o PID = '13' tem nome e quantidade modificada

```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
Welcome to the Admin Portal!
-----
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 7
-----
Enter the product's PID to modify: 15
Product NOT FOUND in database!
```

Figura 13: É mostrado o caso de falha em que é solicitado um PID inexistente

Remoção de Produto

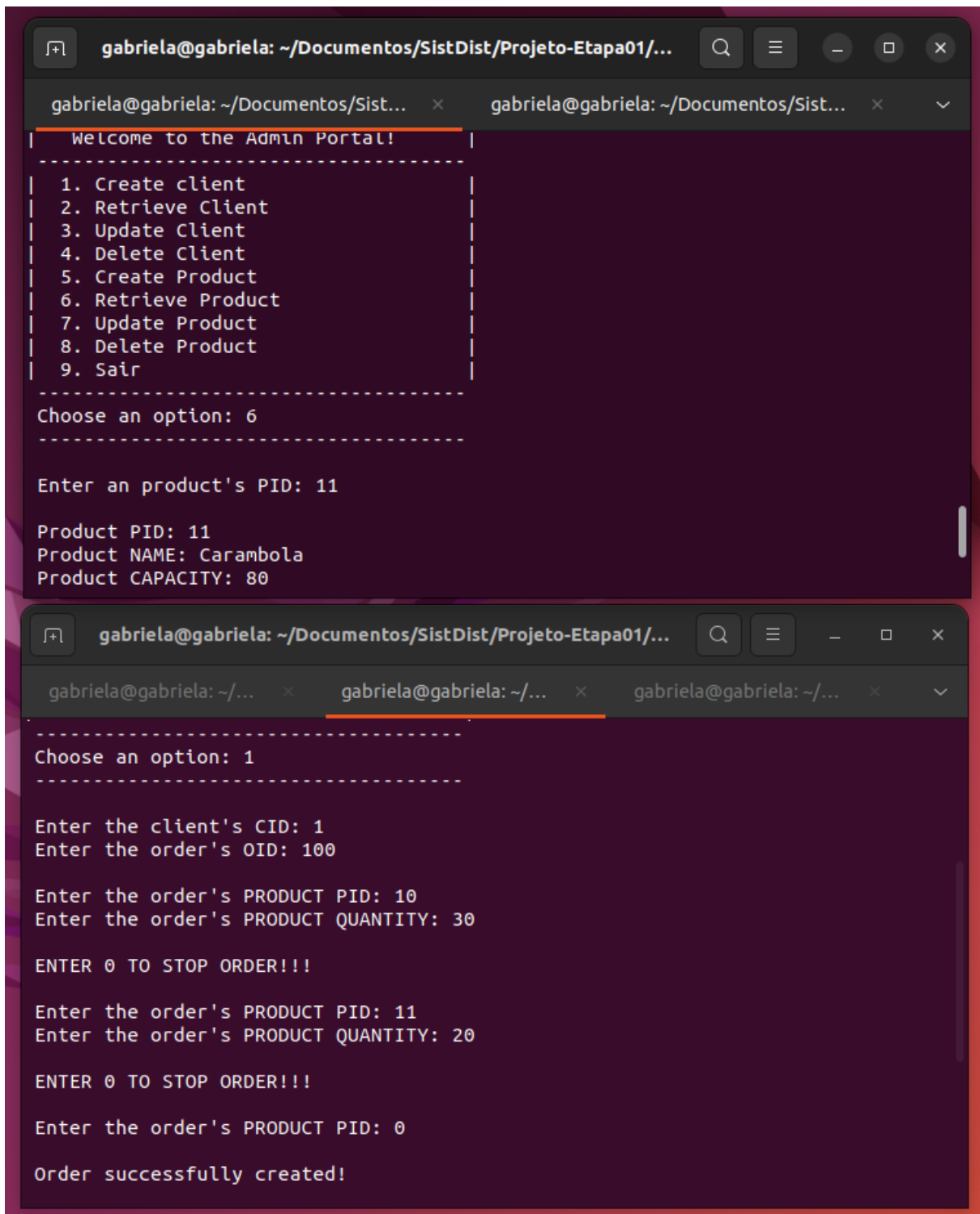


```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...  
ADMIN PORTAL  
-----  
Welcome to the Admin Portal!  
-----  
1. Create client  
2. Retrieve Client  
3. Update Client  
4. Delete Client  
5. Create Product  
6. Retrieve Product  
7. Update Product  
8. Delete Product  
9. Sair  
-----  
Choose an option: 8  
-----  
Enter the products's PID to delete: 13  
The product was deleted from database!
```

```
gabriela@gabriela: ~/...  
ADMIN PORTAL  
-----  
Welcome to the Admin Portal!  
-----  
1. Create client  
2. Retrieve Client  
3. Update Client  
4. Delete Client  
5. Create Product  
6. Retrieve Product  
7. Update Product  
8. Delete Product  
9. Sair  
-----  
Choose an option: 8  
-----  
Enter the products's PID to delete: 13  
Product not found.
```

Figura 14: Terminal de cima mostra o produto de PID '13' sendo deletado e o terminal abaixo tenta recuperar o mesmo PID e não o encontra

Inserção de Pedido



The image displays two terminal windows from a Linux environment. The top window shows a menu titled 'Welcome to the Admin Portal!' with options 1 through 9. Option 6, 'Retrieve Product', is selected. The user enters '11' for the product PID, and the system displays 'Product PID: 11', 'Product NAME: Carambola', and 'Product CAPACITY: 80'. The bottom window shows the user selecting option 1, 'Create client'. They enter '1' for the client CID and '100' for the order OID. Then, they enter '10' for the product PID and '30' for the product quantity. The system prompts 'ENTER 0 TO STOP ORDER!!!'. The user enters '11' for the product PID and '20' for the product quantity. The system prompts 'ENTER 0 TO STOP ORDER!!!' again. The user enters '0' for the product PID, and the system displays 'Order successfully created!'.

```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
Welcome to the Admin Portal!
-----
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 6
-----

Enter an product's PID: 11

Product PID: 11
Product NAME: Carambola
Product CAPACITY: 80

gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
-----
Choose an option: 1
-----

Enter the client's CID: 1
Enter the order's OID: 100

Enter the order's PRODUCT PID: 10
Enter the order's PRODUCT QUANTITY: 30

ENTER 0 TO STOP ORDER!!!

Enter the order's PRODUCT PID: 11
Enter the order's PRODUCT QUANTITY: 20

ENTER 0 TO STOP ORDER!!!

Enter the order's PRODUCT PID: 0

Order successfully created!
```

Figura 15: Terminal de baixo mostra o pedido do cliente CID = '1' sendo feito com 2 produtos. Foi pedido quantidade = 20 de PID = '11', no terminal acima mostra na recuperação do pedido PID = '11' que o valor foi modificado para 80

The image displays two terminal windows from a Linux environment, showing the execution of a program with a menu-driven interface. The top terminal shows a sequence of inputs that leads to the error message "Client not in database." The bottom terminal shows a similar sequence of inputs that leads to the error message "Orders ID already exists."

Top Terminal:

```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
3. Update Order
4. Delete Order
5. Retrive Client Orders
6. Sair
-----
Choose an option: 1
-----

Enter the client's CID: 5
Enter the order's OID: 105

Enter the order's PRODUCT PID: 10
Enter the order's PRODUCT QUANTITY: 10

ENTER 0 TO STOP ORDER!!!

Enter the order's PRODUCT PID: 0
Client not in database.
```

Bottom Terminal:

```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
2. Retrieve Order
3. Update Order
4. Delete Order
5. Retrive Client Orders
6. Sair
-----
Choose an option: 1
-----

Enter the client's CID: 1
Enter the order's OID: 100

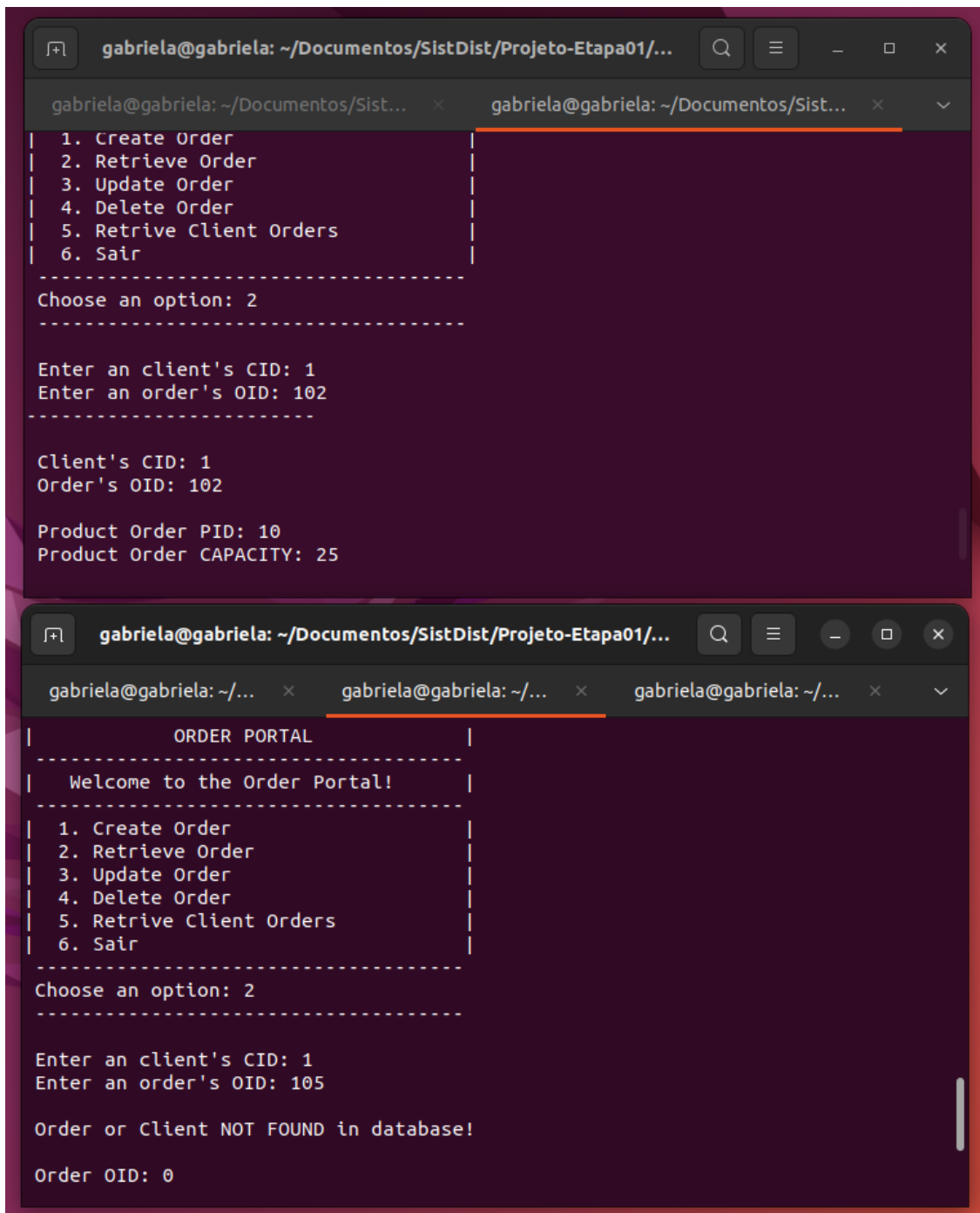
Enter the order's PRODUCT PID: 10
Enter the order's PRODUCT QUANTITY: 10

ENTER 0 TO STOP ORDER!!!

Enter the order's PRODUCT PID: 0
Orders ID already exists.
```

Figura 16: Terminal de cima mostra o caso de falha em que é colocado um CID não existente. E o terminal de baixo mostra o caso de falha em que é colocado um OID já ocupado.

Recuperação de Pedido



```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
1. Create Order
2. Retrieve Order
3. Update Order
4. Delete Order
5. Retrive Client Orders
6. Sair
-----
Choose an option: 2
-----
Enter an client's CID: 1
Enter an order's OID: 102
-----
Client's CID: 1
Order's OID: 102

Product Order PID: 10
Product Order CAPACITY: 25

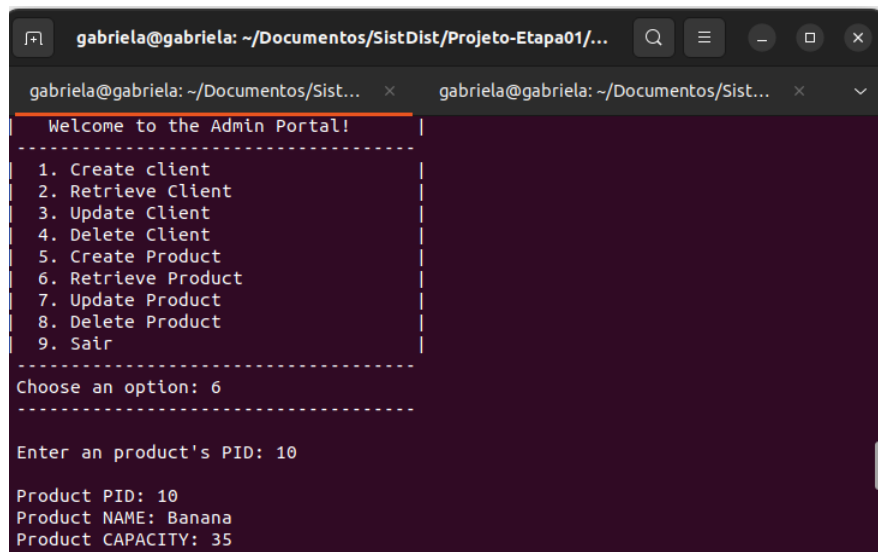
gabriela@gabriela: ~/...
ORDER PORTAL
-----
Welcome to the Order Portal!
-----
1. Create Order
2. Retrieve Order
3. Update Order
4. Delete Order
5. Retrive Client Orders
6. Sair
-----
Choose an option: 2
-----
Enter an client's CID: 1
Enter an order's OID: 105

Order or Client NOT FOUND in database!

Order OID: 0
```

Figura 17: Terminal de cima mostra a recuperação do produto OID = '102'. E o terminal de baixo mostra o caso de falha em que é colocado um OID não existente.

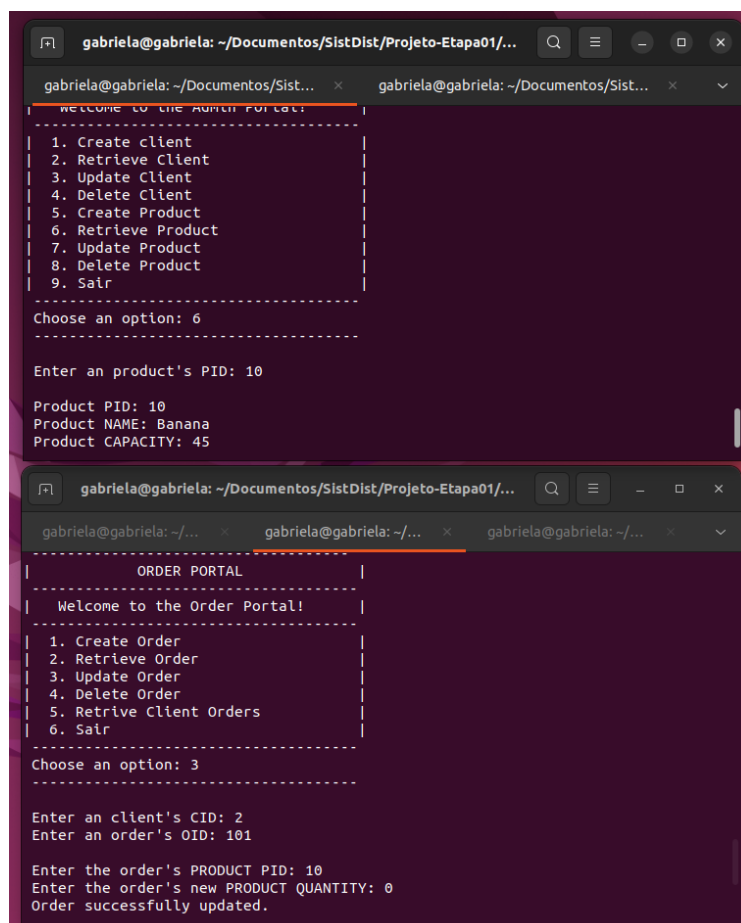
Modificação de Pedido



```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
Welcome to the Admin Portal!
-----
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 6
-----
Enter an product's PID: 10

Product PID: 10
Product NAME: Banana
Product CAPACITY: 35
```

Figura 18: Quantidade de produto PID = '10'



```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
Welcome to the Admin Portal!
-----
1. Create client
2. Retrieve Client
3. Update Client
4. Delete Client
5. Create Product
6. Retrieve Product
7. Update Product
8. Delete Product
9. Sair
-----
Choose an option: 6
-----
Enter an product's PID: 10

Product PID: 10
Product NAME: Banana
Product CAPACITY: 45

gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
ORDER PORTAL
-----
Welcome to the Order Portal!
-----
1. Create Order
2. Retrieve Order
3. Update Order
4. Delete Order
5. Retrieve Client Orders
6. Sair
-----
Choose an option: 3
-----
Enter an client's CID: 2
Enter an order's OID: 101

Enter the order's PRODUCT PID: 10
Enter the order's new PRODUCT QUANTITY: 0
Order successfully updated.
```

Figura 19: Terminal abaixo foi colocado quantidade = 0, o que faz com que ele seja apagado da lista de pedido do cliente. Terminal de cima mostra que a quantidade do produto que foi retirado do pedido foi reposta

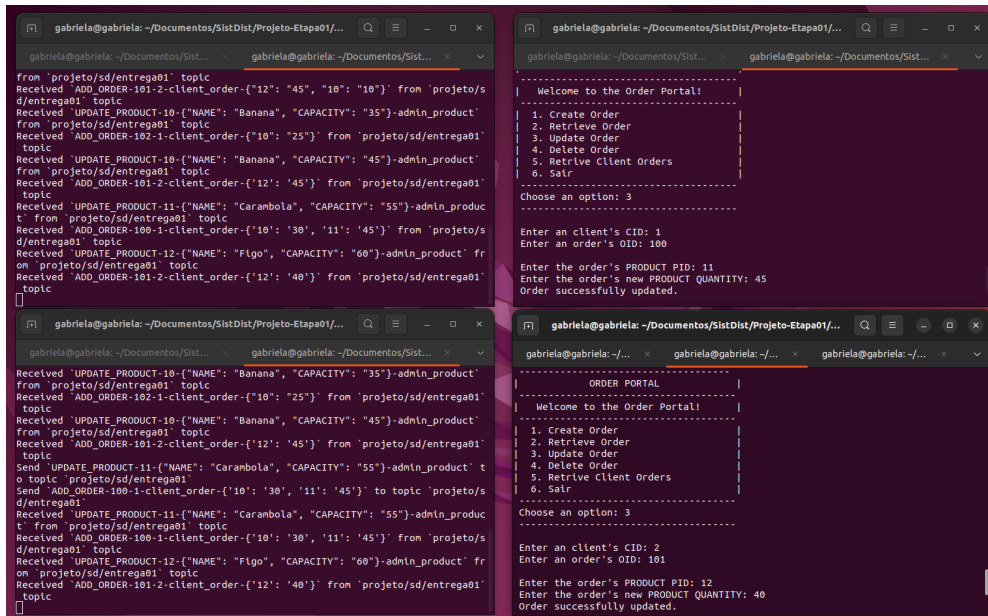


Figura 20: Terminais mostram respectivamente um em que foi feita uma modificação para aumentar a quantidade do produto e o outro mostra a modificação para diminuir a quantidade

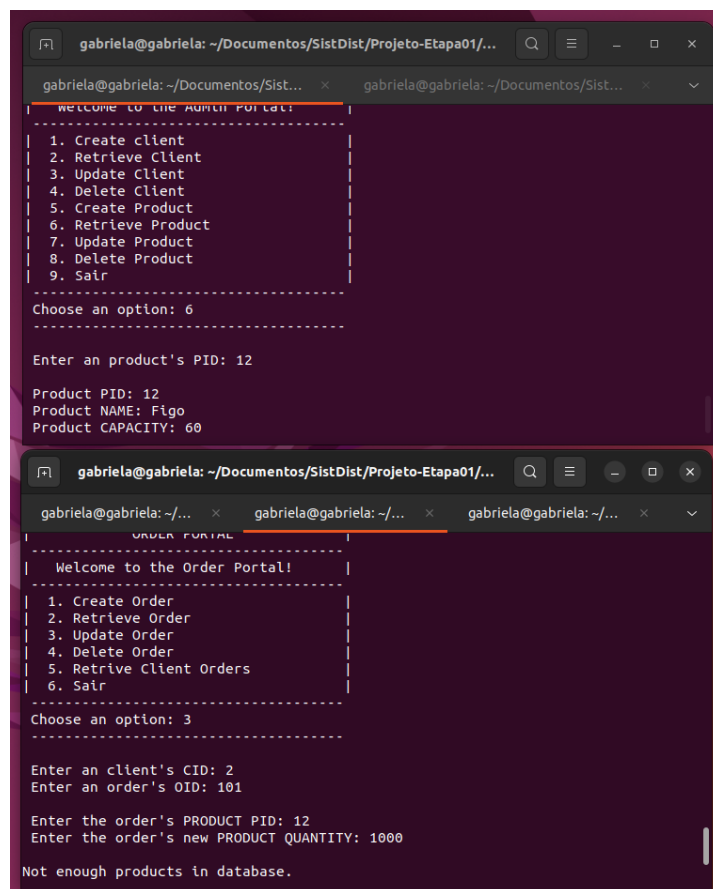
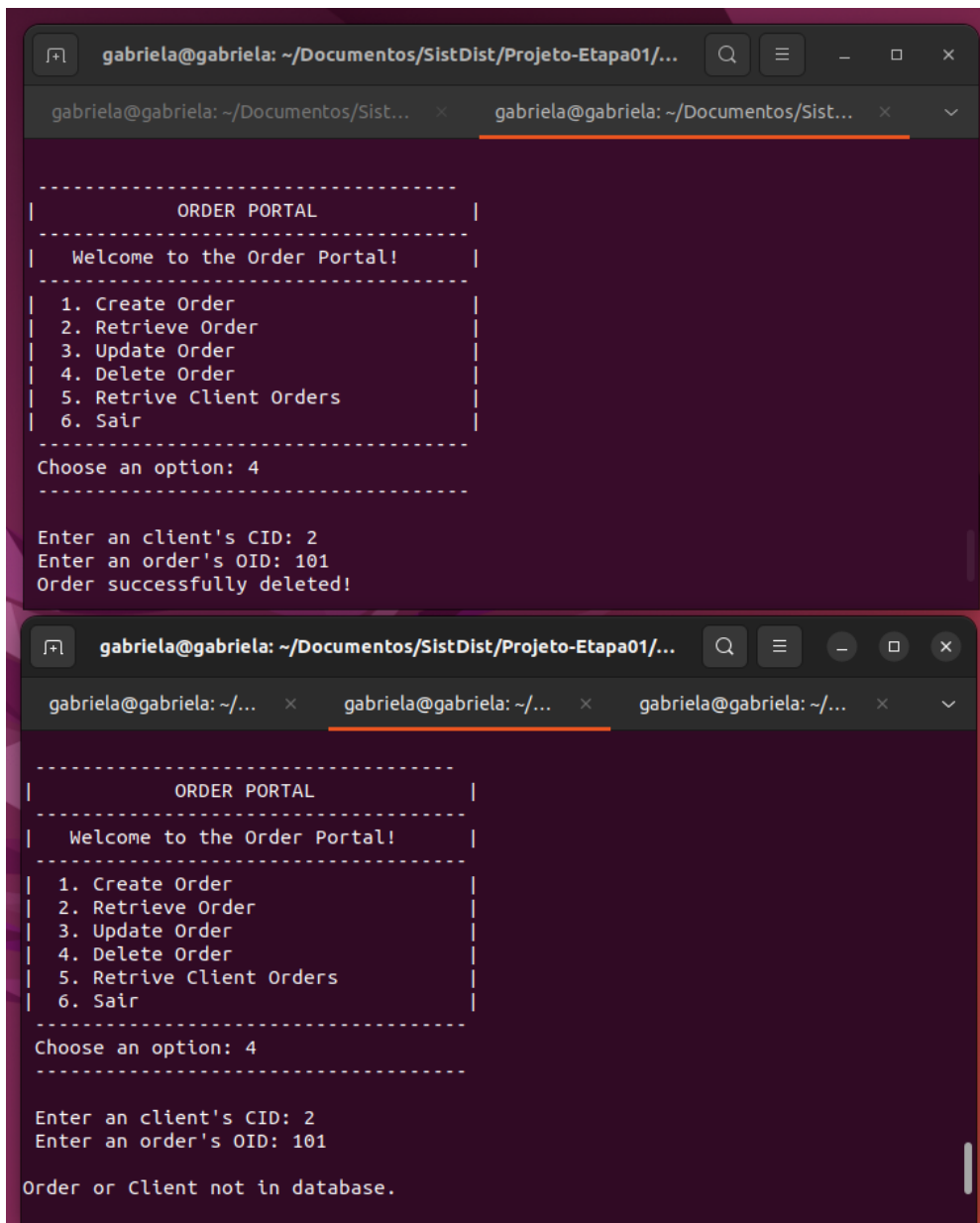


Figura 21: Terminal mostra o caso de falha em que é feito uma modificação para uma quantidade maior que a disponível do produto

Remoção de Pedido

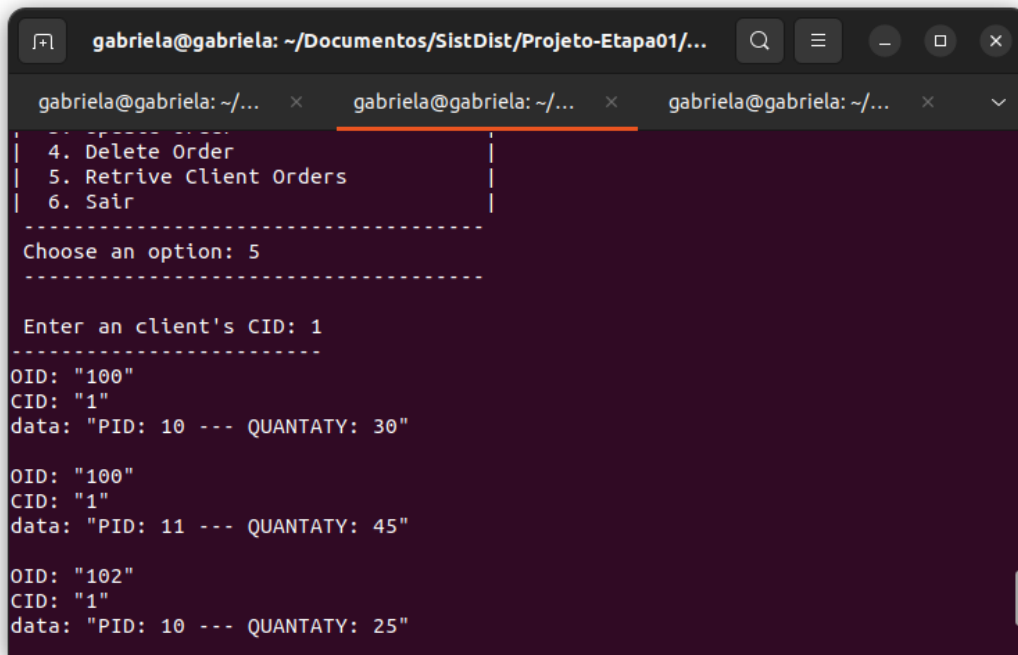


```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...  
-----  
| ORDER PORTAL |  
-----  
| Welcome to the Order Portal! |  
-----  
| 1. Create Order |  
| 2. Retrieve Order |  
| 3. Update Order |  
| 4. Delete Order |  
| 5. Retrive Client Orders |  
| 6. Sair |  
-----  
Choose an option: 4  
-----  
  
Enter an client's CID: 2  
Enter an order's OID: 101  
Order successfully deleted!
```

```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...  
-----  
| ORDER PORTAL |  
-----  
| Welcome to the Order Portal! |  
-----  
| 1. Create Order |  
| 2. Retrieve Order |  
| 3. Update Order |  
| 4. Delete Order |  
| 5. Retrive Client Orders |  
| 6. Sair |  
-----  
Choose an option: 4  
-----  
  
Enter an client's CID: 2  
Enter an order's OID: 101  
  
Order or Client not in database.
```

Figura 22: Terminal acima mostra a deleção do pedido OID = '101'. No terminal abaixo é mostrado o caso de falha em que OID ='101' não é encontrado

Recuperação de Pedidos do Cliente

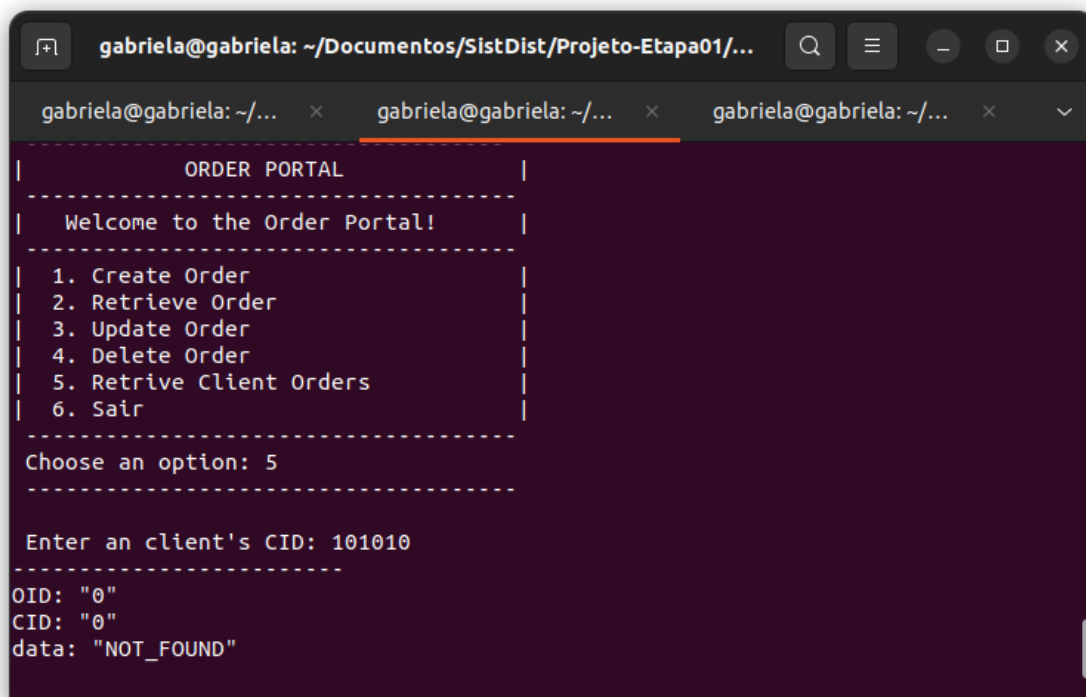


```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
4. Delete Order
5. Retrive Client Orders
6. Sair
-----
Choose an option: 5
-----
Enter an client's CID: 1
-----
OID: "100"
CID: "1"
data: "PID: 10 --- QUANTATY: 30"

OID: "100"
CID: "1"
data: "PID: 11 --- QUANTATY: 45"

OID: "102"
CID: "1"
data: "PID: 10 --- QUANTATY: 25"
```

Figura 23



```
gabriela@gabriela: ~/Documentos/SistDist/Projeto-Etapa01/...
ORDER PORTAL
-----
Welcome to the Order Portal!
-----
1. Create Order
2. Retrieve Order
3. Update Order
4. Delete Order
5. Retrive Client Orders
6. Sair
-----
Choose an option: 5
-----
Enter an client's CID: 101010
-----
OID: "0"
CID: "0"
data: "NOT_FOUND"
```

Figura 24: É mostrado o caso de falha em que CID não é existente