

ORACLE®



Instructor:

Rafiq Wayani

Database Administrator



Owner:

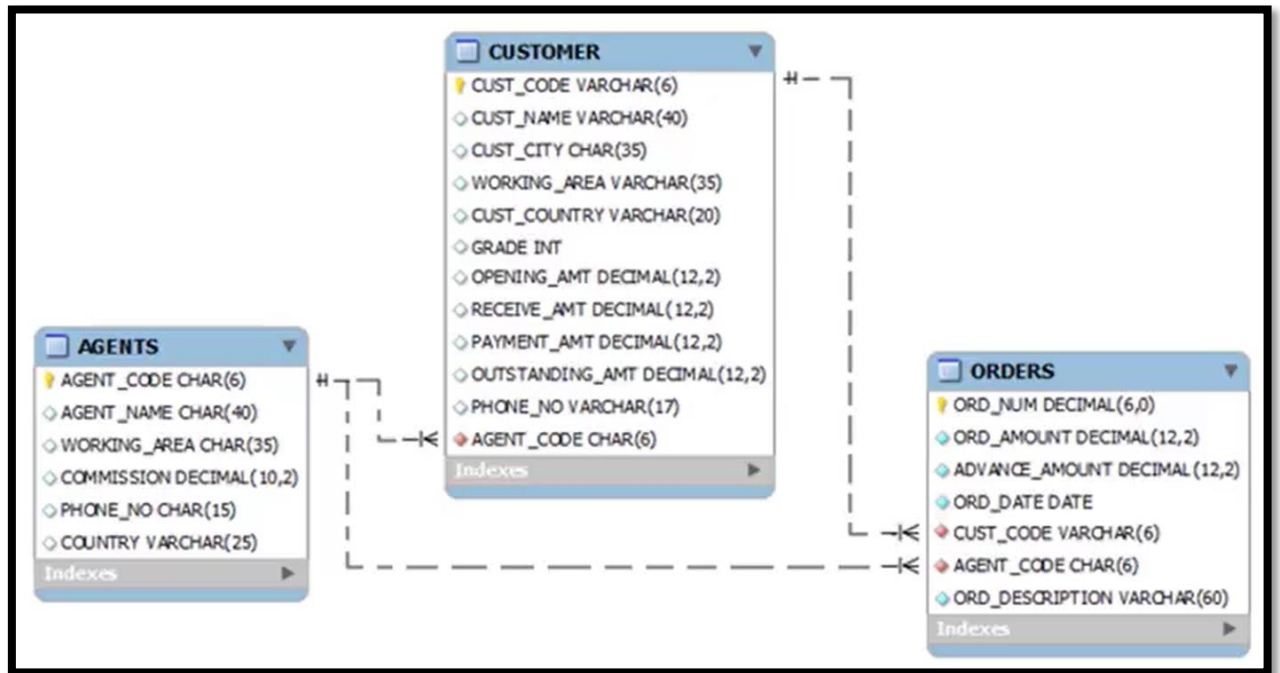
Azamat Nishonov

SQL Developer

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Oracle Database Foundations



NEW CUSTOMER INFORMATION FORM

customers custid (PK)

NAME OF ACCOUNT _____

LEGAL NAME (IF DIFFERENT) _____

E-MAIL _____

addresses addid (PK) / custid (FK)

ADDRESS _____

CITY _____ PROV _____ POSTAL CODE _____

CONTACT NAME _____

TELEPHONE: _____ MOBILE: _____ F A X: _____

ownerInfo ownerid (PK) / custid (FK)

OWNERSHIP DETAILS

PRINCIPALS: NAME _____ TITLE: _____

NAME _____ TITLE: _____

NAME _____ TITLE: _____

businessInfo bussid (PK) / custid (FK)

PREFERRED METHOD OF CONTACT

WEB SITE _____

YEARS AT CURRENT BUSINESS ADDRESS: _____ ARE PREMISES: RENTED _____ OWNED _____ LEASED _____

NATURE OF YOUR BUSINESS: _____

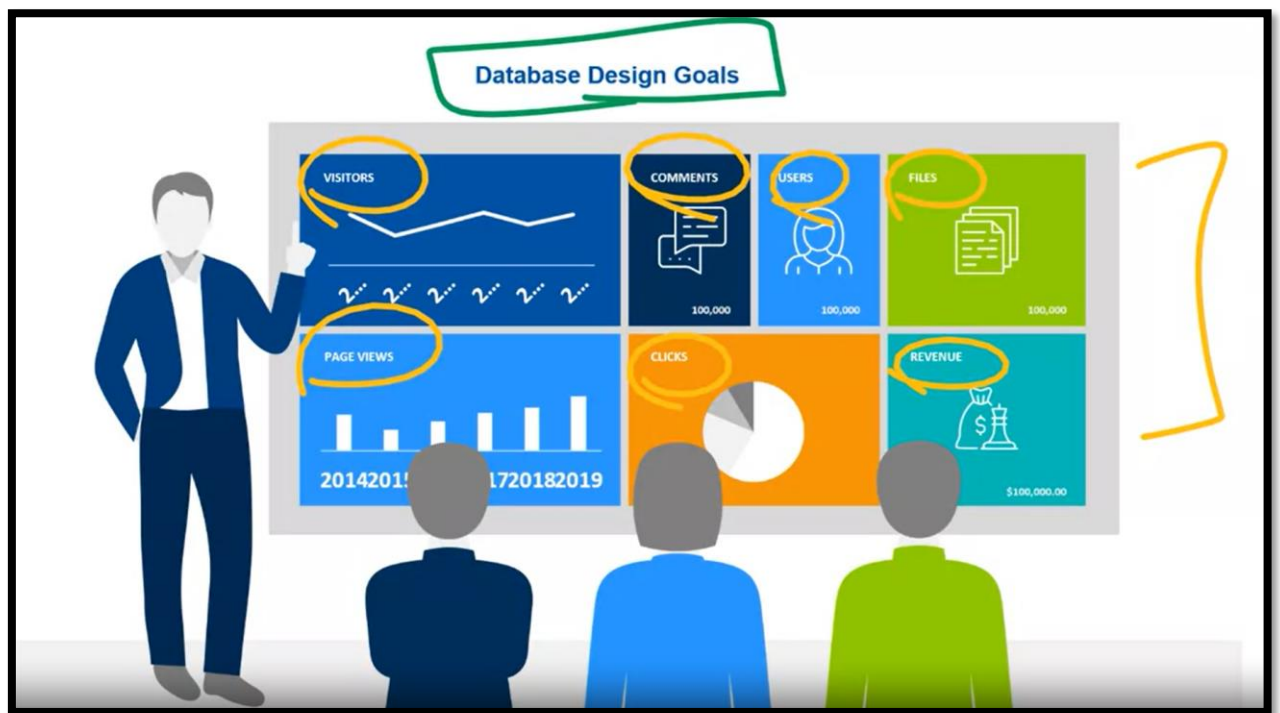
HOW LONG IN BUSINESS: _____ NUMBER OF STORES OR LOCATIONS _____

LEGAL FORM OF BUSINESS:

CORPORATION [] PARTNERSHIP [] PROPRIETORSHIP [] FRANCHISE [] UNREGISTERED []

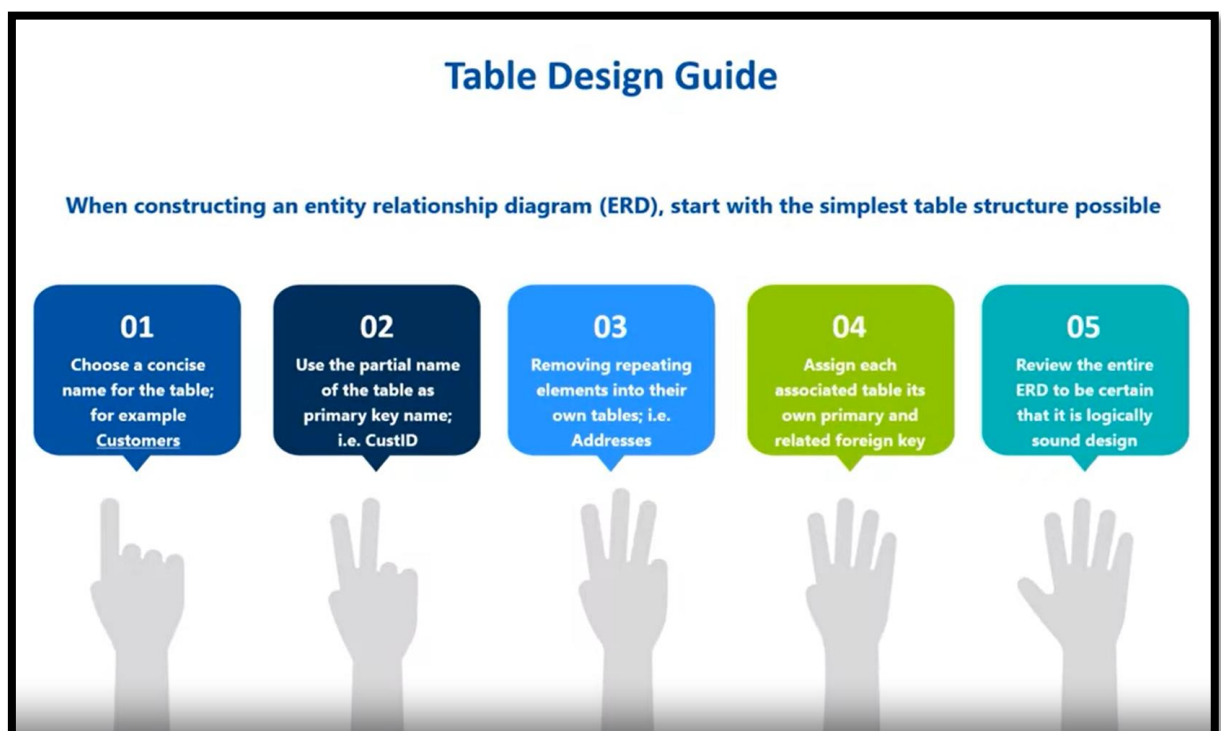
GOVERNMENT [] Type _____

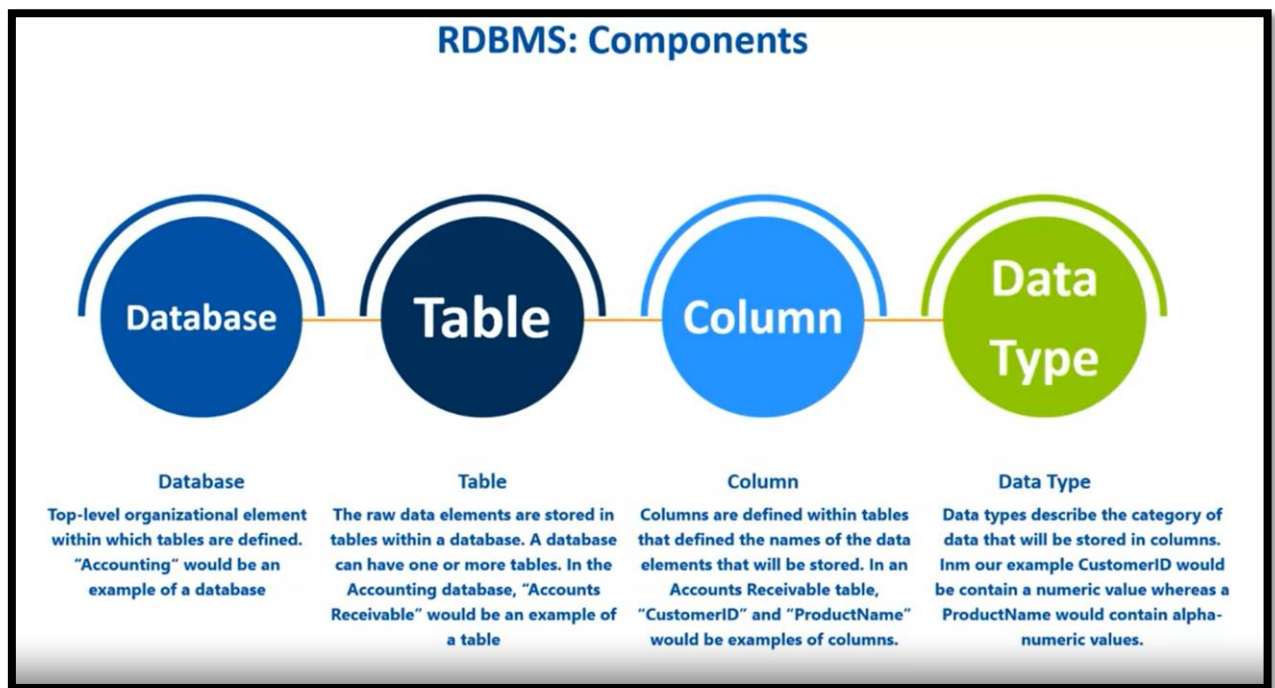
CHARITY []



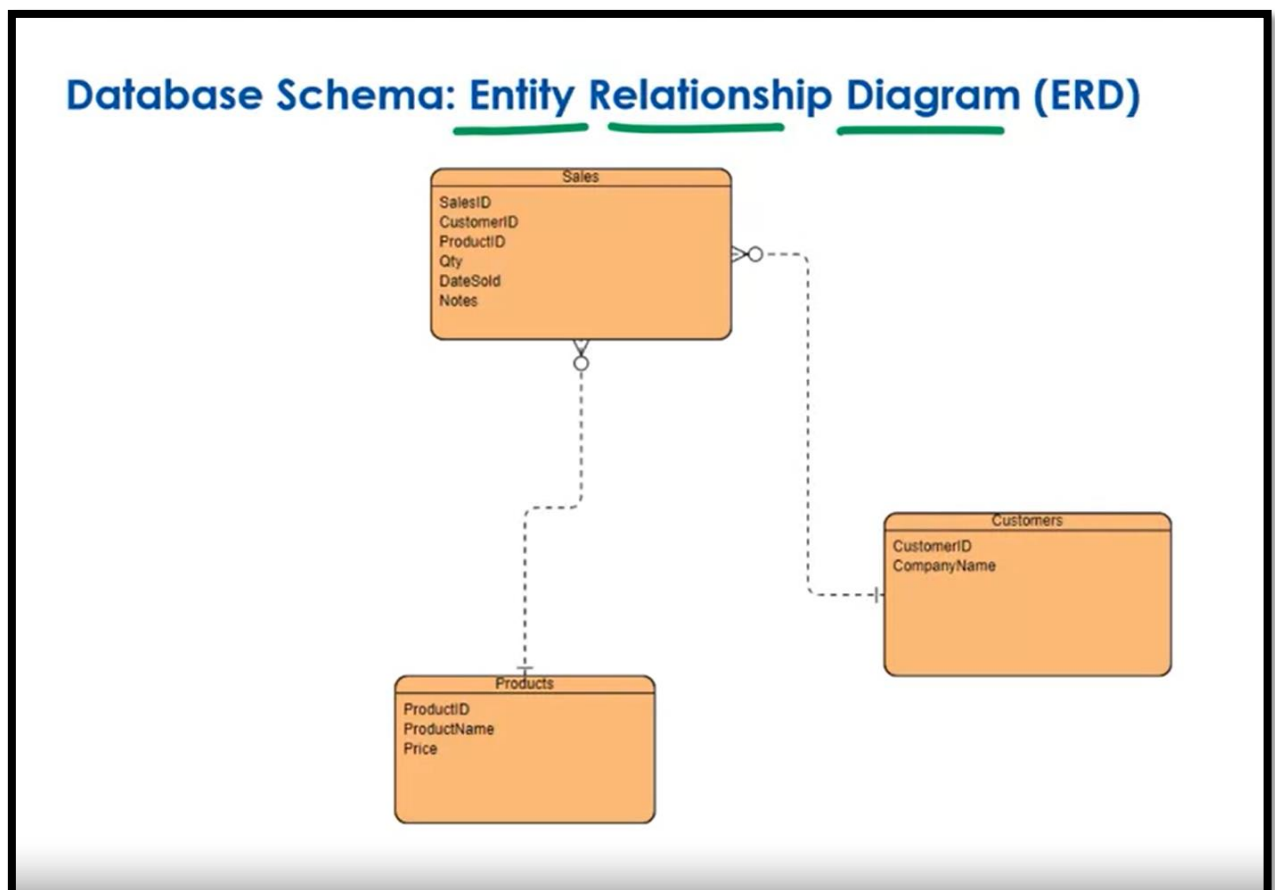
Jadval dizayni uchun qo'llanma:

1. Jadvalga nom tanlang.
2. Kerakli ustunni asosiy kalit qilib belgilang.
3. Takrorlanuvchi ma'lumotlarni chiqarib tashlang.
4. Asosiy kalit va tashqi kalit yordamida jadvallarni bog'lang.
5. Mantiqiy bog'lanish to'g'ri ekanligini tekshiring. 🔄

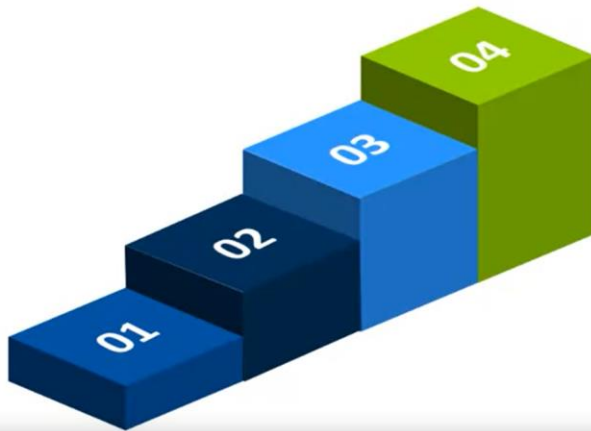




Baza sxemasi: Tashkilot munosabat diagrammasi (TMD)



Database Architecture: Simplified



04: Implement Design

Implement the design as planned.

03: Enhance Design Where Needed

Revisit the design and determine if there is room for improvement, in addition consider operational elements such as backup, recovery, security, and audit.

02: Develop Based on Application

Accurately determine the users or applications that will utilize the database and use the information as a driving force to construct the various DB elements.

01: Design Database for Purpose

Determine the purpose the database will be used for. Always design with future enhancements in mind.

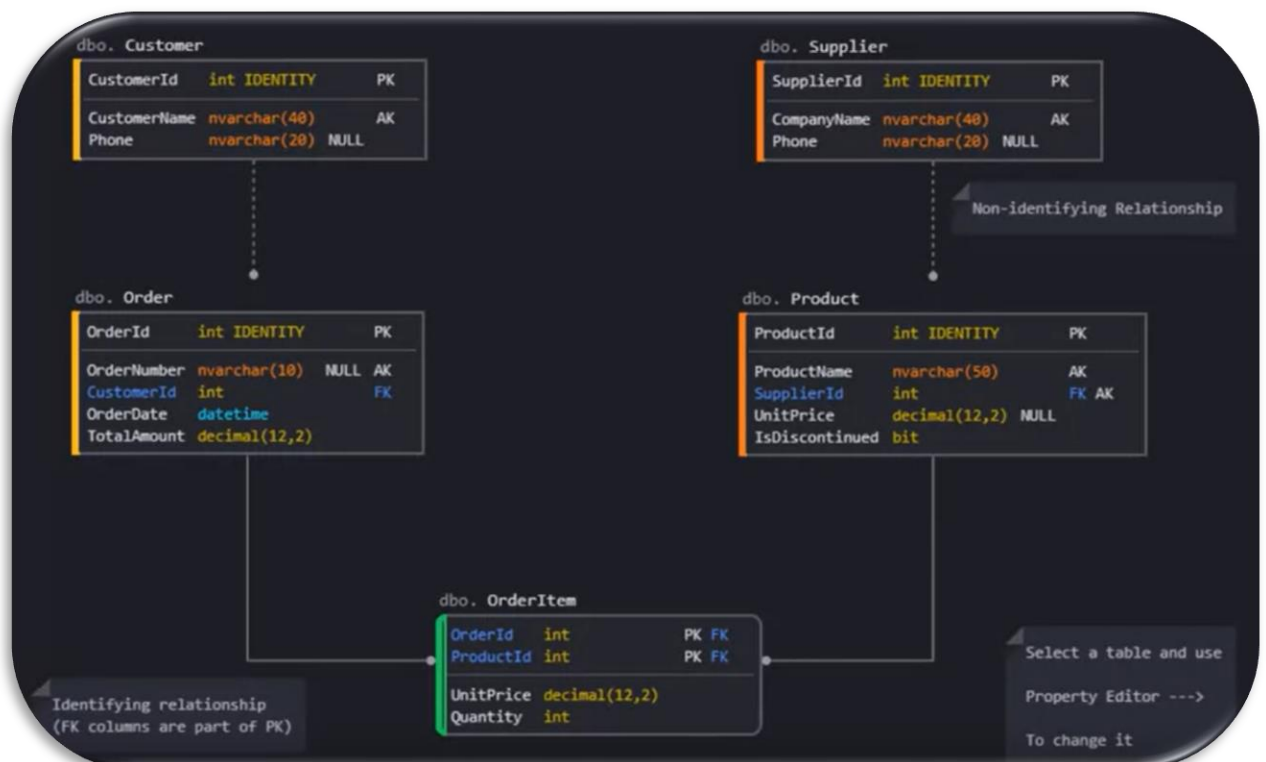
Database architecture: Soddalashtirilgan

1-bosqich. Maqsadli ma'lumotlar bazasini loyihalash

2-bosqich. Ilova asosida ishlab chiqish

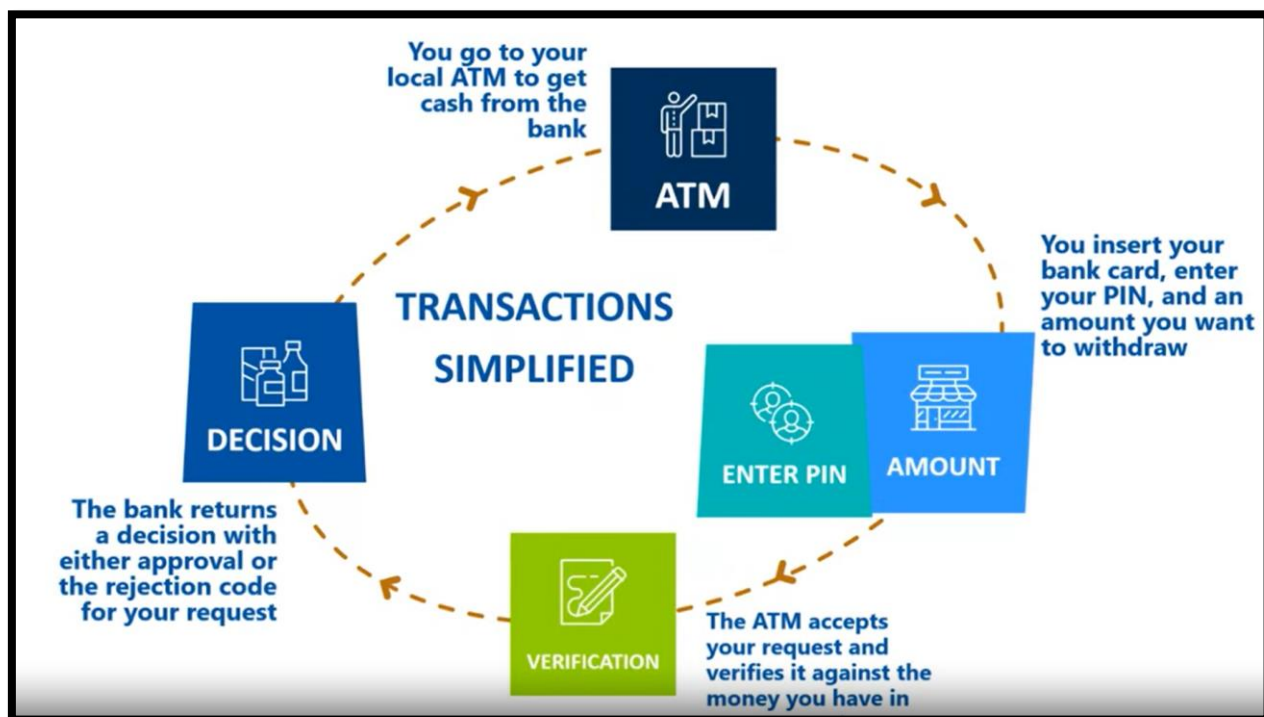
3-bosqich. Kerak bo'lganda dizaynni yaxshilash

4-bosqich. Loyihani amalga oshirish



Tranzaksiya

Tranzaksiya – vazifalar guruhi operatsiyasi



Tranzaksiyaga misol:

Bankomatga borib naqd pul olish uchun plastikni kiritdik.

1-bosqich. Parolni so'raydi.

2-bosqich. Parolni tekshiradi

3-bosqich. Chiqariladigan summani so'raydi

4-bosqich. Summa sizda va o'zida borligini tekshiradi.

5-bosqich. Qaror bilan qaytadi.

Tranzaksiyaning natijasi faqatgina 2 xil bo'ladi:

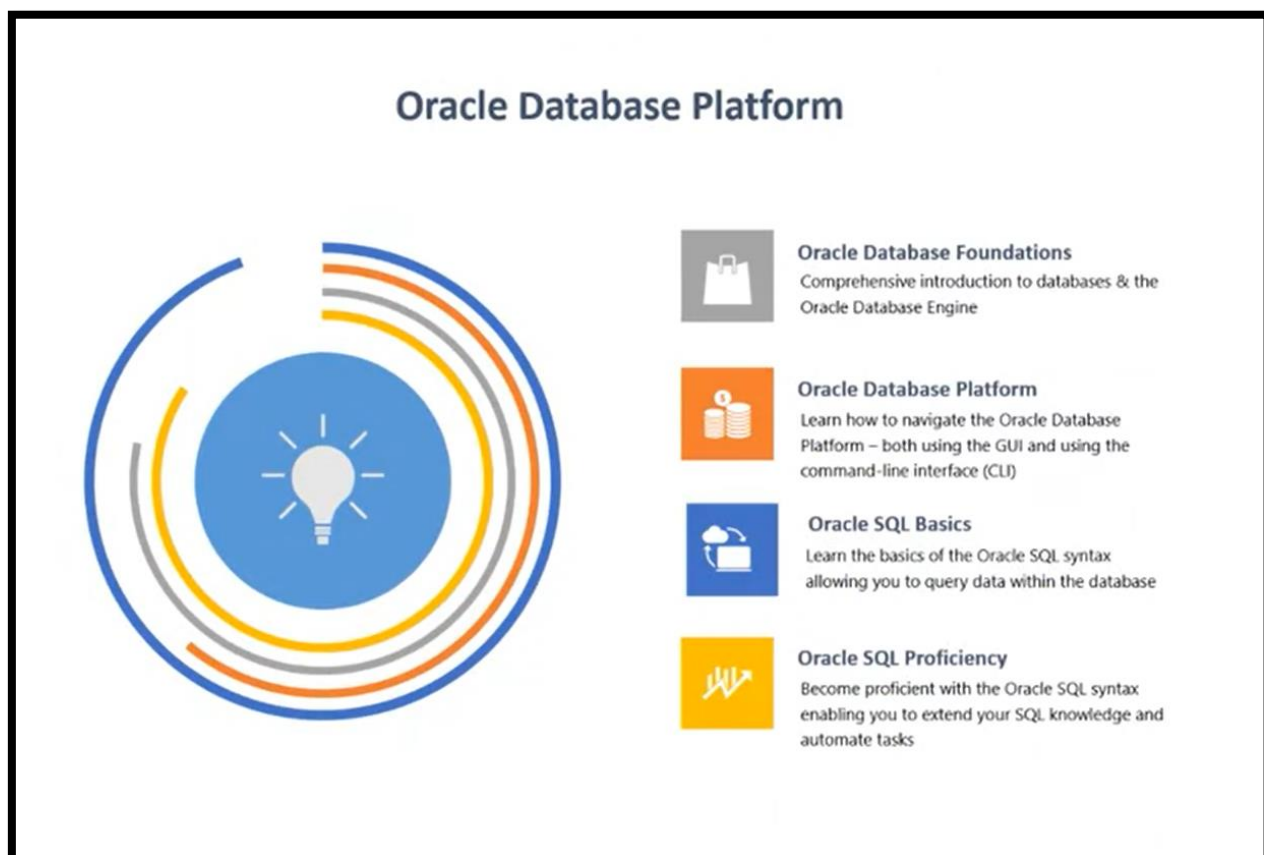
- Muvaffaqiyatli
- Muvaffaqiyatsiz

Siz bankomatdan 100\$ olishni so'rasangiz, "Menda 50\$ bor, sizga yana 50\$ qarzman",-demaydi.

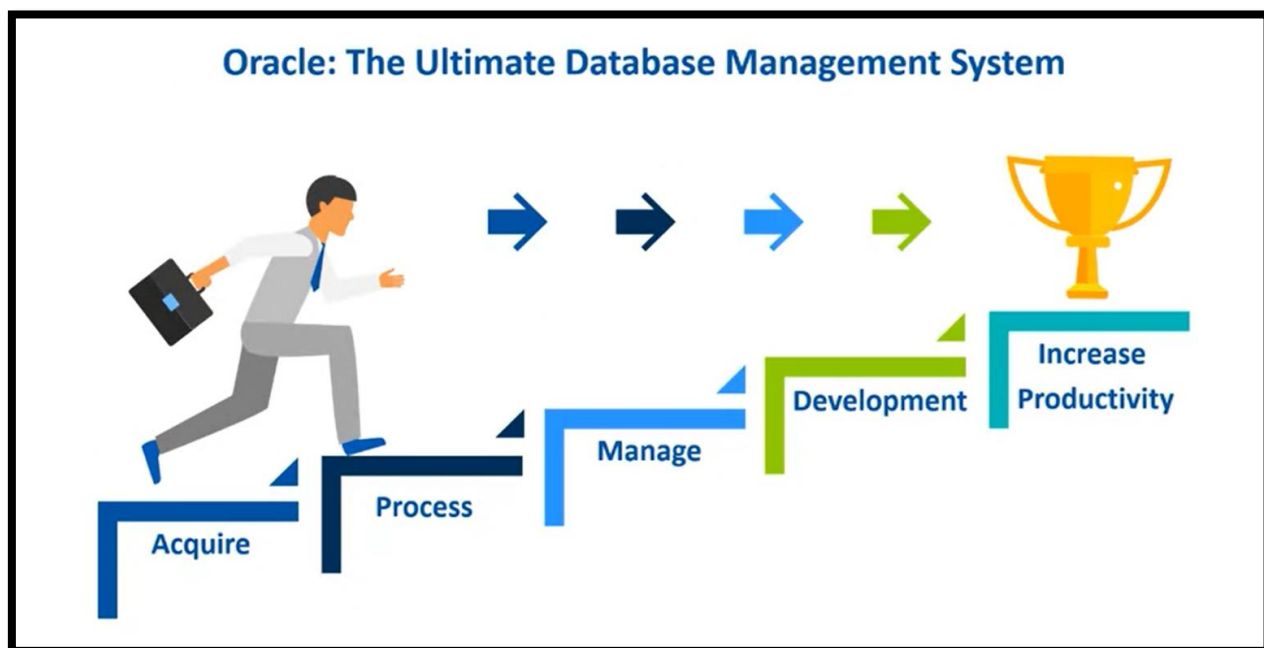
Barcha Oracle tranzaktsiyalari ACID xususiyatlari deb nomlanuvchi ma'lumotlar bazasi tranzaktsiyasining asosiy xususiyatlariga bo'ysunadi . ACID - bu quyidagi so'zlarning qisqartmasi:

- Atomlik [Atomicity]
Bitimning barcha vazifalari bajariladi yoki ularning hech biri bajarilmaydi. Qisman operatsiyalar mavjud emas.
- Muvofiqlik [Consistency]
Tranzaktsiya ma'lumotlar bazasini bir izchil holatdan boshqa izchil holatga o'tkazadi.
- Izolyatsiya [Isolation]
Bitim amalga oshirilgunga qadar bitimning ta'siri boshqa operatsiyalarga ko'rinmaydi.
- Chidamlilik [Durability]
Amalga oshirilgan operatsiyalar bo'yicha kiritilgan o'zgarishlar doimiydir.

Oracle Database Platform

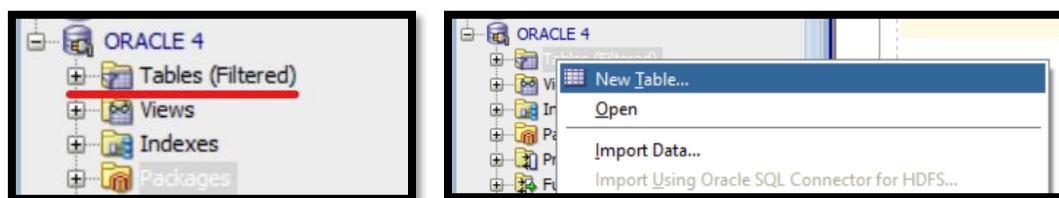


ORACLE: MA'LUMOTLAR BAZASINI BOSHQARISH TIZIMI



1. SO'RASH
2. JARAYON
3. BOSHQARISH
4. RIVOJLANISH
5. UNUMDORLIKNI OSHIRISH

Jadvalni kodsiz oson yaratish:



Tablesga mishkaning o'ng knopkasi bosiladi va *New table* bosiladi.

Schema: SYS
Name: TABLE1
Table: DDL
Columns: name

PK	Name	Data Type	Size	Not Null	Default	Comment
	COLUMN1	VARCHAR2	20	<input checked="" type="checkbox"/>		

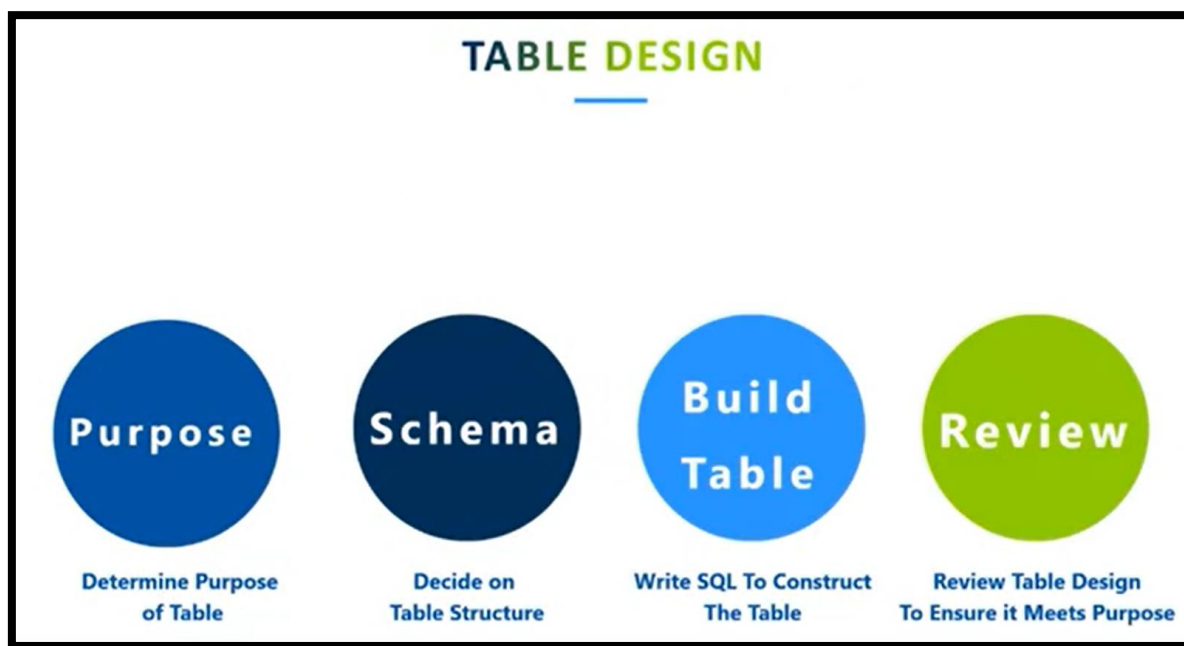
Jadval nomi va har xil o'lchovlari kiritiladi.

+ ustun qo'shish

X ustun o'chirish

DDL — ushbu bajarilgan operatsiyaning kodlari.

Oracle SQL Basics



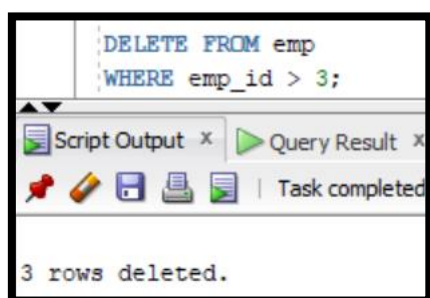
- MAQSAD
- SXEMA
- JADVAL QURISH
- KO'RIB CHIQISH

Ob'ekt	Tavsif	Batafsil ma'lumot olish uchun
Table	Jadval ma'lumotlarni qatorlarda saqlaydi. Jadvallar relyatsion ma'lumotlar bazasidagi eng muhim sxema ob'ektlari hisoblanadi.	" Jadvallarning umumiy ko'rinishi "
Indexes	Indekslar - jadval yoki jadval klasterining har bir indekslangan qatori uchun yozuvni o'z ichiga olgan va satrlarga to'g'ridan-to'g'ri, tezkor kirishni ta'minlaydigan sxema ob'ektlari. Oracle ma'lumotlar bazasi bir necha turdagi indekslarni qo'llab-quvvatlaydi. Indeks bilan	" Indekslar va indekslar bo'yicha tashkil etilgan jadvallar "

Ob'ekt	Tavsif	Batafsil ma'lumot olish uchun
	tashkil etilgan jadval - bu ma'lumotlar indeks tuzilmasida saqlanadigan jadval.	
Partitions	Bo'limlar - bu katta jadvallar va indekslarning bo'laklari. Har bir bo'lim o'z nomiga ega va ixtiyoriy ravishda o'z saqlash xususiyatlariga ega bo'lishi mumkin.	" Bo'limlarning umumiy ko'rinishi "
Views	Ko'rinishlar - bu bir yoki bir nechta jadvallar yoki boshqa ko'rinishlardagi ma'lumotlarning moslashtirilgan taqdimotlari. Siz ularni saqlangan so'rovlar deb hisoblashingiz mumkin. Ko'rinishlar aslida ma'lumotlarni o'z ichiga olmaydi.	" Ko'rinishlar umumiy ko'rinishi "
Sequences	Ketma-ketlik - bu foydalanuvchi tomonidan yaratilgan ob'ekt bo'lib, butun sonlarni yaratish uchun bir nechta foydalanuvchilar tomonidan baham ko'rilishi mumkin. Odatda, asosiy kalit qiymatlarini yaratish uchun ketma-ketliklardan foydalanasiz .	" Ketsilliklarning umumiy ko'rinishi "
Dimensions	O'lchov ustunlar to'plamining juftliklari o'rtasidagi ota-ona munosabatlarini belgilaydi, bu erda ustunlar to'plamining barcha ustunlari bir xil jadvaldan kelishi kerak. O'lchovlar odatda mijozlar, mahsulotlar va vaqt kabi ma'lumotlarni toifalarga ajratish uchun ishlatiladi.	" O'lchamlarga umumiy nuqtai "
Synonyms	Sinonim boshqa sxema ob'ekti uchun taxallusdir. Sinonim oddiy taxallus bo'lganligi sababli, u ma'lumotlar lug'atidagi ta'rifidan boshqa hech qanday saqlashni talab qilmaydi .	" Sinonimlarning umumiy ko'rinishi "

Ob'ekt	Tavsif	Batafsil ma'lumot olish uchun
PL/SQL subprograms and packages	PL/SQL - bu SQL ning Oracle protsessual kengaytmasi. PL /SQL kichik dasturi - bu parametrlar to'plami bilan chaqirilishi mumkin bo'lgan PL/SQL bloki. PL /SQL to'plami mantiqiy bog'liq bo'lgan PL/SQL turlari, o'zgaruvchilari va pastki dasturlarini guruhlariga ajratadi.	" PL/SQL pastki dasturlari "

DELETE



The screenshot shows a SQL script editor with the following text:

```
SELECT * FROM emp;
```

Below the script, the 'Query Result' pane displays the following data:

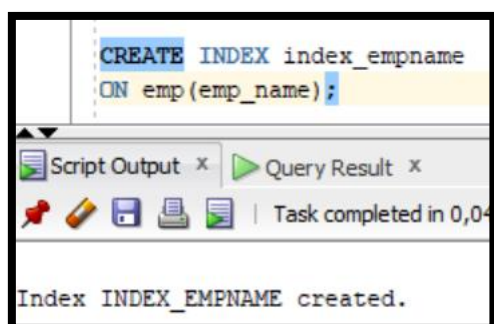
EMP_ID	EMP_NAME	EMP_SALARY	DEPT_ID
1	1 Ahmad	40000	1
2	2 Mark	35000	2
3	3 Abid	50000	2

Indekslar

Indekslar — jadval qatorlariga kirishni tezlashtiradi.

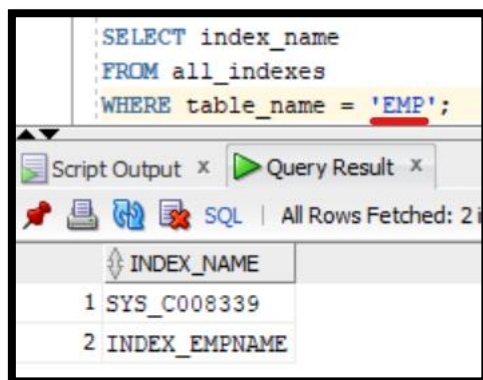
Ko'p qatorli => 20.000 qator +

Jadvaldagi ustunni indekslash:

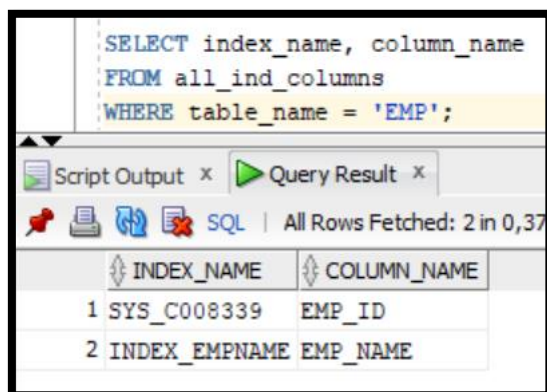


Jadvalda barcha indeks nomlarini chiqarish:

[Jadval_nomi katta harflarda yoziladi.]



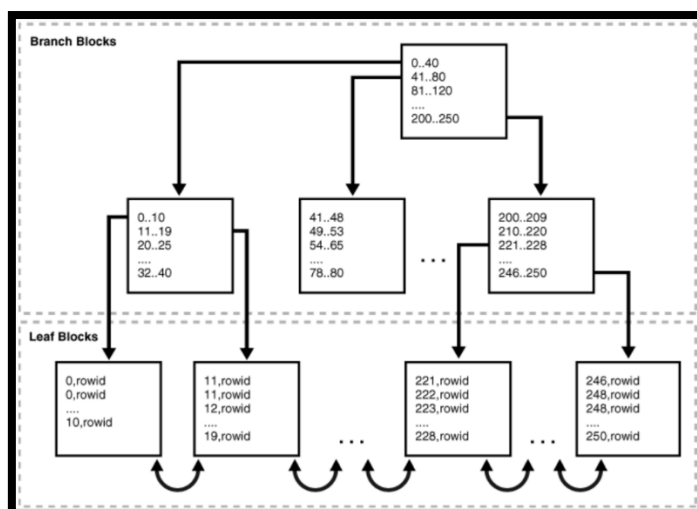
Barcha indekslar nomlari va ustun nomlarini chiqarish:



Index turlari

B-Tree — muvozanatli daraxt ma'lumotlar bazasi indeksining eng keng tarqalgan turi bo'lib, intervallarga bo'lingan qiymatlarning tartiblangan ro'yxatidir.

Misol, **departament_id** ustunidagi indeksni ko'rsatadi, bu **xodimlar** jadvalidagi tashqi kalit ustunidir.

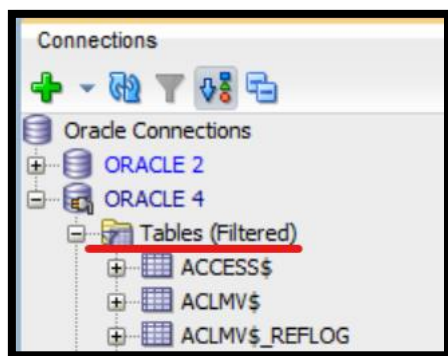


Bitmap — birinchi navbatda, indeksdagi bitta yozuv bir nechta qatorlarga ishora qiladigan ma'lumotlarni saqlash muhitlari uchun mo'ljallangan.

Application domain - ilovaga xos va hujjatlar yoki videokliplar kabi murakkab ma'lumotlar turlarini saqlash uchun moslashtirilgan.

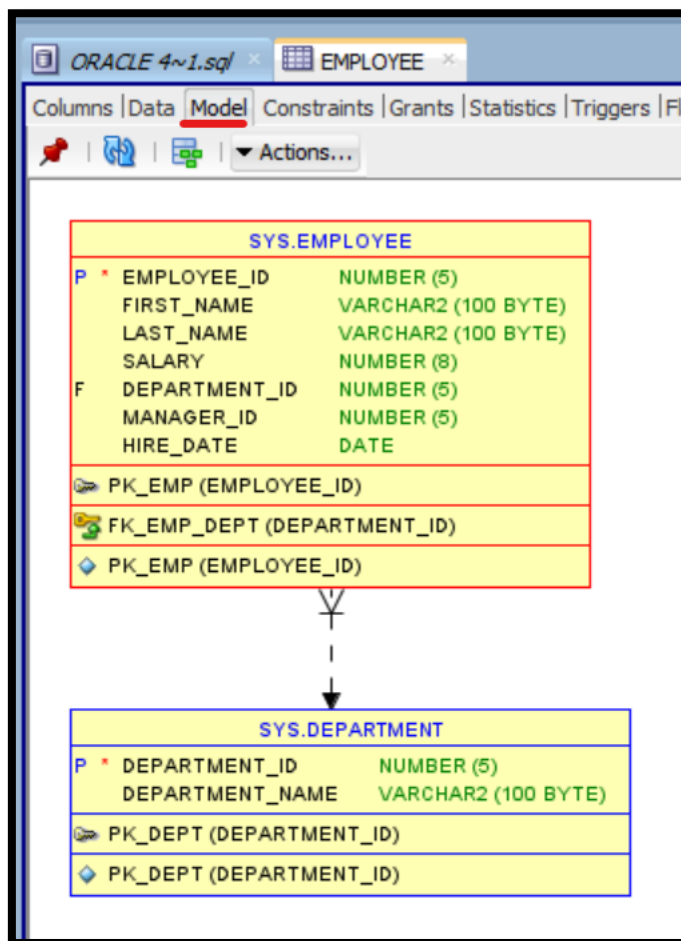
Function based — funksiyalar where bandida qidiruvlarni amalga oshirishda ishlatilganda foydalidir.

Index-organized tables — b-daraxt indeksidagi o'zgarishlar, lekin aksincha, bu struktura ular mos keladigan satrlarni saqlaydi
Jadvallar orasidan kerakli jadvalni topish uchun:



Tablesga kerakli jadval nomining bosh harflari bosiladi.

Relyatsion bog'lanishni ko'rmoqchi bo'lsak: model tanlanadi.



VIEW yaratish

Yasalgan harid jadvali:

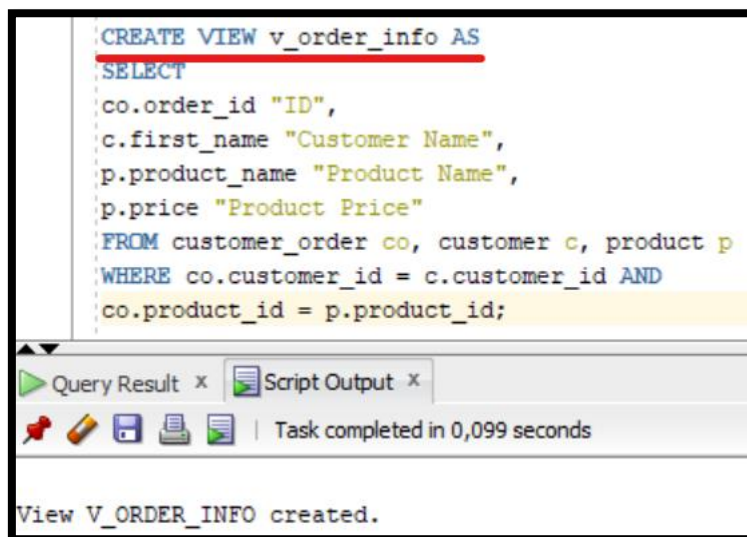
```
SELECT
  co.order_id,
  c.first_name,
  p.product_name, p.price
FROM customer_order co, customer c, product p
WHERE co.customer_id = c.customer_id AND
      co.product_id = p.product_id;
```

Query Result x

SQL | Fetched 50 rows in 0,011 seconds

	ORDER_ID	FIRST_NAME	PRODUCT_NAME	PRICE
1	9	Fred	Photo Editing Pro	250
2	11	Fred	Desk	110,9
3	33	Fred	Monitor	149,95

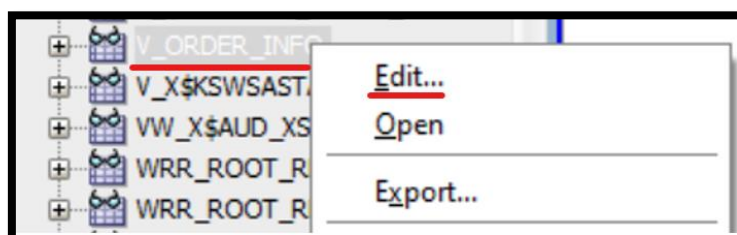
Aynan shu jadvalni viewga aylantiramiz:




Viewni ko'rish:

	ID	Customer Name	Product Name	Product Price
1	9	Fred	Photo Editing Pro	250
2	11	Fred	Desk	110,9
3	33	Fred	Monitor	149,95

Yaratilgan viewni o'zgartirish mumkin:



 Edit View

Schema:

Name:

SQL Query

Properties

Comment

DDL

SQL Query:

```
SELECT
co.order_id "ID",
c.first_name "Customer Name",
p.product_name "Product Name",
p.price "Product Price"
FROM customer_order co, customer c, product p
WHERE co.customer_id = c.customer_id AND
co.product_id = p.product_id
```