MEGHNAD SAHA INSTITUTE OF TECHNOLOGY

*Techno Complex, Madurdaha,Beside NRI Complex, Post-Uchhepota, Kolkata 700 150*

LABORATORY NOTE BOOK

MAKAUT ODD SEMESTER 2024



[MASTER OF COMPUTER APPLICATION]

[RELATIONAL DATABASE MANAGEMENT SYSTEM LAB (MCAN192)]

[RUPAK SARKAR]

ROLL NO: REGN. NO.:

STREAM: MCA SEMESTER: I (1ST)

YEAR: 1ST YearSESSION: 2024-2026



MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY



MEGHNAD SAHA INSTITUTE OF TECHNOLOGY

*Techno Complex,. Madurdaha,Beside NRI Complex, Post-Uchhepota, Kolkata 700 150*

“LIST OF ASSIGNMENT/EXPERIMENT SUBMISSION DETAILS”

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| **SL.**  **NO.** | **ASSIGNMENT / EXPERIMENT NAME** | **PLANNED DATE OF SUBMISSION** | **ACTUAL DATE OF SUBMISION** | **CHECKED BY** | **REMARKS (ANY DEVIATION REGARDING SUBMISSION DATES, CONTENT, FORMAT, ETC)** |
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| OBSERVATIONS / COMMENTS ON THE OVERALL PERFORMANCE: |

Signature in full with date Signature in full with date

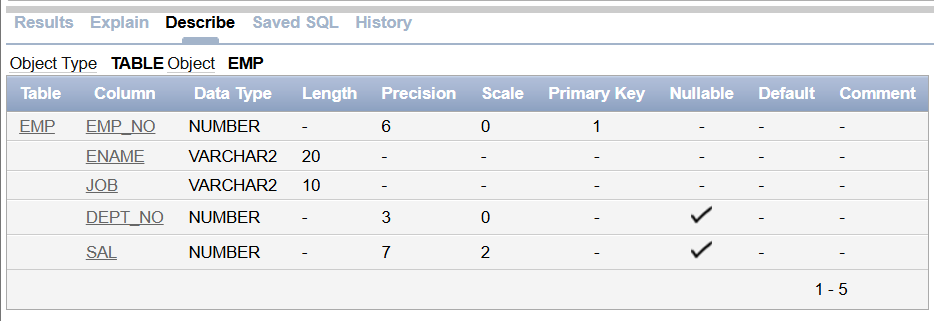
**Faculty / Technical Assistant Lab Examiner**

**Q.1. Create a table called EMP with the following structure:  
EMPNO NUMBER(6),  
ENAME VARCHAR2(20),  
JOB VARCHAR2(10),  
DEPTNO NUMBER(3),  
SAL NUMBER(7,2).**

**Allow NULL for all columns except ENAME and JOB.**

Ans: To create the abovementioned table, we write the following command –

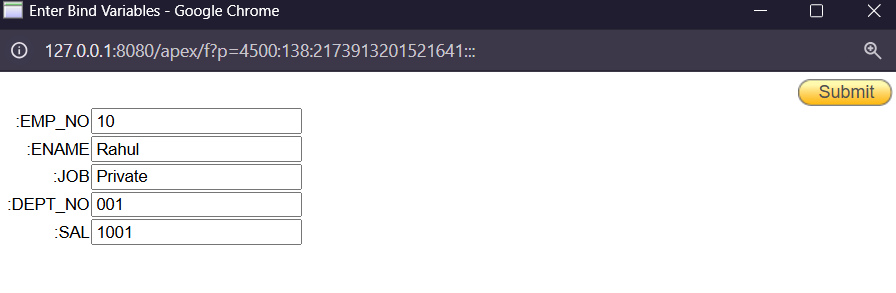
**SQL Query –** CREATE TABLE EMP(EMP\_NO NUMBER(6), ENAME VARCHAR2(20) NOT NULL, JOB VARCHAR2(10) NOT NULL, DEPT\_NO NUMBER(3), SAL NUMBER(7,2));

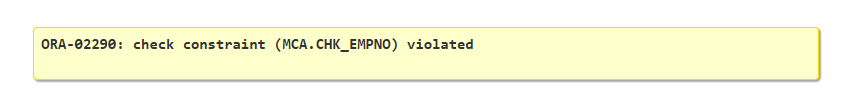


**Q.2. Add constraints to check, while entering the empno value (i.e., empno > 100).**

Ans: To add constraints to check while entering empno value, we need to write the following query.

**SQL Query –** ALTER TABLE EMP ADD CONSTRAINT CHK\_EMPNO CHECK(EMP\_NO>100);

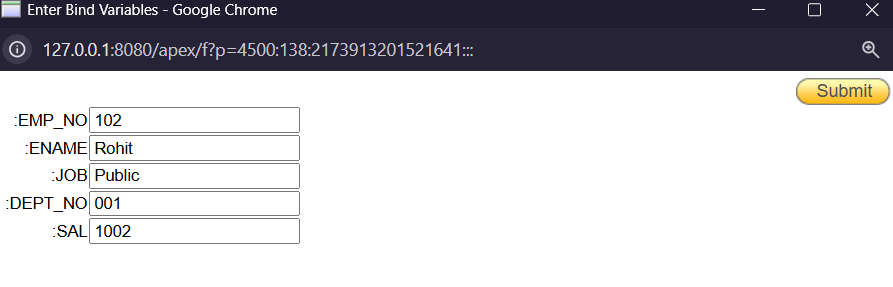


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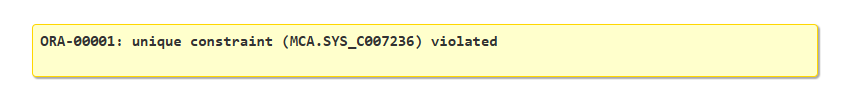
**Q.3. Define the field DEPTNO as unique.**

Ans: To define the DEPT\_NO as Unique, we need to write the following query.

**SQL Query –** ALTER TABLE EMP ADD UNIQUE(DEPT\_NO);



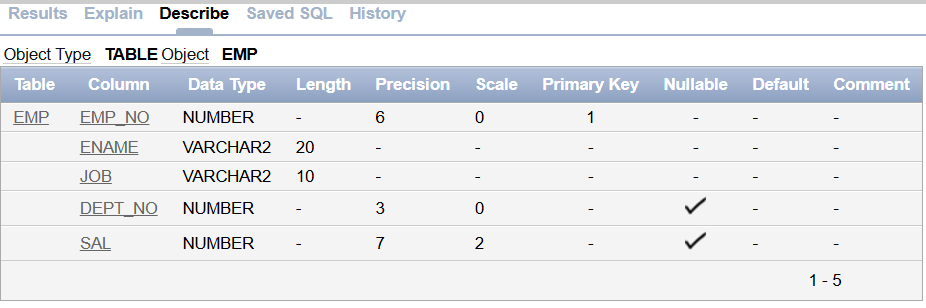
We, already have a Employee with a Dept\_No=001.

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**Q.4. Create a primary key constraint for the table (EMPNO).**

Ans: To add a Primary Key to the EmpNo column, we need to write the following query.

**SQL Query –** ALTER TABLE EMP ADD PRIMARY KEY(EMP\_NO);

****

**Q.5. Write queries to implement and practice constraints.**

Ans:

**SQL Query –** ALTER TABLE EMP ADD CONSTRAINT CHK\_SAL CHECK(SAL>1000); **[This query will create a check constraint for sal, this constraint means that during input of values we cannot input the value of Sal anything lesser than or equal to 1000.]**

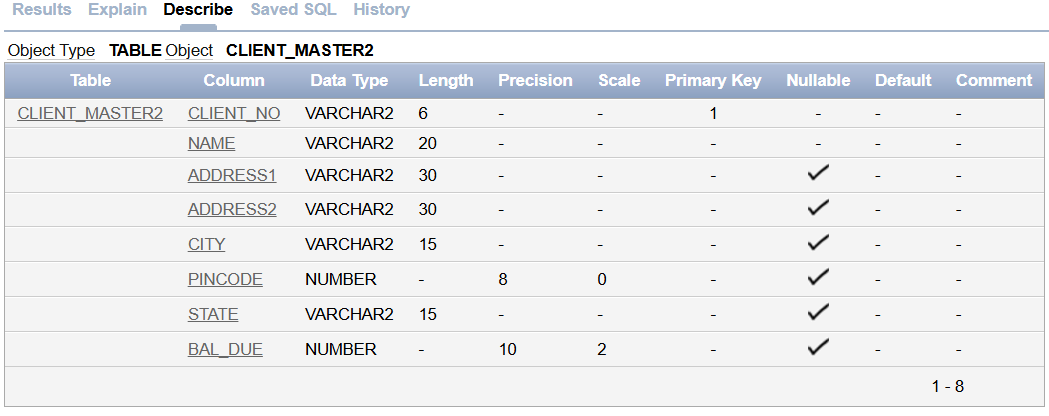
**Implementation of Constraints from Ivan Bayross:**

**Table Name**: CLIENT\_MASTER  
**Description**: Used to store client information.

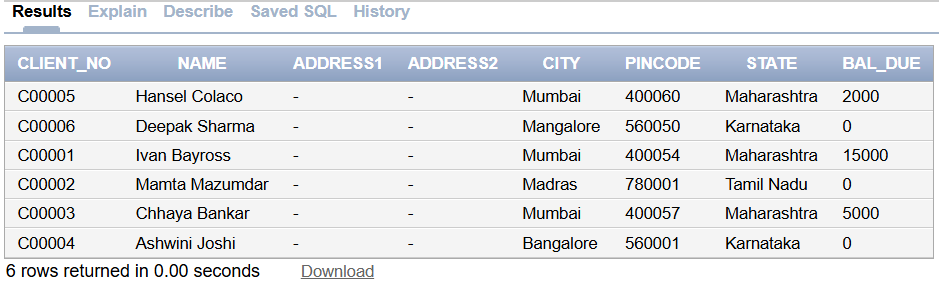
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| --- |
|  |
| **Column Name** | **Data Type** | **Size** | **Default** | **Attributes** |
| CLIENTNO | Varchar2 | 6 |  | Primary Key / first letter must start with 'C' |
| NAME | Varchar2 | 20 |  | Not Null |
| ADDRESS1 | Varchar2 | 30 |  | Not Null |
| ADDRESS2 | Varchar2 | 30 |  |  |
| CITY | Varchar2 | 20 |  |  |
| PINCODE | Varchar2 | 6 |  |  |
| STATE | Varchar2 | 10 |  |  |
| BALDUE | Number | 10,2 |  |  |

Ans: To create the above table we need to write the following query.

**SQL Query –** CREATE TABLE CLIENT\_MASTER2(CLIENT\_NO VARCHAR2(6) PRIMARY KEY CHECK(CLIENT\_NO LIKE 'C%'), NAME VARCHAR2(20) NOT NULL, ADDRESS1 VARCHAR2(30), ADDRESS2 VARCHAR2(30), CITY VARCHAR2(15), PINCODE NUMBER(8), STATE VARCHAR2(15), BAL\_DUE NUMBER(10,2));



**Values of CLIENT\_MASTER Table**:

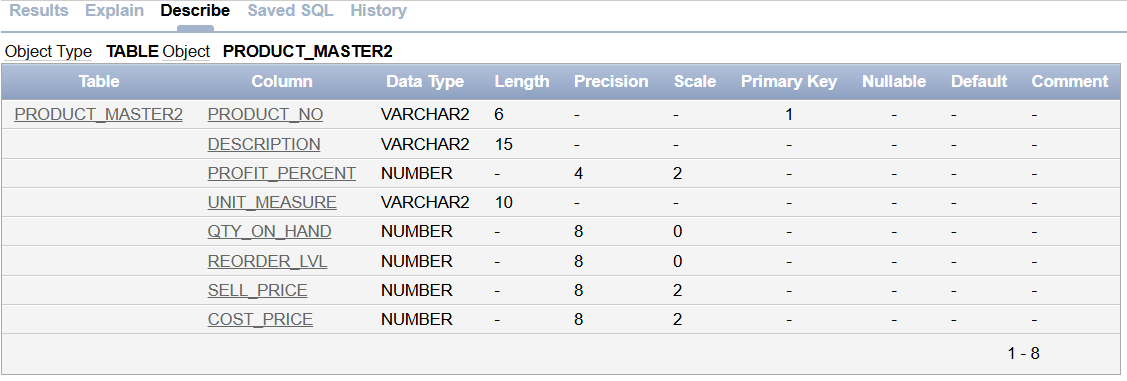


**Table Name**: PRODUCT\_MASTER  
**Description**: Used to store product information.

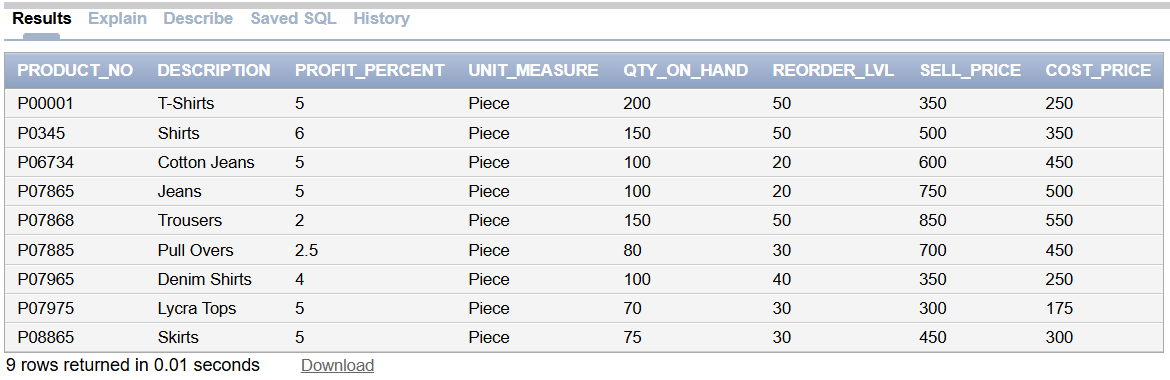
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| **Column Name** | **Data Type** | **Size** | **Default** | **Attributes** |
| PRODUCTNO | Varchar2 | 6 |  | Primary Key / first letter must start with 'P' |
| DESCRIPTION | Varchar2 | 20 |  | Not Null |
| PROFITPERCENT | Number | 4,2 |  | Not Null |
| UNITMEASURE | Varchar2 | 2 |  | Not Null |
| QTYONHAND | Number | 8 |  | Not Null, Cannot be 0 |
| REORDERLEVEL | Number | 8 |  | Not Null, Cannot be 0 |
| SELPRICE | Number | 8,2 |  | Not Null |
| COSTPRICE | Number | 8,2 |  | Not Null |

Ans: To create the above table we need to write the following query.

**SQL Query –** CREATE TABLE PRODUCT\_MASTER2(PRODUCT\_NO VARCHAR2(6) PRIMARY KEY CHECK(PRODUCT\_NO LIKE 'P%'), DESCRIPTION VARCHAR2(15) NOT NULL, PROFIT\_PERCENT NUMBER(4,2) NOT NULL, UNIT\_MEASURE VARCHAR2(10) NOT NULL, QTY\_ON\_HAND NUMBER(8) NOT NULL, REORDER\_LVL NUMBER(8) NOT NULL, SELL\_PRICE NUMBER(8,2) NOT NULL CHECK(SELL\_PRICE <> 0), COST\_PRICE NUMBER(8,2) NOT NULL CHECK(COST\_PRICE <> 0));



**Values of PRODUCT\_MASTER Table**:

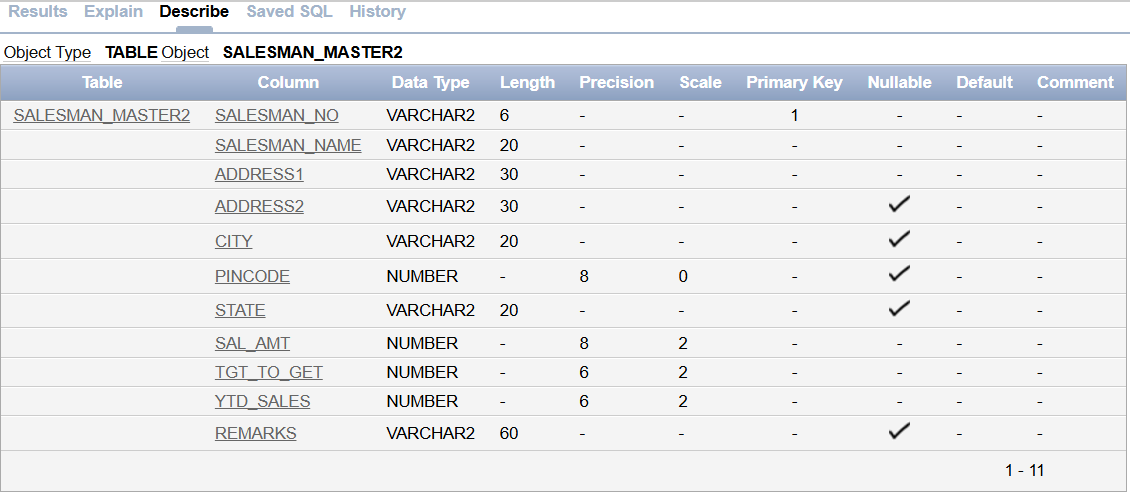


**Table Name**: SALESMAN\_MASTER  
**Description**: Used to store salesman information working for the company.

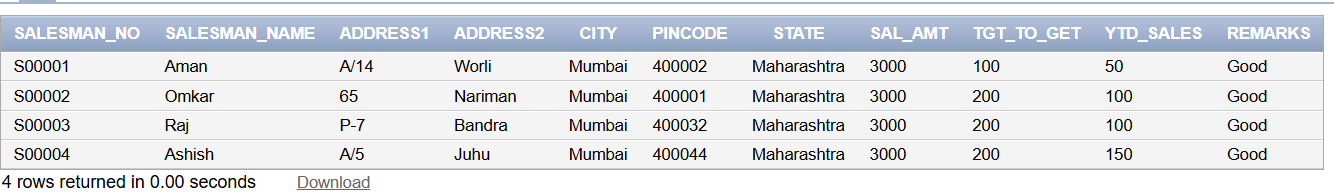
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| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Default** | **Attributes** |
| SALESMANNO | Varchar2 | 6 |  | Primary Key / first letter must start with 'S' |
| SALESMANNAME | Varchar2 | 20 |  | Not Null |
| ADDRESS1 | Varchar2 | 30 |  | Not Null |
| ADDRESS2 | Varchar2 | 30 |  |  |
| CITY | Varchar2 | 20 |  |  |
| PINCODE | Varchar2 | 6 |  | Not Null |
| STATE | Varchar2 | 20 |  | Not Null |
| SALARY | Number | 6,2 |  | Not Null |
| TGTTOGET | Number | 6,2 |  | Cannot be 0 |
| YTDSALES | Number | 6,2 |  | Not Null |
| REMARKS | Varchar2 | 60 |  |  |

Ans: To create the above table we need to write the following query.

**SQL Query –** CREATE TABLE SALESMAN\_MASTER2(SALESMAN\_NO VARCHAR2(6) PRIMARY KEY CHECK(SALESMAN\_NO LIKE 'S%'), SALESMAN\_NAME VARCHAR2(20) NOT NULL, ADDRESS1 VARCHAR2(30) NOT NULL, ADDRESS2 VARCHAR2(30), CITY VARCHAR2(20), PINCODE NUMBER(8), STATE VARCHAR2(20), SAL\_AMT NUMBER(8,2) NOT NULL CHECK(SAL\_AMT <> 0), TGT\_TO\_GET NUMBER(6,2) NOT NULL CHECK(TGT\_TO\_GET <> 0), YTD\_SALES NUMBER(6,2) NOT NULL, REMARKS VARCHAR2(60));



**Values of SALESMAN\_MASTER Table**:

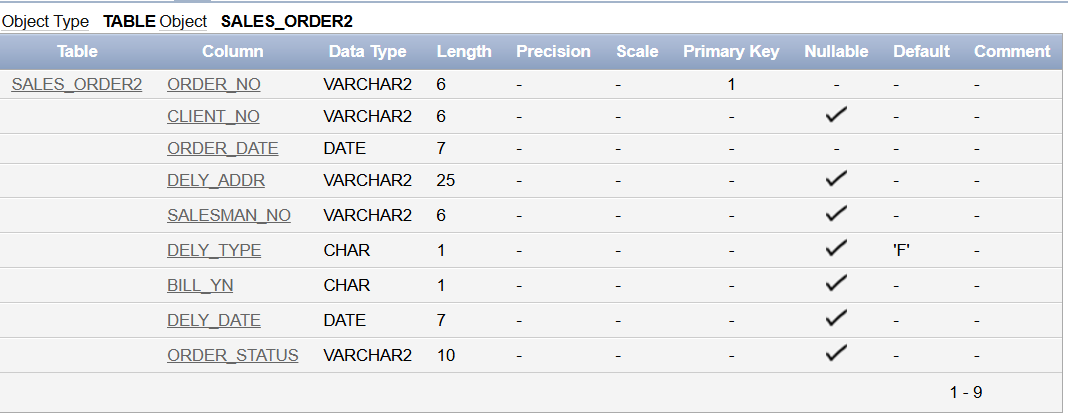
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**Table Name**: SALES\_ORDER  
**Description**: Used to store client’s orders.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Default** | **Attributes** |
| ORDERNO | Varchar2 | 6 |  | Primary Key / first letter must start with 'O' |
| CLIENTNO | Varchar2 | 6 |  | Foreign Key references ClientNo of Client\_Master table |
| ORDERDATE | Date |  |  | Not Null |
| DELYADDR | Varchar2 | 25 |  | Not Null |
| SALESMANNO | Varchar2 | 6 |  | Foreign Key references SalesmanNo of Salesman\_Master table |
| DELYTYPE | Char | 1 | F | Delivery: part (P) / full (F) |
| BILLYN | Char | 1 | F |  |
| DELYDATE | Date |  |  | Cannot be less than Order Date |
| ORDERSTATUS | Varchar2 | 10 |  | Values ('In Process', 'Fulfilled', 'BackOrder', 'Cancelled') |

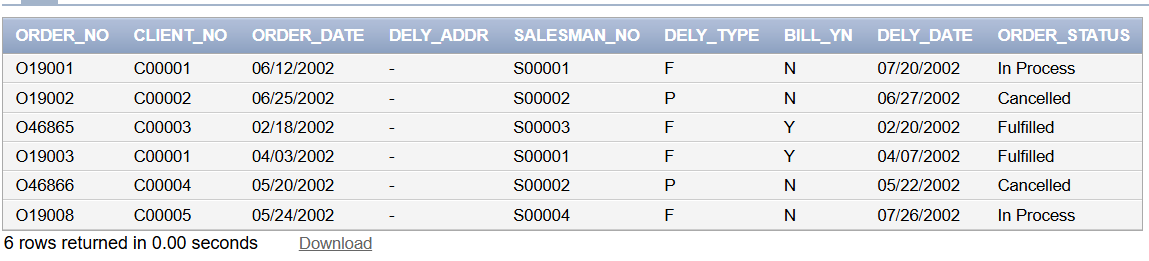
Ans: To create the above table we need to write the following query.

**SQL Query –** CREATE TABLE SALES\_ORDER2(ORDER\_NO VARCHAR2(6) PRIMARY KEY CHECK(ORDER\_NO LIKE 'O%'), CLIENT\_NO VARCHAR2(6), FOREIGN KEY(CLIENT\_NO) REFERENCES CLIENT\_MASTER2, ORDER\_DATE DATE NOT NULL, DELYA\_ADDR VARCHAR2(25), SALESMAN\_NO VARCHAR2(6), FOREIGN KEY(SALESMAN\_NO) REFERENCES SALESMAN\_MASTER2, DELY\_TYPE CHAR(1) DEFAULT 'F' CHECK(DELY\_TYPE IN('P','F')), BILL\_YN CHAR(1), DELY\_DATE DATE, ORDER\_STATUS VARCHAR2(10) CHECK(ORDER\_STATUS IN('In Process', 'Fulfilled', 'BackOrder', 'Cancelled')), CONSTRAINT CHK\_DELY\_DATE CHECK (DELY\_DATE >= ORDER\_DATE));



**Values of SALES\_ORDER Table**:

**SQL Query –** INSERT INTO SALES\_ORDER2(ORDER\_NO, CLIENT\_NO, ORDER\_DATE, SALESMAN\_NO, DELY\_TYPE, BILL\_YN, DELY\_DATE, ORDER\_STATUS) VALUES (:ORDER\_NO, :CLIENT\_NO, TO\_DATE(:ORDER\_DATE, 'DD-MM-YYYY'), :SALESMAN\_NO, :DELY\_TYPE, :BILL\_YN, TO\_DATE(:DELY\_DATE, 'DD-MM-YYYY'), :ORDER\_STATUS);

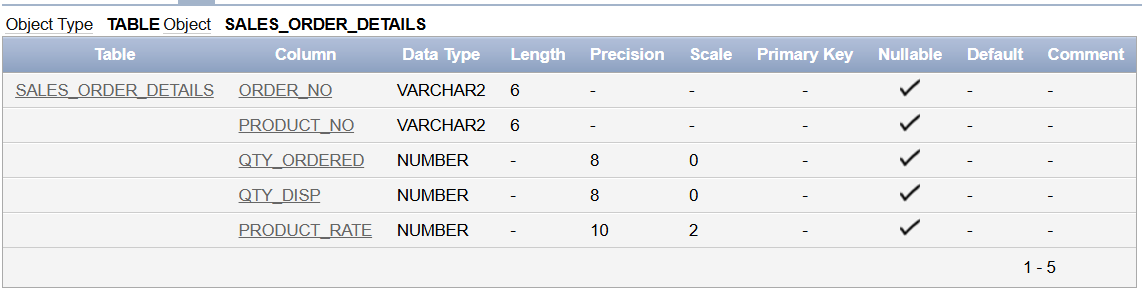


**Table Name**: SALES\_ORDER\_DETAILS  
**Description**: Used to store client’s orders with details of each product ordered.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Default** | **Attributes** |
| ORDERNO | Varchar2 | 6 |  | Foreign Key references OrderNo of Sales\_Order table |
| PRODUCTNO | Varchar2 | 6 |  | Foreign Key references ProductNo of Product\_Master table |
| QTYORDERED | Number | 8 |  |  |
| QTYDISP | Number | 8 |  |  |
| PRODUCTRATE | Number | 10,2 |  |  |

Ans: To create the above table we need to write the following query.

**SQL Query –** CREATE TABLE SALES\_ORDER\_DETAILS(ORDER\_NO VARCHAR2(6), FOREIGN KEY(ORDER\_NO) REFERENCES SALES\_ORDER2, PRODUCT\_NO VARCHAR2(6), FOREIGN KEY(PRODUCT\_NO) REFERENCES PRODUCT\_MASTER2, QTY\_ORDERED NUMBER(8), QTY\_DISP NUMBER(8), PRODUCT\_RATE NUMBER(10,2));



**Values of SALES\_ORDER\_DETAILS Table**:

**SQL Query –** INSERT INTO SALES\_ORDER\_DETAILS(ORDER\_NO, PRODUCT\_NO, QTY\_ORDERED, QTY\_DISP, PRODUCT\_RATE) VALUES (:ORDER\_NO, :PRODUCT\_NO, :QTY\_ORDERED, :QTY\_DISP, :PRODUCT\_RATE);

