
```
-- STAR SCHEMA VERSION 1
```

```
-- Newly created tables during data cleaning phase:
-- CUSTOMER, HIRE, EQUIPMENT, SALES, CATEGORY
```

```
-- DROP TABLE SEGMENT
```

```
drop table sales_price_scale_dim;
drop table season_dim;
drop table company_branch_dim;
drop table time_dim_temp;
drop table time_dim;
drop table customer_type_dim;
drop table category_dim;
drop table MON_EQUIP_SALES_FACT_TEMP_V1;
drop table MON_EQUIP_SALES_FACT_V1;
drop table MON_EQUIP_HIRE_FACT_TEMP_V1;
drop table MON_EQUIP_HIRE_FACT_V1;
```

```
-- SALES_PRICE_SCALE Dimension
```

```
CREATE TABLE SALES_PRICE_SCALE_DIM
(
    Sales_Price_Scale_ID NUMBER(5),
    Description VARCHAR2(50),
    Min_Price NUMBER(10),
    Max_Price NUMBER(10)
);
```

```
INSERT INTO SALES_PRICE_SCALE_DIM VALUES (1, 'Low sales', 0, 4999);
INSERT INTO SALES_PRICE_SCALE_DIM VALUES (2, 'Medium sales', 5000,
INSERT INTO SALES_PRICE_SCALE_DIM VALUES (3, 'High sales', 10001, 9
```

```
-- SEASON Dimension
```

```
CREATE TABLE SEASON_DIM
(
    Season_ID NUMBER(1),
    Description VARCHAR2(30),
    Start_Month VARCHAR2(2),
    End_Month VARCHAR2(2)
);
```

```
-- Insert records into SEASON Dimension
```

```
INSERT INTO SEASON_DIM VALUES (1, 'Spring', '09', '11');
INSERT INTO SEASON_DIM VALUES (2, 'Summer', '12', '02');
INSERT INTO SEASON_DIM VALUES (3, 'Autumn', '03', '05');
INSERT INTO SEASON_DIM VALUES (4, 'Winter', '06', '08');
```

```
-- COMPANY_BRANCH Dimension
```

```
CREATE TABLE COMPANY_BRANCH_DIM AS
    SELECT DISTINCT Company_Branch AS Company_Branch_Name
    FROM MONEQUIP.STAFF
    ORDER BY Company_Branch_Name;
```

```
-- Temporary TIME Dimension
```

```
CREATE TABLE TIME_DIM_TEMP
(
```

```
);

-- Insert records into temporary TIME Dimension

INSERT INTO TIME_DIM_TEMP
SELECT DISTINCT TO_CHAR(Sales_Date, 'YYYYMM') AS Time_ID
FROM SALES;

INSERT INTO TIME_DIM_TEMP
SELECT DISTINCT TO_CHAR(Start_Date, 'YYYYMM') AS Time_ID
FROM HIRE;

-- TIME Dimension

CREATE TABLE TIME_DIM
(
    Time_ID VARCHAR2(6),
    Month VARCHAR2(2),
    Year VARCHAR2(4)
);

-- Insert records into TIME Dimension

INSERT INTO TIME_DIM
SELECT
    DISTINCT Time_ID,
    TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM'),
    TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'YYYY')
FROM TIME_DIM_TEMP;

-- CUSTOMER_TYPE Dimension

CREATE TABLE CUSTOMER_TYPE_DIM AS
SELECT *
```

```
        ORDER BY CUSTOMER_TYPE_ID;

-- CATEGORY Dimension

CREATE TABLE CATEGORY_DIM AS
    SELECT
        CATEGORY_ID,
        CATEGORY_DESCRIPTION AS Description
    FROM CATEGORY
    ORDER BY CATEGORY_ID;

-- MON_EQUIP_SALES Temporary Fact Table V1

CREATE TABLE MON_EQUIP_SALES_FACT_TEMP_V1 AS
    SELECT
        TO_CHAR(S.Sales_Date, 'YYYYMM') AS Time_ID,
        C.Customer_Type_ID,
        F.Company_Branch AS Company_Branch_Name,
        Y.Category_ID,
        S.Total_Sales_Price,
        S.Sales_ID,
        S.Quantity
    FROM
        SALES S,
        CUSTOMER C,
        MONEQUIP.STAFF F,
        EQUIPMENT E,
        CATEGORY Y
    WHERE
        S.Customer_ID = C.Customer_ID AND
        S.Staff_ID = F.Staff_ID AND
        S.Equipment_ID = E.Equipment_ID AND
        E.Category_ID = Y.Category_ID;
```

```
ALTER TABLE MON_EQUIP_SALES_FACT_TEMP_V1
ADD (Season_ID NUMBER(1));

ALTER TABLE MON_EQUIP_SALES_FACT_TEMP_V1
ADD (Sales_Price_Scale_ID NUMBER(10));

-- Update value of new attribute (Season_ID)

UPDATE MON_EQUIP_SALES_FACT_TEMP_V1
SET Season_ID = 1
WHERE TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') >= '09' AND
      TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') <= '11';

UPDATE MON_EQUIP_SALES_FACT_TEMP_V1
SET Season_ID = 2
WHERE TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') >= '12' OR
      TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') <= '02';

UPDATE MON_EQUIP_SALES_FACT_TEMP_V1
SET Season_ID = 3
WHERE TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') >= '03' AND
      TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') <= '05';

UPDATE MON_EQUIP_SALES_FACT_TEMP_V1
SET Season_ID = 4
WHERE TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') >= '06' AND
      TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') <= '08';

-- Update value of new attribute (Sales_Price_Scale_ID)

UPDATE MON_EQUIP_SALES_FACT_TEMP_V1
SET Sales_Price_Scale_ID = 1
WHERE Total_Sales_Price BETWEEN 0 AND 4999;
```

```
UPDATE MON_EQUIP_SALES_FACT_TEMP_V1
SET Sales_Price_Scale_ID = 2
WHERE Total_Sales_Price BETWEEN 5000 AND 10000;

UPDATE MON_EQUIP_SALES_FACT_TEMP_V1
SET Sales_Price_Scale_ID = 3
WHERE Total_Sales_Price BETWEEN 10001 AND 999999;
```

```
-- MON_EQUIP_SALES Fact Table V1
```

```
CREATE TABLE MON_EQUIP_SALES_FACT_V1 AS
SELECT
    Time_ID,
    Season_ID,
    Customer_Type_ID,
    Company_Branch_Name,
    Category_ID,
    Sales_Price_Scale_ID,
    SUM(Total_Sales_Price) AS Total_Sales_Revenue,
    COUNT(Sales_ID) AS Total_Number_of_Sales,
    SUM(Quantity) AS Total_Equipment_Sold
FROM
    MON_EQUIP_SALES_FACT_TEMP_V1
GROUP BY
    Time_ID,
    Season_ID,
    Customer_Type_ID,
    Company_Branch_Name,
    Category_ID,
    Sales_Price_Scale_ID;
```

```
-- MON_EQUIP_HIRE Temporary Fact Table V1
```

```
CREATE TABLE MON_EQUIP_HIRE_FACT_TEMP_V1 AS
```

```
        TO_CHAR(H.Start_Date, 'YYYYMM') AS Time_ID,
        C.Customer_Type_ID,
        F.Company_Branch AS Company_Branch_Name,
        Y.Category_ID,
        H.Total_Hire_Price,
        H.Hire_ID,
        H.Quantity
FROM
    HIRE H,
    CUSTOMER C,
    MONEQUIP.STAFF F,
    EQUIPMENT E,
    CATEGORY Y
WHERE
    H.Customer_ID = C.Customer_ID AND
    H.Staff_ID = F.Staff_ID AND
    H.Equipment_ID = E.Equipment_ID AND
    E.Category_ID = Y.Category_ID;

-- Add new attributes

ALTER TABLE MON_EQUIP_HIRE_FACT_TEMP_V1
ADD (Season_ID NUMBER(1));

-- Update value of new attribute (Season_ID)

UPDATE MON_EQUIP_HIRE_FACT_TEMP_V1
SET Season_ID = 1
WHERE TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') >= '09' AND
       TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') <= '11';

UPDATE MON_EQUIP_HIRE_FACT_TEMP_V1
SET Season_ID = 2
WHERE TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') >= '12' OR
```

```
UPDATE MON_EQUIP_HIRE_FACT_TEMP_V1
SET Season_ID = 3
WHERE TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') >= '03' AND
      TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') <= '05';

UPDATE MON_EQUIP_HIRE_FACT_TEMP_V1
SET Season_ID = 4
WHERE TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') >= '06' AND
      TO_CHAR(TO_DATE(Time_ID, 'YYYYMM'), 'MM') <= '08';

-- MON_EQUIP_HIRE Fact Table V1

CREATE TABLE MON_EQUIP_HIRE_FACT_V1 AS
  SELECT
    Time_ID,
    Season_ID,
    Customer_Type_ID,
    Company_Branch_Name,
    Category_ID,
    SUM(Total_Hire_Price) AS Total_Hire_Revenue,
    COUNT(Hire_ID) AS Total_Number_of_Hire,
    SUM(Quantity) AS Total_Equipment_Hired
  FROM
    MON_EQUIP_HIRE_FACT_TEMP_V1
  GROUP BY
    Time_ID,
    Season_ID,
    Customer_Type_ID,
    Company_Branch_Name,
    Category_ID;
```

```
-- STAR SCHEMA VERSION 2
```

```
-- Newly created tables during data cleaning phase:  
-- CUSTOMER, HIRE, EQUIPMENT, SALES, CATEGORY
```

```
-- DROP TABLE SEGMENT
```

```
drop table sales_dim;  
drop table customer_dim;  
drop table staff_dim;  
drop table equipment_dim;  
drop table hire_dim;  
drop table MON_EQUIP_SALES_FACT_TEMP_V2  
drop table MON_EQUIP_SALES_FACT_V2  
drop table MON_EQUIP_HIRE_FACT_TEMP_V2  
drop table MON_EQUIP_HIRE_FACT_V2
```

```
-- SALES_DIM
```

```
CREATE TABLE SALES_DIM AS  
SELECT  
    SALES_ID,  
    SALES_DATE,  
    QUANTITY,  
    UNIT_SALES_PRICE,  
    TOTAL_SALES_PRICE  
FROM SALES  
ORDER BY SALES_ID;
```

```
-- CUSTOMER_DIM
```

```
CREATE TABLE CUSTOMER_DIM AS
  SELECT
    C.CUSTOMER_ID,
    C.NAME,
    C.GENDER,
    C.PHONE,
    C.EMAIL,
    CT.DESCRPTION AS CUSTOMER_TYPE_DESCRIPTION
  FROM CUSTOMER C, MONEQUIP.CUSTOMER_TYPE CT
  WHERE C.CUSTOMER_TYPE_ID = CT.CUSTOMER_TYPE_ID
  ORDER BY CUSTOMER_ID;
```

```
-- STAFF_DIM
```

```
CREATE TABLE STAFF_DIM AS
  SELECT
    STAFF_ID,
    FIRST_NAME,
    LAST_NAME,
    GENDER,
    PHONE,
    EMAIL,
    COMPANY_BRANCH
  FROM MONEQUIP.STAFF
  ORDER BY STAFF_ID;
```

```
-- EQUIPMENT_DIM
```

```
CREATE TABLE EQUIPMENT_DIM AS
  SELECT
    E.EQUIPMENT_ID,
    E.EQUIPMENT_NAME,
    E.EQUIPMENT_PRICE,
    E.MANUFACTURE_YEAR,
    E.MANUFACTURER,
    C.CATEGORY_DESCRIPTION
  FROM EQUIPMENT E, CATEGORY C
  WHERE E.CATEGORY_ID = C.CATEGORY_ID
  ORDER BY EQUIPMENT_ID;
```

```
-- HIRE_DIM
```

```
CREATE TABLE HIRE_DIM AS
  SELECT
    HIRE_ID,
    START_DATE,
    END_DATE,
    QUANTITY,
    UNIT_HIRE_PRICE,
    TOTAL_HIRE_PRICE
  FROM HIRE
  ORDER BY HIRE_ID;
```

```
-- MON_EQUIP_SALES Temporary Fact Table V2
```

```
CREATE TABLE MON_EQUIP_SALES_FACT_TEMP_V2 AS
```

```
SELECT
```

```
    S.SALES_ID,  
    C.CUSTOMER_ID,  
    F.STAFF_ID,  
    E.EQUIPMENT_ID,  
    S.TOTAL_SALES_PRICE,  
    S.QUANTITY
```

```
FROM
```

```
    SALES S,  
    CUSTOMER C,  
    MONEQUIP.STAFF F,  
    EQUIPMENT E
```

```
WHERE
```

```
    S.CUSTOMER_ID = C.CUSTOMER_ID AND  
    S.STAFF_ID = F.STAFF_ID AND  
    S.EQUIPMENT_ID = E.EQUIPMENT_ID;
```

```
-- MON_EQUIP_SALES Fact Table V2
```

```
CREATE TABLE MON_EQUIP_SALES_FACT_V2 AS
```

```
SELECT
```

```
    SALES_ID,  
    CUSTOMER_ID,  
    STAFF_ID,  
    EQUIPMENT_ID,  
    SUM(TOTAL_SALES_PRICE) AS Total_Sales_Revenue,  
    SUM(QUANTITY) AS Total_Equipment_Sold
```

```
FROM
```

```
    MON_EQUIP_SALES_FACT_TEMP_V2
```

```
GROUP BY
```

```
    SALES_ID,
```

```
    STAFF_ID,  
    EQUIPMENT_ID;
```

```
-- MON_EQUIP_HIRE Temporary Fact Table V2
```

```
CREATE TABLE MON_EQUIP_HIRE_FACT_TEMP_V2 AS
```

```
  SELECT
```

```
    H.HIRE_ID,  
    C.CUSTOMER_ID,  
    F.STAFF_ID,  
    E.EQUIPMENT_ID,  
    H.TOTAL_HIRE_PRICE,  
    H.QUANTITY
```

```
  FROM
```

```
    HIRE H,  
    CUSTOMER C,  
    MONEQUIP.STAFF F,  
    EQUIPMENT E
```

```
  WHERE
```

```
    H.CUSTOMER_ID = C.CUSTOMER_ID AND  
    H.STAFF_ID = F.STAFF_ID AND  
    H.EQUIPMENT_ID = E.EQUIPMENT_ID;
```

```
-- MON_EQUIP_HIRE Fact Table V2
```

```
CREATE TABLE MON_EQUIP_HIRE_FACT_V2 AS
```

```
  SELECT
```

```
    HIRE_ID,  
    CUSTOMER_ID,  
    STAFF_ID,  
    EQUIPMENT_ID,
```

```
        SUM(QUANTITY) AS Total_Equipment_Hired
FROM
    MON_EQUIP_HIRE_FACT_TEMP_V2
GROUP BY
    HIRE_ID,
    CUSTOMER_ID,
    STAFF_ID,
    EQUIPMENT_ID;
```