



KFORCE DATABASE SYSTEM USER MANUAL

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INTRODUCTION



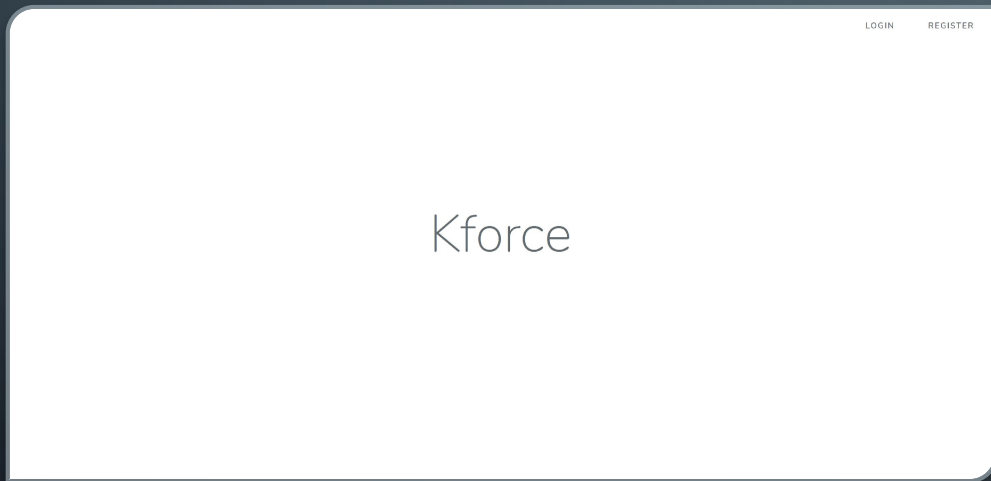
The Kforce Database System satisfies the needs of the Turner Construction Company. The result is a relational database in 3rd normal form. MySQL is used as the database management software, housed on a Kforce server in New York City and backed up to Google cloud servers. The backend is constructed with PHP, linking the database to the web based front end.

All 12 queries specified in the Project outline run successfully. Test data has been migrated into the database to allow for QA and performance testing. Tables consist of the following volume:

- orders - 60,000 rows
- contracts - 50 rows
- items - 2,000 rows
- project - 600 rows
- suppliers - 17 rows
- to_supply - 4800 rows
- made_of - 450,300 rows

The Kforce Database System is designed to be fully utilized without the need to input SQL statements. The user interface allows users to use the database, with minimal training. Users can create an user account via the homepage, and start creating an pulling data immediately.

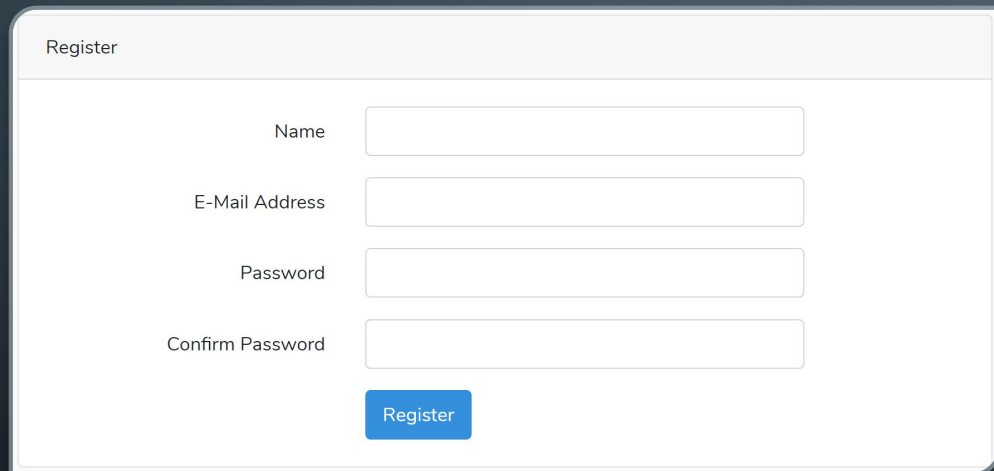
HOMEPAGE



At the top right of the homepage:

- CLICK 'LOGIN' to log into the database.
- CLICK 'REGISTER' to create a new user.

REGISTER



Register

Name

E-Mail Address

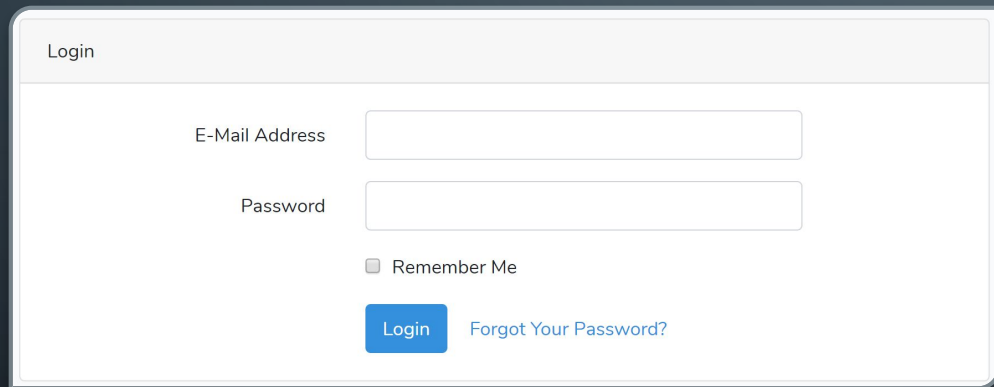
Password

Confirm Password

To register a new user:

- ENTER name in 'Name' field.
- ENTER unique email address.
- ENTER and CONFIRM password.
- CLICK 'Register'.

LOGIN



Login

E-Mail Address

Password

☐ Remember Me

[Login](#) [Forgot Your Password?](#)

To log-in:

- ENTER email address.
- ENTER password.
- CLICK 'Login'.

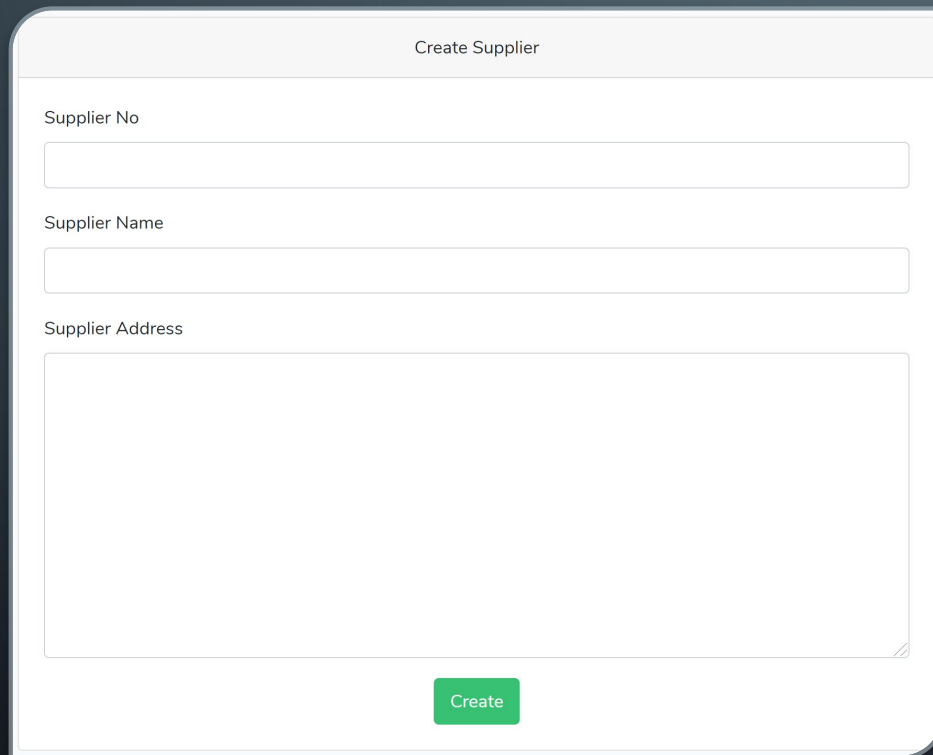
DASHBOARD

The Kforce dashboard provides a clean and easy to use interface.

- View All
 - View all objects of selected table.
- Create New
 - Create new object for selected table.
- Order Totals by Contract and Item
 - View summary of purchases of all items by contract.

| Dashboard | | |
|---|--------------------------|----------------------------|
| Suppliers | View All | Create New |
| Items | View All | Create New |
| Projects | View All | Create New |
| Contracts | View All | Create New |
| Orders | View All | Create New |
| Reports | | |
| Order Totals by Contract and Item | | |

CREATE SUPPLIER



The screenshot shows a web form titled "Create Supplier". It contains three input fields: "Supplier No" (a single-line text box), "Supplier Name" (a single-line text box), and "Supplier Address" (a multi-line text area). A green "Create" button is located at the bottom right of the form.

Create Supplier

Supplier No

Supplier Name

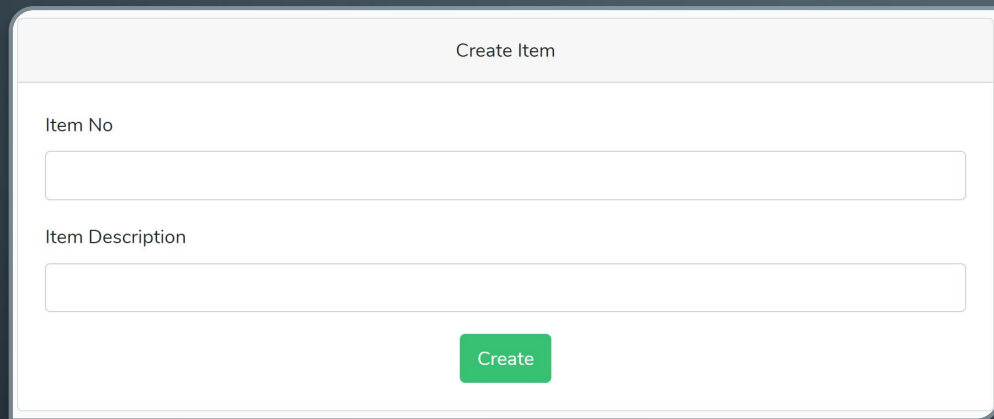
Supplier Address

Create

To create a supplier:

- ENTER new supplier number into 'Supplier No' field.
- ENTER supplier name into 'Supplier Name' field.
- ENTER supplier address into 'Supplier Address' field.
- CLICK 'Create'.

CREATE ITEM

A screenshot of a web form titled 'Create Item'. The form has a light gray header with the title. Below the header, there are two input fields: 'Item No' and 'Item Description'. The 'Item No' field is a single-line text input. The 'Item Description' field is a multi-line text input. At the bottom right of the form is a green button labeled 'Create'.

Create Item

Item No

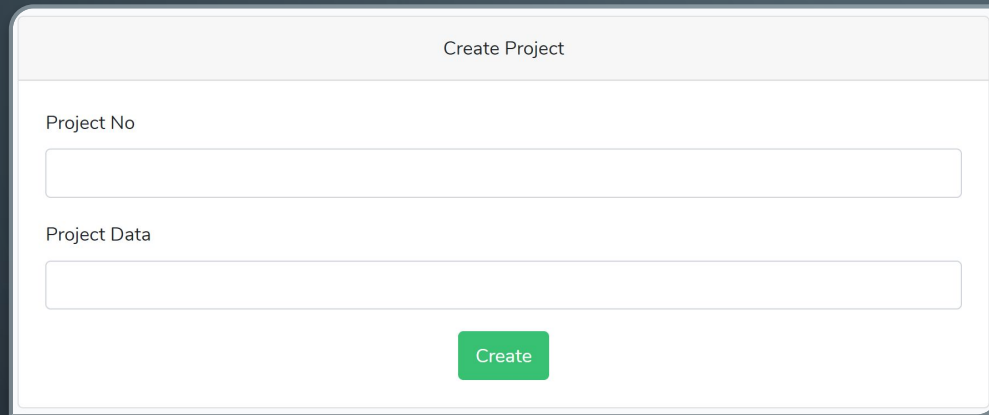
Item Description

Create

To create an item:

- ENTER new item number into 'Item No' field.
- ENTER item description into 'Item Description' field.
- CLICK 'Create'.

CREATE PROJECT

A screenshot of a web form titled "Create Project". The form has a light gray header with the title. Below the header, there are two input fields. The first is labeled "Project No" and the second is labeled "Project Data". Both fields are empty. At the bottom right of the form is a green button labeled "Create".

Create Project

Project No

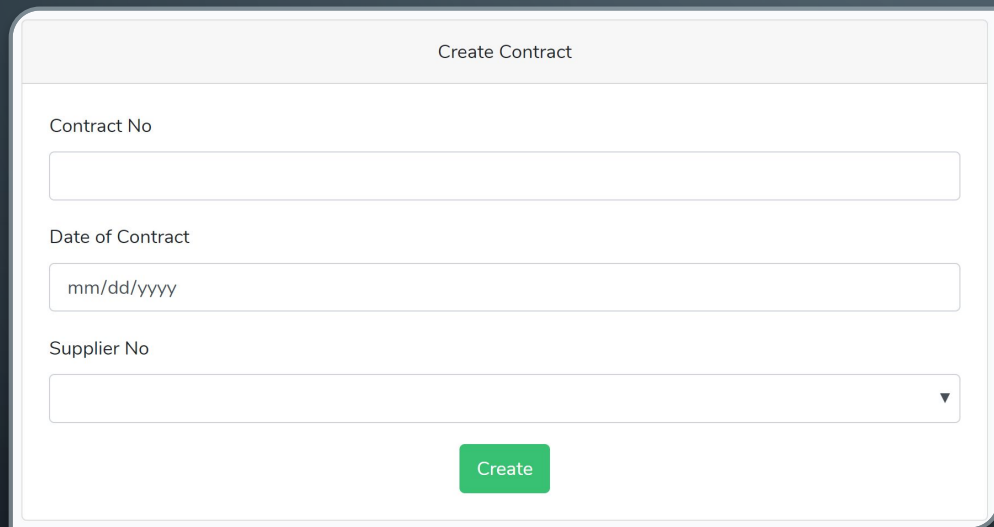
Project Data

Create

To create a project:

- ENTER new project number into 'Project No' field.
- ENTER project data into 'Project Data' field.
- CLICK 'Create'.

CREATE CONTRACT

A screenshot of a 'Create Contract' form. The form has a title bar 'Create Contract'. It contains three input fields: 'Contract No' (a text box), 'Date of Contract' (a text box with a date placeholder 'mm/dd/yyyy'), and 'Supplier No' (a dropdown menu). A green 'Create' button is located at the bottom right of the form.

Create Contract

Contract No

Date of Contract

mm/dd/yyyy

Supplier No

Create

To create a contract:

- ENTER new contract number into 'Contract No' field.
- ENTER date of contract into 'Date of Contract' field.
- ENTER supplier number into 'Supplier No' field.
- CLICK 'Create'.

CREATE CONTRACT (ADD ITEM)

Add Items

Contract created.

Contract No:

Date of Contract:

Supplier No:

Supplier Name:

Supplier Address:

Item

Contract Price

Contract Amount

Add

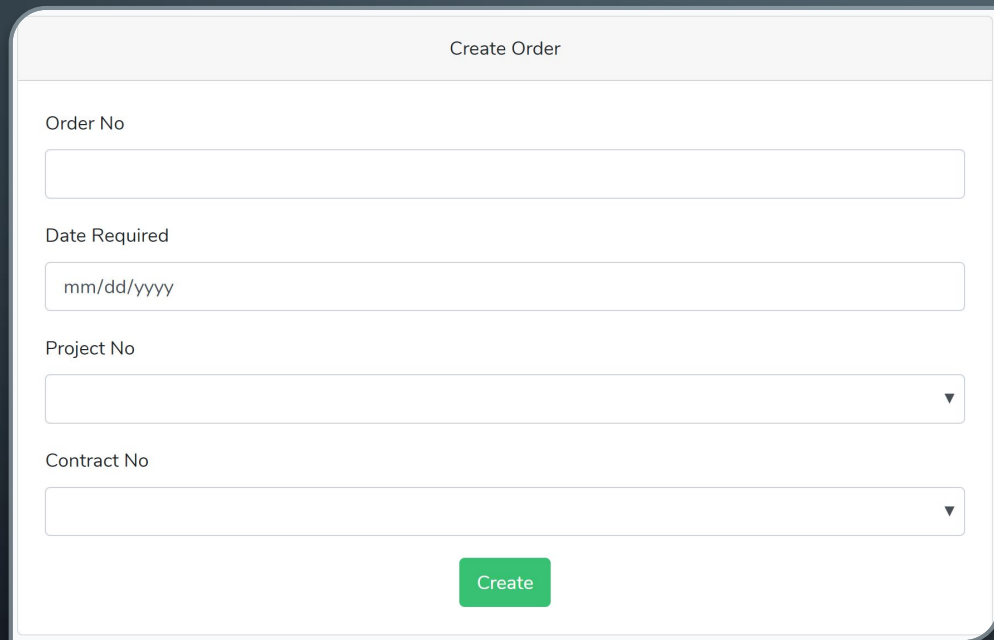
Items

No items for this contract.

To add items to the contract:

- SELECT an item from the Item drop-down list.
- ENTER contract price.
- ENTER contract amount.
- CLICK 'Add'.
- Repeat for each additional item.

CREATE ORDER



The screenshot shows a 'Create Order' form with the following fields and controls:

- Order No**: A text input field.
- Date Required**: A text input field with a placeholder 'mm/dd/yyyy'.
- Project No**: A drop-down menu.
- Contract No**: A drop-down menu.
- Create**: A green button at the bottom right of the form.

To create an order:

- ENTER new order number into 'Order No' field.
- ENTER date required into 'Date Required' field.
- From the 'Project No' drop-down list, SELECT an existing project number.
- From the 'Contract No' drop-down list, SELECT an existing contract number.
- CLICK 'Create'.

CREATE ORDER (ADD ITEM)

Add Items

Order created.

Order No:

Contract No:

Project No:

Date Required:

Date Completed:

Item

Order Quantity

Add

Items

No items for this order.

To add items to the order:

- SELECT an item from the Item drop-down list.
- ENTER order quantity.
- CLICK 'Add'.
- Repeat for each additional items.

ER DIAGRAM

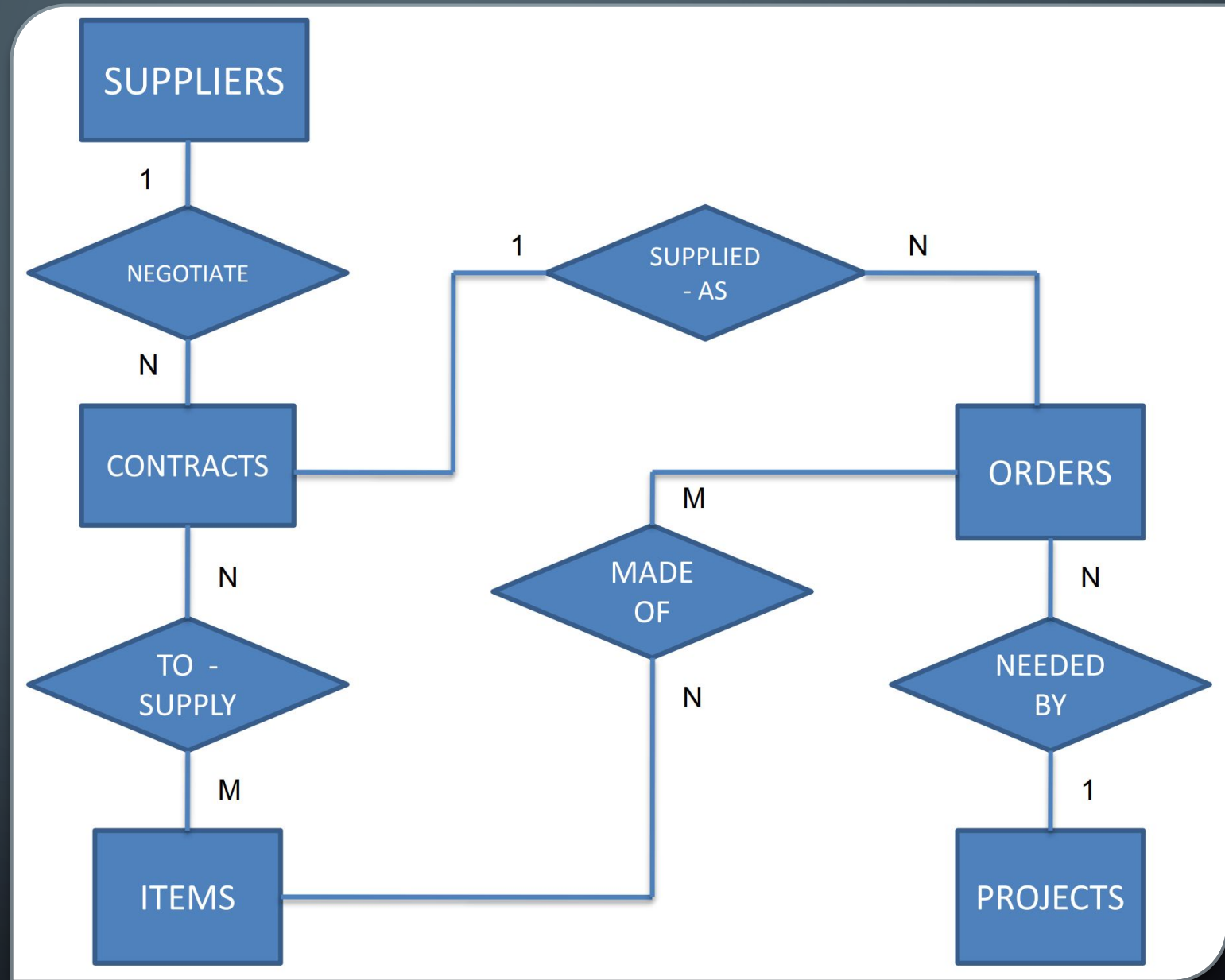
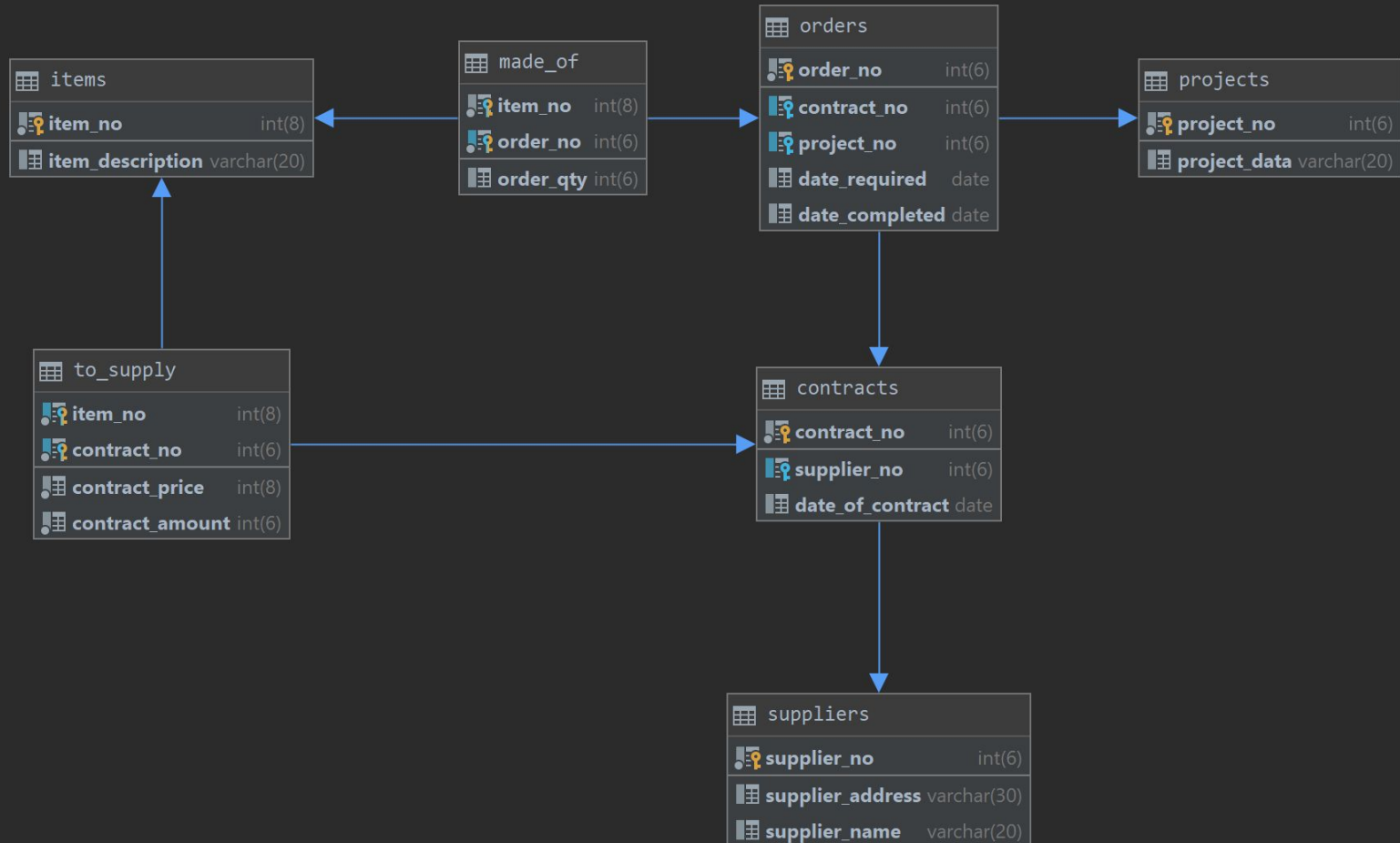


TABLE SCHEMA



SQL STATEMENTS

1. Enter a new SUPPLIER-NO with SUPPLIER-ADDRESS and SUPPLIER-NAME. (infrequent)

```
INSERT INTO suppliers(supplier_no, supplier_address, supplier_name)
VALUES (101, '123 Apple Lane', 'Orange Computers');
```

2. Enter a new ITEM-NO with ITEM-DESCRIPTION. (infrequent)

```
INSERT INTO items (item_no, item_description)
VALUES (101, 'iPhone Case');
```

SQL STATEMENTS

3. Enter a new PROJECT-NO with PROJECT-DATA. (infrequent)

```
INSERT INTO projects (project_no, project_data)
VALUES (333, 'Raspberry Pi Phone');
```

SQL STATEMENTS

4. Enter a new CONTRACT-NO with DATE-OF-CONTRACT together with the ITEM-NO, CONTRACT-PRICE, and CONTRACT-AMOUNT for all items in the contract. (infrequent)

Two Statements:

```
INSERT INTO contracts(contract_no, date_of_contract, supplier_no)
VALUES (222, '2019-08-04', 15);
```

```
INSERT INTO to_supply(contract_no, item_no, contract_amount, contract_price)
VALUES (222, 101, 500, 200);
```

SQL STATEMENTS

5. Enter a new order (100/day)

Two Statements:

```
INSERT INTO orders (order_no, contract_no, project_no, date_required)
VALUES (999, 222, 333, '2019-09-04');
```

```
INSERT INTO made_of (item_no, order_no, order_qty)
VALUES (101, 999, 10);
```

SQL STATEMENTS

6. Find the items in an order (30/day)

```
SELECT item_no, item_description FROM items
WHERE item_no IN (
    SELECT item_no
    FROM made_of
    WHERE order_no = 1);
```

SQL STATEMENTS

7. Find the price of an item in an order. The price of the item is the price negotiated for the order's contract (5/day)

```
SELECT contract_price
FROM to_supply
WHERE
    item_no = 1010
    AND contract_no IN (
        SELECT contract_no
        FROM orders
        WHERE order_no = 1847);
```

SQL STATEMENTS

8. Find the orders in which a particular item appears (20/day)

```
SELECT order_no FROM made_of  
WHERE item_no = 1010;
```

9. Find the price for a given item in a contract (150/day)

```
SELECT contract_price FROM to_supply  
WHERE  
    item_no = 1010  
    AND contract_no = 31;
```

SQL STATEMENTS

10. Find a particular contract together with its supplier (20/day)

```
SELECT *  
FROM contracts  
LEFT JOIN suppliers ON contracts.supplier_no=suppliers.supplier_no  
WHERE contracts.contract_no = 31;
```


SQL STATEMENTS

11. Find the quantity of a given item still available under a given contract (100/day)

```
SELECT to_supply.*, IFNULL(total_ordered, 0) AS total_ordered, contract_amount -  
IFNULL(total_ordered,0) AS units_available
```

```
FROM to_supply
```

```
LEFT JOIN (SELECT SUM(order_qty) AS total_ordered,item_no,contract_no
```

```
FROM made_of,orders WHERE made_of.order_no = orders.order_no
```

```
GROUP BY item_no,contract_no ) j
```

```
ON j.item_no = to_supply.item_no
```

```
AND j.contract_no = to_supply.contract_no
```

```
WHERE to_supply.contract_no = 222 AND to_supply.item_no = 3001
```

SQL STATEMENTS

Batch Requirement: Summarize the purchases by CONTRACT-NO of all items ordered in ITEM-NO order.

Produce the summary with ITEM-NO listed within CONTRACT-NO (weekly)

```
SELECT contracts.contract_no,item_no,SUM(order_qty) AS sales
      FROM contracts, orders, made_of
      WHERE contracts.contract_no = orders.contract_no
      AND orders.order_no = made_of.order_no
      GROUP BY contract_no, item_no
      ORDER BY contract_no, item_no
```

SOURCES

Github

<https://github.com/kevinldchen/kforce>

Website

<http://3.15.177.232/>

Server Access

209.122.113.152

User: frank

Pass: flee