# LAB – 2: TO LEARN STORED PROCEDURES IN SQL

**This Document contains Screenshots of the output by executing queries & Explanation(if required). Queries are attached in another file.**

**1. Stored Procedures**

**i) Creating or Altering Stored Procedure '`Application.uspViewEmployees`'**

Commands completed successfully.

Completion time: 2021-07-13T10:32:35.4065875+05:30

**ii) Executing the above stored procedure**

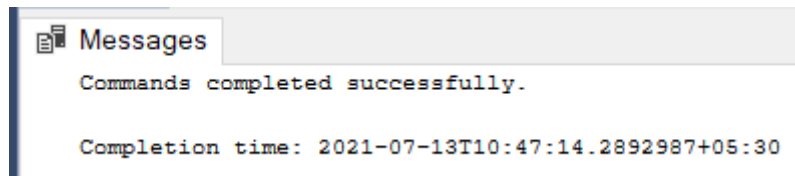| | PersonID | FullName | IsEmployee | IsSalesperson |
|---|---|---|---|---|
| 1 | 2 | Kayla Woodcock | 1 | 1 |
| 2 | 3 | Hudson Onslow | 1 | 1 |
| 3 | 4 | Isabella Rupp | 1 | 0 |
| 4 | 5 | Eva Muirden | 1 | 0 |
| 5 | 6 | Sophia Hinton | 1 | 1 |
| 6 | 7 | Amy Trefl | 1 | 1 |
| 7 | 8 | Anthony Grosse | 1 | 1 |
| 8 | 9 | Alica Fatnowna | 1 | 0 |
| 9 | 10 | Stella Rosenhain | 1 | 0 |
| 10 | 11 | Ethan Onslow | 1 | 0 |
| 11 | 12 | Henry Forlonge | 1 | 0 |
| 12 | 13 | Hudson Hollinworth | 1 | 1 |
| 13 | 14 | Lily Code | 1 | 1 |
| 14 | 15 | Taj Shand | 1 | 1 |
| 15 | 16 | Archer Lamble | 1 | 1 |
| 16 | 17 | Piper Koch | 1 | 0 |
| 17 | 18 | Katie Darwin | 1 | 0 |

**iii) Altering Stored Procedure to mask column names**

| | ID Number | Name | Status | Position |
|---|---|---|---|---|
| 1 | 2 | Kayla Woodcock | Employee | Salesperson |
| 2 | 3 | Hudson Onslow | Employee | Salesperson |
| 3 | 4 | Isabella Rupp | Employee | Not Salesperson |
| 4 | 5 | Eva Muirden | Employee | Not Salesperson |
| 5 | 6 | Sophia Hinton | Employee | Salesperson |
| 6 | 7 | Amy Trefl | Employee | Salesperson |
| 7 | 8 | Anthony Grosse | Employee | Salesperson |
| 8 | 9 | Alica Fatnowna | Employee | Not Salesperson |
| 9 | 10 | Stella Rosenhain | Employee | Not Salesperson |
| 10 | 11 | Ethan Onslow | Employee | Not Salesperson |
| 11 | 12 | Henry Forlonge | Employee | Not Salesperson |
| 12 | 13 | Hudson Hollinworth | Employee | Salesperson |
| 13 | 14 | Lily Code | Employee | Salesperson |
| 14 | 15 | Taj Shand | Employee | Salesperson |
| 15 | 16 | Archer Lamble | Employee | Salesperson |
| 16 | 17 | Piper Koch | Employee | Not Salesperson |
| 17 | 18 | Katie Darwin | Employee | Not Salesperson |

**Explanation:**

This Stored Procedure is helpful as it masks name of all columns to different name in output which is more comprehensible & user-friendly as compared to original column names. It also changes values 1 and 0 from column 'isSalesperson' to 2 category - 'Salesperson' & 'Not Salesperson'

### iv) Creating stored procedure Application.uspViewData



Messages

Commands completed successfully.

Completion time: 2021-07-13T10:47:14.2892987+05:30

### v) Executing Stored Procedure 'Application.uspViewData '



| | PersonID | FullName | PreferredName | SearchName | IsPermittedToLogon | LogonName | IsExternalLogonProvider | HashedPassword |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | Data Conversion Only | Data Conversion Only | Data Conversion Only Data Conversion Only | 0 | NO LOGON | 0 | NULL |
| 2 | 2 | Kayla Woodcock | Kayla | Kayla Kayla Woodcock | 1 | kaylaw@wideworldimporters.com | 0 | 0x616E9B558976525E7F14D780EBAE80C6858695BD |
| 3 | 3 | Hudson Onslow | Hudson | Hudson Hudson Onslow | 1 | hudsono@wideworldimporters.com | 0 | 0x23668CCC579015EA934736C3D7B87E86360EB5EI |

| | CustomerID | CustomerName | BillToCustomerID | CustomerCategoryID | BuyingGroupID | PrimaryContactPersonID | AlternateContactPersonID | DeliveryMethodID | DeliveryCityID | PostalCityID | CreditLimit | AccountOpenedD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | Tailspin Toys (Head Office) | 1 | 3 | 1 | 1001 | 1002 | 3 | 19586 | 19586 | NULL | 2013-01-01 |
| 2 | 2 | Tailspin Toys (Sylvanite, MT) | 1 | 3 | 1 | 1003 | 1004 | 3 | 33475 | 33475 | NULL | 2013-01-01 |
| 3 | 3 | Tailspin Toys (Peeples Valley, AZ) | 1 | 3 | 1 | 1005 | 1006 | 3 | 26483 | 26483 | NULL | 2013-01-01 |

| | ColorID | ColorName | LastEditedBy | ValidFrom | ValidTo |
|---|---|---|---|---|---|
| 1 | 1 | Azure | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 2 | 2 | Beige | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 3 | 3 | Black | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |

**Explanation:**

Stored Procedures helps in executing multiple queries in a single statement. This saves lot of time. Hence, we can group bunch of queries and name them with functionality they achieve and execute it directly.

## 2. Stored procedure input parameters

### i) Query to view Data from Warehouse.Colors table in desc order by colorID



| | ColorID | ColorName | LastEditedBy | ValidFrom | ValidTo |
|---|---|---|---|---|---|
| 1 | 36 | Yellow | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 2 | 35 | White | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 3 | 34 | Wheat | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 4 | 33 | Teal | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 5 | 32 | Tan | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 6 | 31 | Silver | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 7 | 30 | Salmon | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 8 | 29 | Royal Blue | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 9 | 28 | Red | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 10 | 27 | Purple | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 11 | 26 | Puce | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 12 | 25 | Plum | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 13 | 24 | Orange | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 14 | 23 | Olive | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 15 | 22 | Navy Blue | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 16 | 21 | Mauve | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 17 | 20 | Maroon | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |

### ii) Creating Stored Procedure named 'Warehouse.uspInsertColor' for inserting row

Messages

Commands completed successfully.

Completion time: 2021-07-13T10:53:54.7472108+05:30

**Explanation:**

Here, ColorId for new entry is generated by taking max id from colorid column and adding 1 to it. Hence, this assumes that new and unique color is inserted. Moreover, Color is taken as input from user in stored procedure

### iii) Executing Stored Procedure for inserting new Color named 'Periwinkle Blue'

| | ColorID | ColorName | LastEditedBy | ValidFrom | ValidTo |
|---|---|---|---|---|---|
| 1 | 37 | Periwinkle Blue | 1 | 2021-07-13 05:28:27.6625094 | 9999-12-31 23:59:59.9999999 |

### iv) Query to see the updated Warehouse.Colors table

| | ColorID | ColorName | LastEditedBy | ValidFrom | ValidTo |
|---|---|---|---|---|---|
| 1 | 37 | Periwinkle Blue | 1 | 2021-07-13 05:28:27.6625094 | 9999-12-31 23:59:59.9999999 |
| 2 | 36 | Yellow | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 3 | 35 | White | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 4 | 34 | Wheat | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 5 | 33 | Teal | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 6 | 32 | Tan | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 7 | 31 | Silver | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 8 | 30 | Salmon | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 9 | 29 | Royal Blue | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 10 | 28 | Red | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 11 | 27 | Purple | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 12 | 26 | Puce | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 13 | 25 | Plum | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 14 | 24 | Orange | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 15 | 23 | Olive | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 16 | 22 | Navy Blue | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 17 | 21 | Mauve | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |

Query executed successfully.

As we can see, our row has been added to the table 'Warehouse.Colors'.

### v) Creating Stored Procedure named 'Warehouse.uspRemoveLastColor' for deleting last record from table

Commands completed successfully.

Completion time: 2021-07-13T11:01:57.0344223+05:30

### vi) Executing above Stored Procedure and delete our inserted row

```
(1 row affected)

Completion time: 2021-07-13T11:02:58.7068806+05:30
```

**vii) Query to see the updated Warehouse.Colors table again**

| | ColorID | ColorName | LastEditedBy | ValidFrom | ValidTo |
|---|---|---|---|---|---|
| 1 | 36 | Yellow | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 2 | 35 | White | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 3 | 34 | Wheat | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 4 | 33 | Teal | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 5 | 32 | Tan | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 6 | 31 | Silver | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 7 | 30 | Salmon | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 8 | 29 | Royal Blue | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 9 | 28 | Red | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 10 | 27 | Purple | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 11 | 26 | Puce | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 12 | 25 | Plum | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 13 | 24 | Orange | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 14 | 23 | Olive | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 15 | 22 | Navy Blue | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 16 | 21 | Mauve | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |
| 17 | 20 | Maroon | 1 | 2013-01-01 00:00:00.0000000 | 9999-12-31 23:59:59.9999999 |

As we can see, our row has been deleted from the table 'Warehouse.Colors'.

**3. Stored procedures output parameters**

**i) Creating Stored Procedure 'Application.uspSimpleProcedure' to pass message to calling application**

```
Commands completed successfully.

Completion time: 2021-07-13T11:07:03.6381746+05:30
```

**i) Executing above Stored Procedure and printing the message returned by it.**

```
Messages
This message was returned by the stored procedure on 7/13/2021

Completion time: 2021-07-13T11:08:16.9583917+05:30
```