# Lab 4

# Introduction to MS Access

## Objective:

This lab will introduce Microsoft Access database management system (DBMS) that combines the relational Microsoft Jet Database Engine with a graphical user interface and software-development tools.

## Activity Outcomes:

The activities provide hands - on practice on

- How to create database
- How to create ghaphical view

## Instructor Note:

As pre-lab activity, read “Microsoft” official site for detail guidelines.

## 1) Useful Concepts

Microsoft Access is a Database Management System (DBMS) from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software-development tools. It is a member of the Microsoft Office suite of applications, included in the professional and higher editions.

Microsoft Access is just one part of Microsoft’s overall data management product strategy.It stores data in its own format based on the Access Jet Database Engine.Like relational databases, Microsoft Access also allows you to link related information easily. For example, customer and order data. However, Access 2013 also complements other database products because it has several powerful connectivity features.

It can also import or link directly to data stored in other applications and databases. As its name implies, Access can work directly with data from other sources, including many popular PC database programs, with many SQL (Structured Query Language) databases on the desktop, on servers, on minicomputers, or on mainframes, and with data stored on Internet or intranet web servers.

Access can also understand and use a wide variety of other data formats, including many other database file structures.

You can export data to and import data from word processing files, spreadsheets, or database files directly.

Access can work with most popular databases that support the Open Database Connectivity (ODBC) standard, including SQL Server, Oracle, and DB2. Software developers can use Microsoft Access to develop application software.



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## 2) Solved Lab Activites

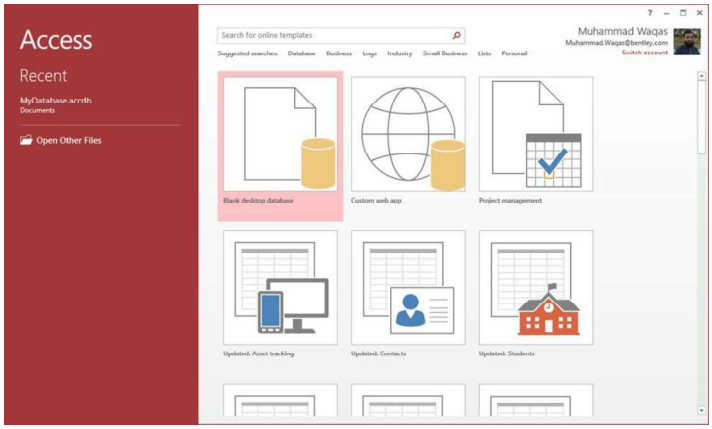
| *Sr.No* | *Allocated Time* | *Level of Complexity* | *CLO Mapping* |
|---|---|---|---|
| *1* | *20* | *Low* | *CLO-6* |
| *2* | *40* | *Medium* | *CLO-6* |

## Activity 1:

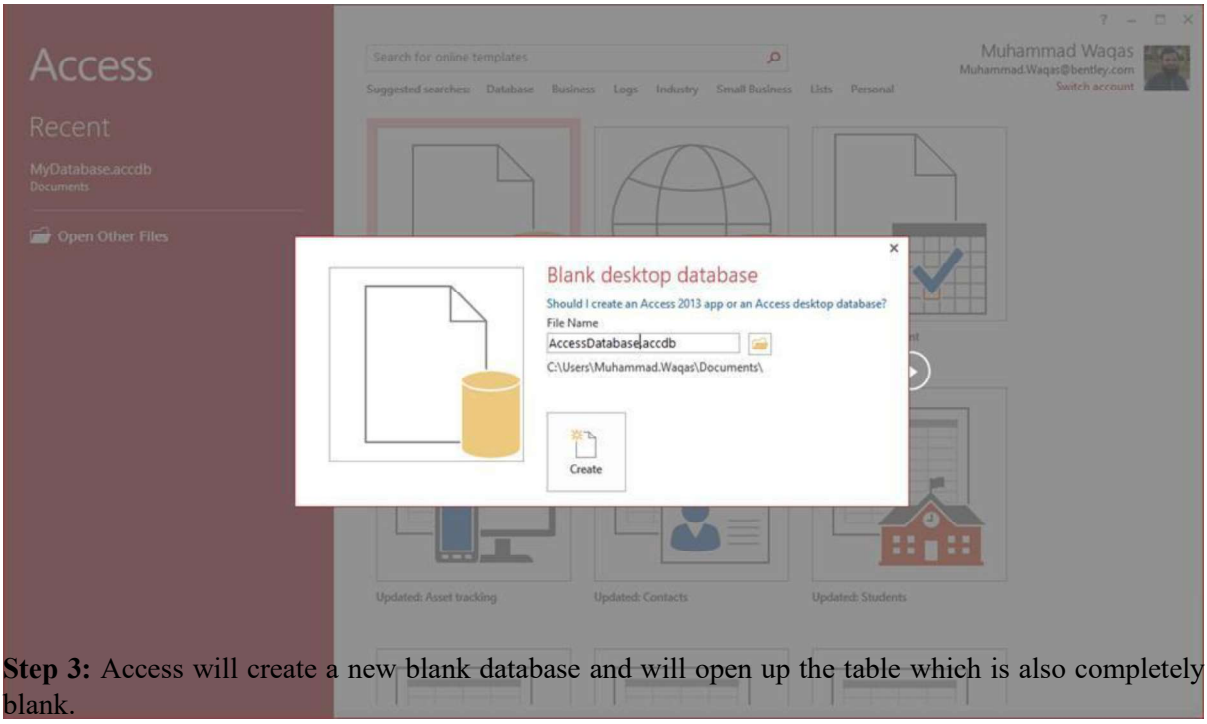
***Create a Blank Database.***

**Solution:**

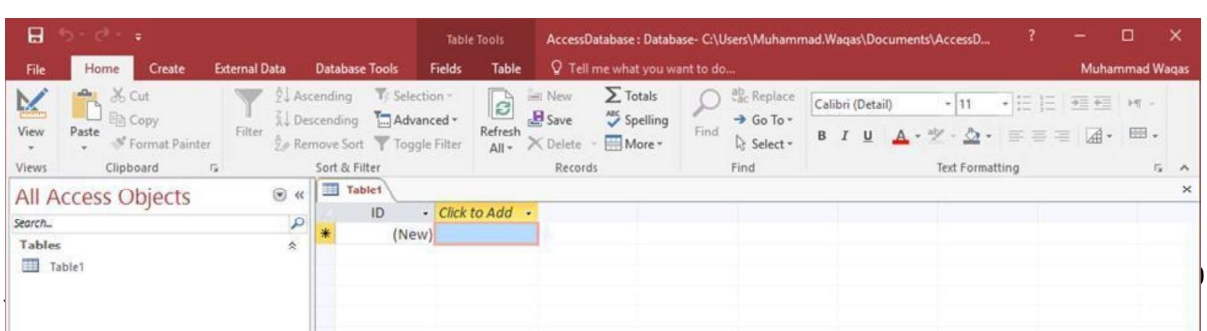
**Step 1:** Let us now start by opening MS Access.




**Step 2:** Select Blank desktop database. Enter the name and click the Create button.




**Step 3:** Access will create a new blank database and will open up the table which is also completely blank.



**Activity 2:**

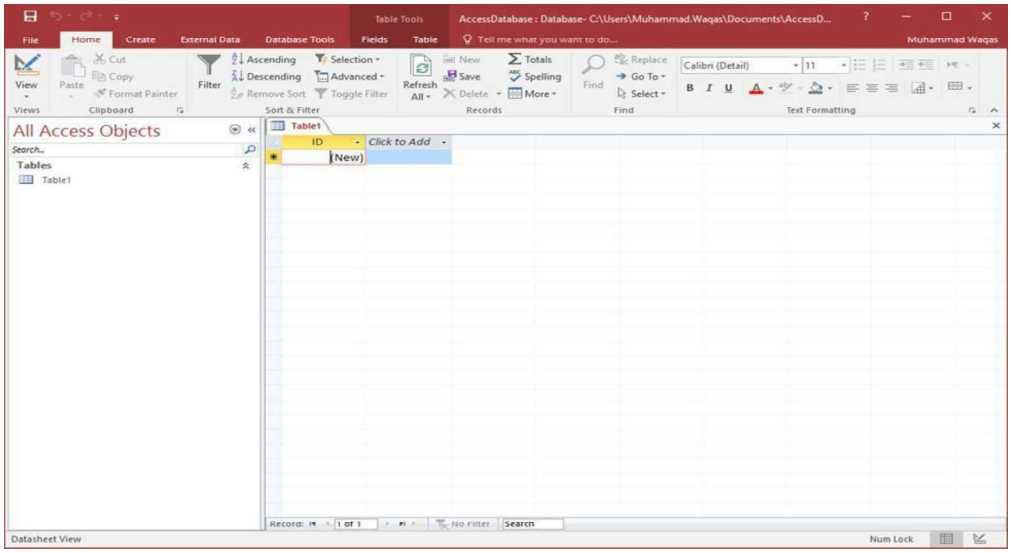
***Creating Tables..***

**Solution:**
When you create a database, you store your data in tables. Because other database objects depend so heavily on tables, you should always start your design of a database by creating all of its tables and then creating any other object. Before you create tables, carefully consider your requirements and determine all the tables that you need.

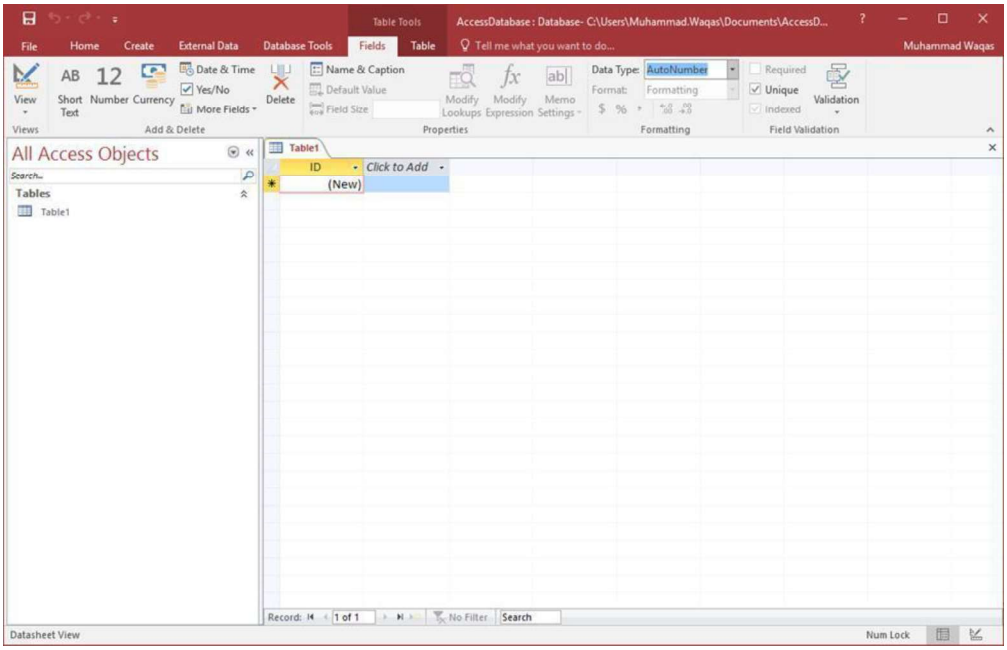
Let us try and create the first table that will store the basic contact information concerning the employees as shown in the following table:

| Field Name | Data Type |
|---|---|
| **EmployeeID** | AutoNumber |
| **FirstName** | Short Text |
| **LastName** | Short Text |
| **Address1** | Short Text |
| **Address2** | Short Text |
| **City** | Short Text |
| **State** | Short Text |
| **Zip** | Short Text |
| **Phone** | Short Text |
| **PhoneType** | Short Text |

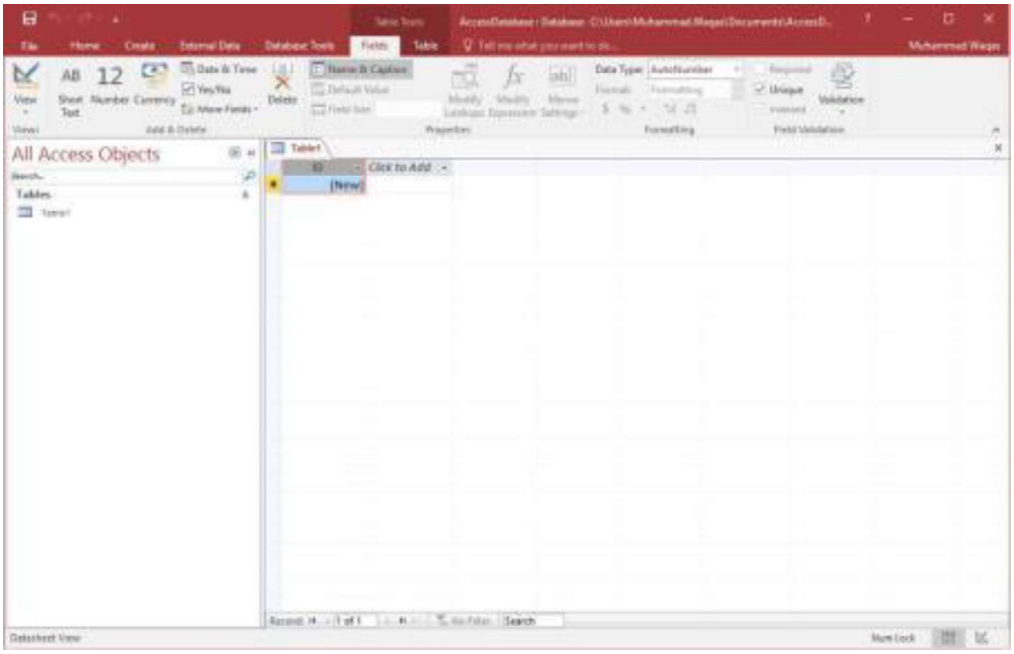
Let us now have short text as the data type for all these fields and open a blank database in Access.



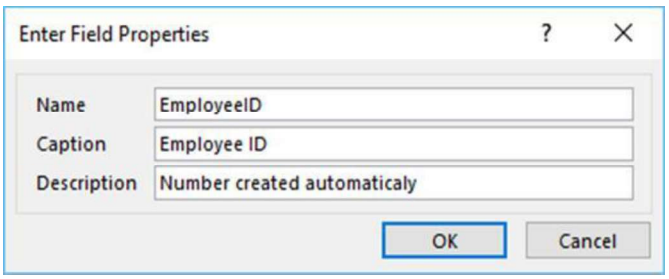
This is where we left things off. We created the database and then Access automatically opened up this table-one-datasheet view for a table.




Let us now go to the Field tab and you will see that it is also automatically created. The ID which is an AutoNumber field acts as our unique identifier and is the primary key for this table. The ID field has already been created and we now want to rename it to suit our conditions. This is an Employee table and this will be the unique identifier for our employees.



Click on the **Name & Caption** option in the Ribbon and you will see the following dialog box.



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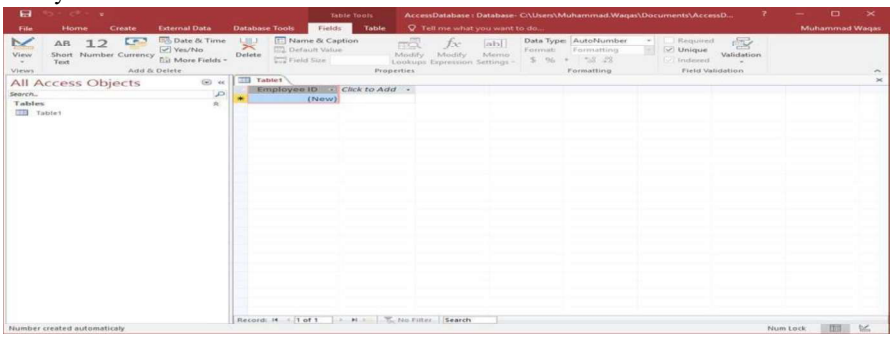
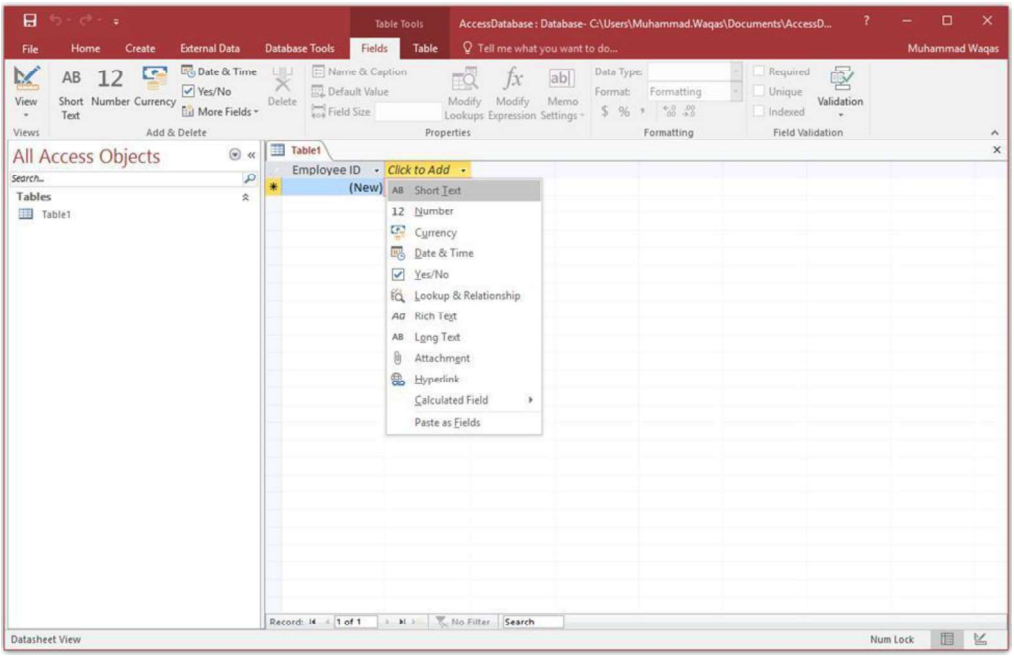
Change the name of this field to **EmployeeID** to make it more specific to this table. Enter the other optional information if you want and click Ok.

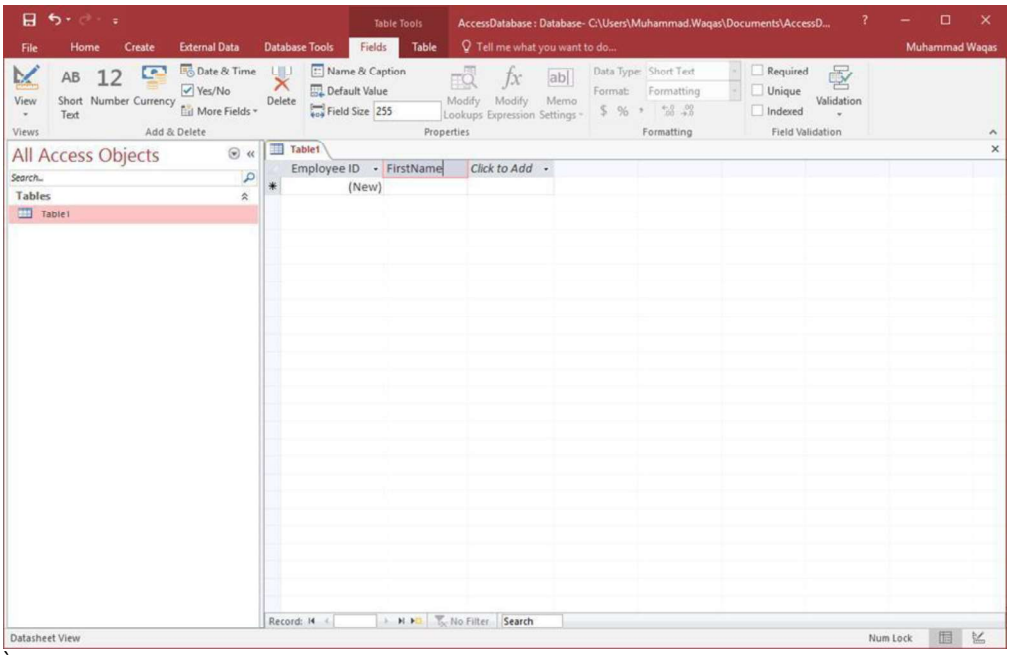


We now have our employee ID field with the caption Employee ID. This is automatically set to auto number so we don't really need to change the data type.

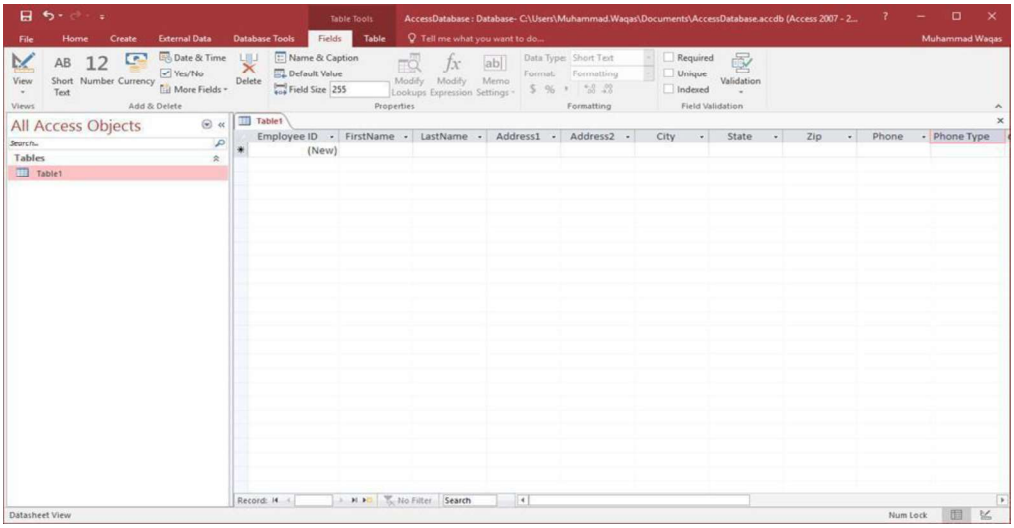
Let us now add some more fields by clicking on **click to add**.




Choose **Short Text** as the field. When you choose short text, Access will then highlight that field name automatically and all you have to do is type the field name.

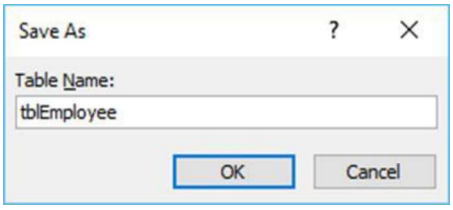


Type **FirstName** as the field name. Similarly, add all the required fields as shown in the following screenshot.

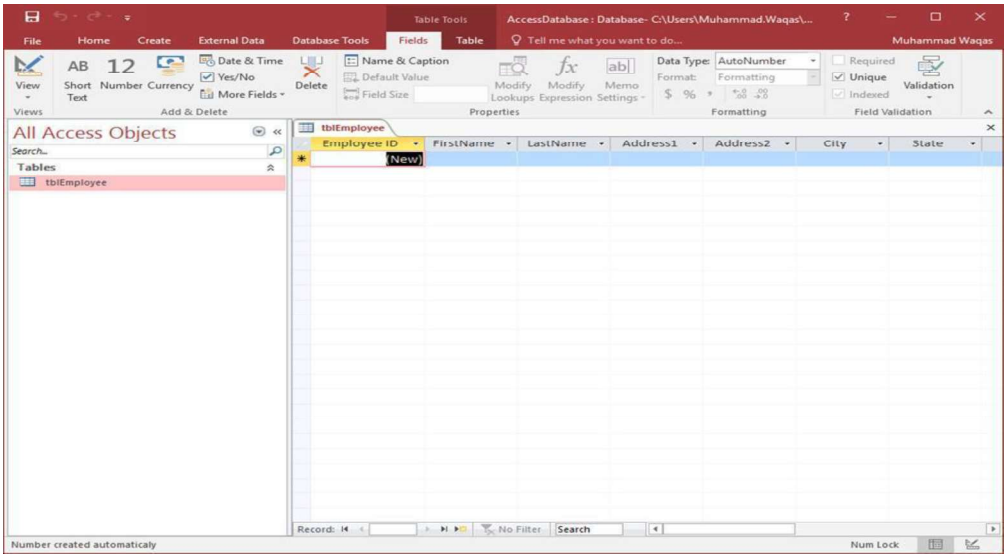



Once all the fields are added, click the Save icon.

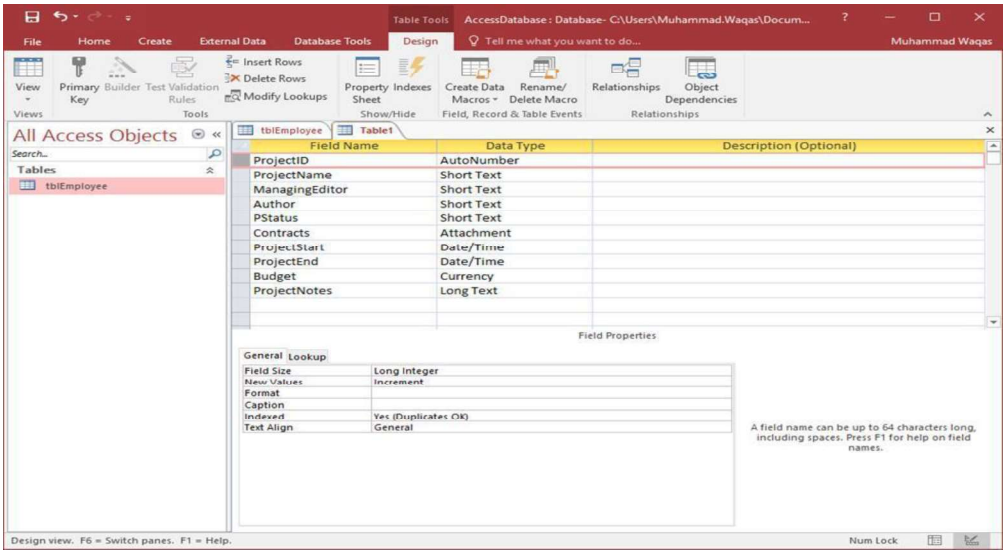
You will now see the **Save As** dialog box, where you can enter a table name for the table.



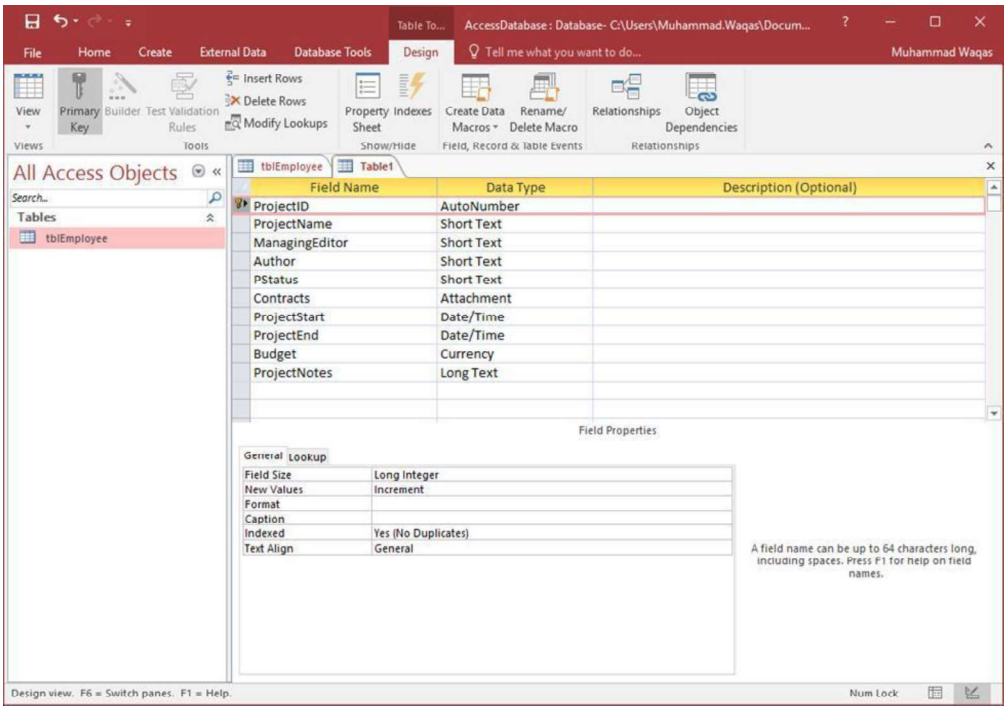

Enter the name of your table in the Table Name field. Here the **tbl** prefix stands for table.
Let us click Ok and you will see your table in the navigation pane.

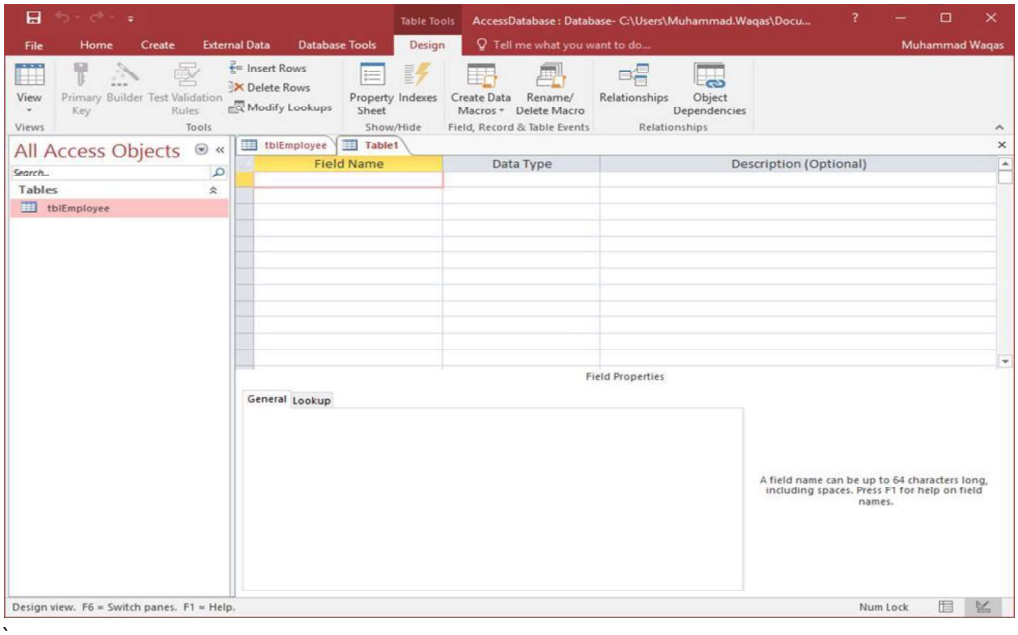



In the tables group, click on Table and you can see this looks completely different from the Datasheet View. In this view, you can see the **field name** and **data type** side by side.



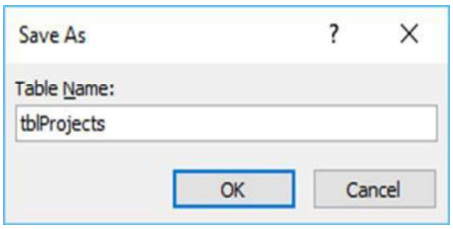

We now need to make **ProjectID** a primary key for this table, so let us select **ProjectID** and click on **Primary Key** option in the ribbon.



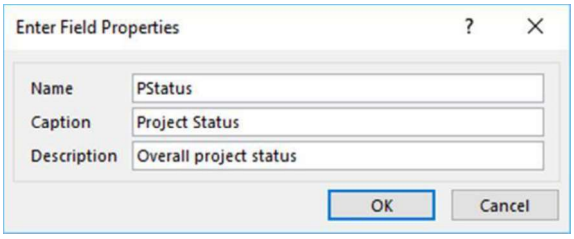



You can now see a little key icon that will show up next to that field. This shows that the field is part of the table's primary key.

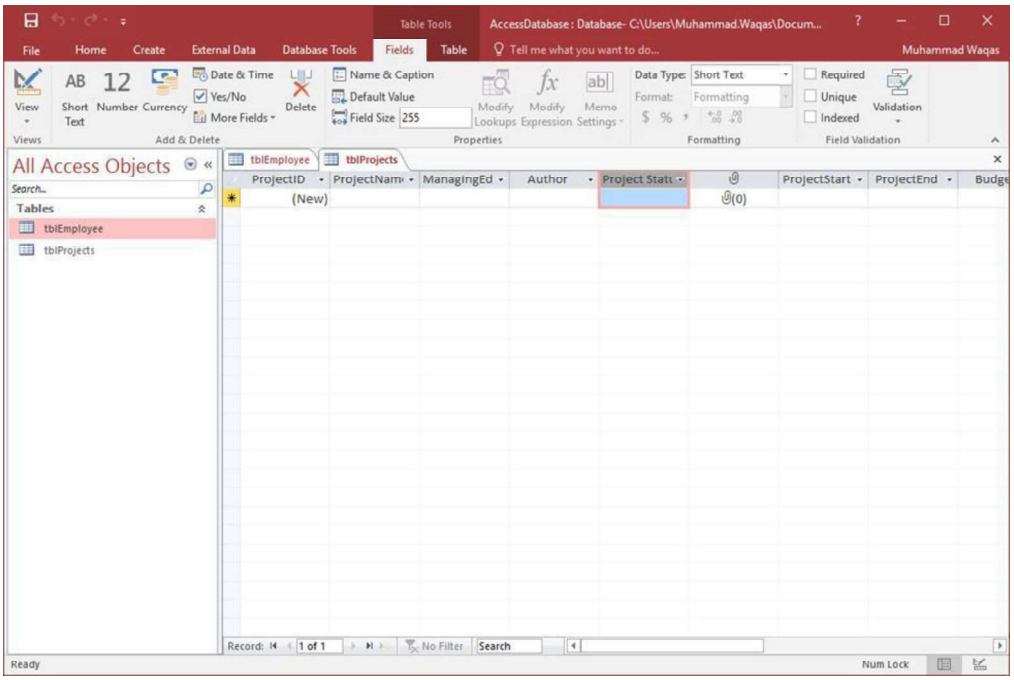
Let us save this table and give this table a name.




Click Ok and you can now see what this table looks like in the Datasheet View. If you ever want to make changes to this table or any specific field, you don't always have to go back to the Design View to change it. You can also change it from the Datasheet View. Let us update the PStatus field as shown in the following screenshot.




Click Ok and you will see the changes.



## 3) Graded Lab Task

***Note: The instructor can design graded lab activities according to the level of difficulty and complexity of the solved lab activities. The lab tasks assigned by the instructor should be evaluated in the same lab.***

### Lab Task 1

*Create database of your lab project. Create tables for each activity. Apply the following queries on the tables:*

- *Insert data in the tables.*
- *Retriew data from the tables.*
- *Update the data.*
- *Create forms for all the activites.*



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# Lab 05

# Intoduction to HTML

## Objective:

The objective of this lab will be to learn about HTML and create web pages.

## Activity Outcomes:

The activities provide hands - on practice with the following topics

- Basics of HTML
- Create own web pages.

## Instructor Note:

As a pre-lab activity, read concepts of Html (Online).

## 1) Useful Concepts

HTML, or HyperText Markup Language, allows web users to create and structure sections, paragraphs, and links using elements, tags, and attributes. However, it's worth noting that HTML is not considered a programming language as it can't create dynamic functionality.

HTML has a lot of use cases, namely:

- **Web development**. Developers use HTML code to design how a browser displays web page elements, such as text, hyperlinks, and media files.
- **Internet navigation**. Users can easily navigate and insert links between related pages and websites as HTML is heavily used to embed hyperlinks.
- **Web documentation**. HTML makes it possible to organize and format documents, similarly to Microsoft Word.

## 2) Solved Lab Activities

| *Sr.No* | *Allocated Time* | *Level of Complexity* | *CLO Mapping* |
|---|---|---|---|
| *1* | *1hr* | *Medium* | *CLO-6* |

## Activity 1:

***Home page Development static pages (using Only HTML) of an online Book store. The website should consist the following pages.***

- ***Registration and user Login***
- ***User Profile Page***
- ***Books catalog***
- ***Shopping Cart***
- ***Payment By credit card***
- ***Order Conformation***

## Solution:

**Source Code for home page**

```
<html>
<head>
```



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