



National Teachers College

629 J Nepomuceno, Quiapo, Manila, 1001 Metro Manila
Bachelor of Science in Information Technology

Final Project Documentation in Database Management System 1 w/Lab

Final Project: Demo Interface of the System Database

**A Final Project
Presented to the Faculty of the
College of Information Technology**

**In partial fulfillment
of the Course Requirements for the degree
of Bachelor of Science in Information Technology**

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Date:
December 2025

1. TRIGGER DEMONSTRATION

SQL CODE

```
1 DELIMITER $$  
2  
3 CREATE TRIGGER trg_validate_disaster_dates  
4 BEFORE INSERT ON disaster_event  
5 FOR EACH ROW  
6 BEGIN  
7     IF NEW.Start_Date > NEW.End_Date THEN  
8         SIGNAL SQLSTATE '45000'  
9         SET MESSAGE_TEXT = 'Start_Date cannot be later than End_Date.';  
10    END IF;  
11 END$$  
12  
13 DELIMITER ;
```

OUTPUT USING THE INVALID AND VALID CODE

A. INVALID SQL CODE ✗

```
1 INSERT INTO DISASTER_EVENT (Event_ID, Hazard_Type_ID, Barangay_ID, Start_Date, End_Date, Severity_Scale, Description) VALUES  
2 (5051,1001,4050,'2025-10-08','2023-01-13',7,'Typhoon Tina in Cebu');  
3
```

B. OUTPUT OF THE INVALID SQL CODE ✗

Error

SQL query: [Copy](#)

```
INSERT INTO DISASTER_EVENT (Event_ID, Hazard_Type_ID, Barangay_ID, Start_Date, End_Date, Severity_Scale, Description) VALUES  
(5051,1001,4050,'2025-10-08','2023-01-13',7,'Typhoon Tina in Cebu');
```

MySQL said: [?](#)

#1644 - Start_Date cannot be later than End_Date.

A. VALID SQL CODE ✓

```
1 INSERT INTO DISASTER_EVENT (Event_ID, Hazard_Type_ID, Barangay_ID, Start_Date, End_Date, Severity_Scale, Description) VALUES  
2 (5051,1001,4050,'2025-11-01','2025-11-05',7,'Typhoon Tina in Cebu');  
3
```

B. OUTPUT OF THE VALID SQL CODE ✓

✓ 1 row inserted. (Query took 0.0236 seconds.)

```
INSERT INTO DISASTER_EVENT (Event_ID, Hazard_Type_ID, Barangay_ID, Start_Date, End_Date, Severity_Scale, Description) VALUES (5051,1001,4050,'2025-11-01','2025-11-05',7,'Typhoon Tina in Cebu');
```

[Edit inline](#) [Edit](#) [Create PHP code](#)

2. VIEW DEMONSTRATION (IN CLI)

SQL CODE OF VIEW 1 AND VIEW 2

A. SQL CODE OF VIEW 1

```
MariaDB [sdg11pangtestinglang]> CREATE VIEW view_disaster_summary AS
-> SELECT
->     de.Event_ID,
->     ht.Name AS Hazard_Type,
->     b.Barangay_Name,
->     de.Start_Date,
->     de.End_Date,
->     de.Severity_Scale,
->     de.Description
-> FROM disaster_event de
-> INNER JOIN hazard_type ht ON de.Hazard_Type_ID = ht.Hazard_Type_ID
-> INNER JOIN barangay b ON de.Barangay_ID = b.Barangay_ID;
Query OK, 0 rows affected (0.059 sec)
```

B. SQL CODE OF VIEW 2

```
MariaDB [sdg11pangtestinglang]> CREATE VIEW view_total_losses_per_event AS
-> SELECT
->     de.Event_ID,
->     ht.Name AS Hazard_Type,
->     COALESCE(SUM(ia.Estimated_Loss_Value), 0) AS Total_Loss
-> FROM disaster_event de
-> LEFT JOIN impacted_asset ia ON de.Event_ID = ia.Event_ID
-> JOIN hazard_type ht ON de.Hazard_Type_ID = ht.Hazard_Type_ID
-> GROUP BY de.Event_ID, ht.Name;
Query OK, 0 rows affected (0.043 sec)
```

STRUCTURE OF BOTH VIEW IN THE DATABASE

A. STRUCTURE OF VIEW 1

```
MariaDB [sdg11pangtestinglang]> SHOW TABLES;
+-----+
| Tables_in_sdg11pangtestinglang |
+-----+
| asset
  barangay
  disaster_event
  hazard_type
  human_impact
  impacted_asset
  municipality
  population_segment
  region
  view_disaster_summary
+-----+
10 rows in set (0.001 sec)
```

Event_ID	Hazard_Type	Barangay_Name	Start_Date	End_Date	Severity_Scale	Description
5001	Typhoon	Tondo District	2021-12-16	2021-12-21	9	Typhoon Rai (Odette) hit Tondo District
5002	Typhoon	Bago Bantay	2023-08-22	2023-09-03	8	Typhoon Saola (Goring) passed near Bago Bantay, heavy rain & wind
5003	Typhoon	San Isidro	2023-05-19	2023-06-03	7	Typhoon Mawar (Betty) impacted San Isidro area with gusty winds
5004	Typhoon	Loakan Proper	2022-11-11	2022-11-15	6	Typhoon Vicky affected Loakan Proper
5010	Typhoon	Lourdes Sur	2022-09-01	2022-09-06	8	Typhoon Fabian impacted Lourdes Sur
5011	Typhoon	Balibago	2021-11-28	2021-12-02	7	Typhoon Ulysses hit Balibago
5012	Typhoon	Gulang-Gulang	2022-10-12	2022-10-18	9	Typhoon Paeng caused heavy flooding in Gulang-Gulang
5013	Typhoon	Real	2021-06-14	2021-06-19	6	Typhoon Dante affected Real
5014	Typhoon	San Pedro	2023-07-05	2023-07-10	7	Typhoon Henry impacted San Pedro
5015	Typhoon	Roxas Proper	2022-12-17	2022-12-21	8	Typhoon Odette affected Roxas Proper
5016	Typhoon	Oro Site (Brgy. 34)	2023-01-02	2023-01-08	9	Typhoon Agaton hit Oro Site (Brgy. 34)
5021	Typhoon	Mantuyong	2021-12-05	2021-12-10	9	Typhoon Rai (Odette) hit Mantuyong
5022	Typhoon	Pajo	2023-08-15	2023-08-20	7	Typhoon Saola (Goring) impacted Pajo
5023	Typhoon	San Jose (Brgy. 88)	2023-05-21	2023-05-26	8	Typhoon Mawar (Betty) affected San Jose (Brgy. 88)
5024	Typhoon	San Isidro Proper	2022-11-28	2022-11-25	6	Typhoon Vicki hit San Isidro Proper
5030	Typhoon	Magugpo East	2022-09-05	2022-09-10	8	Typhoon Fabian hit Magugpo East
5031	Typhoon	Sagonsongan	2021-11-30	2021-12-05	7	Typhoon Ulysses affected Sagonsongan
5032	Typhoon	Lamitan Proper	2022-10-14	2022-10-19	9	Typhoon Paeng impacted Lamitan Proper
5033	Typhoon	Basilan Proper	2021-06-18	2021-06-23	6	Typhoon Dante hit Basilan Proper
5034	Typhoon	Poblacion East	2023-07-08	2023-07-13	7	Typhoon Henry affected Poblacion East
5035	Typhoon	Triangulo	2022-12-19	2022-12-24	8	Typhoon Odette hit Triangulo
5036	Typhoon	Poblacion	2023-01-05	2023-01-10	9	Typhoon Agaton affected Poblacion
5041	Typhoon	Poblacion	2021-12-07	2021-12-12	9	Typhoon Rai (Odette) hit Poblacion
5042	Typhoon	San Miguel	2023-08-18	2023-08-23	7	Typhoon Saola (Goring) impacted San Miguel
5043	Typhoon	Central Signal Village	2023-05-23	2023-05-28	8	Typhoon Mawar (Betty) hit Central Signal Village
5044	Typhoon	Poblacion	2022-11-22	2022-11-27	6	Typhoon Vicki affected Poblacion
5051	Typhoon	Poblacion	2025-11-01	2025-11-05	7	Typhoon Tina in Cebu
5005	Flood	Puguis	2023-04-30	2023-05-01	5	Flood in Puguis municipality
5017	Flood	Bitano East	2023-02-14	2023-02-15	5	Flood in Bitano East
5025	Flood	Tetuan	2023-04-01	2023-04-03	5	Flood in Tetuan
5037	Flood	San Francisco East	2023-02-16	2023-02-17	5	Flood in San Francisco East
5045	Flood	Poblacion	2023-04-02	2023-04-04	5	Flood in Poblacion
5006	Earthquake	Barangay 1	2023-01-12	2023-01-13	7	Earthquake in Barangay 1
5018	Earthquake	Jaro District	2023-03-01	2023-03-02	6	Earthquake in Jaro District
5026	Earthquake	Isabela Proper	2023-01-15	2023-01-16	7	Earthquake in Isabela Proper
5038	Earthquake	Poblacion	2023-03-03	2023-03-04	6	Earthquake in Poblacion
5046	Earthquake	Poblacion	2023-01-17	2023-01-18	7	Earthquake in Poblacion
5050	Earthquake	Poblacion	2023-01-12	2023-01-13	7	Earthquake impacted Poblacion
5007	Landslide	Candon Proper	2022-07-15	2022-07-16	6	Landslide in Candon Proper
5019	Landslide	Daly City Proper	2022-08-11	2022-08-12	5	Landslide in Daly City Proper
5027	Landslide	Lapasan	2022-07-18	2022-07-19	6	Landslide in Lapasan
5039	Landslide	San Felipe	2022-08-12	2022-08-13	5	Landslide in San Felipe
5047	Landslide	Poblacion	2022-07-20	2022-07-21	6	Landslide in Poblacion
5008	Volcanic Eruption	Centro	2023-03-22	2023-03-23	8	Volcanic eruption near Centro
5020	Volcanic Eruption	Lahug	2023-04-03	2023-04-04	8	Volcanic eruption near Lahug
5028	Volcanic Eruption	Hinaplanon	2023-03-25	2023-03-26	8	Volcanic eruption near Hinaplanon
5040	Volcanic Eruption	Poblacion	2023-04-04	2023-04-05	8	Volcanic eruption near Poblacion
5048	Volcanic Eruption	Poblacion	2023-03-28	2023-03-29	8	Volcanic eruption in Poblacion
5009	Forest Fire	San Vicente	2023-02-10	2023-02-11	5	Forest fire in San Vicente caused by dry conditions
5029	Forest Fire	Matina Crossing	2023-02-15	2023-02-16	5	Forest fire in Matina Crossing
5049	Forest Fire	Poblacion	2023-02-18	2023-02-19	5	Forest fire in Poblacion

51 rows in set (0.017 sec)

B. STRUCTURE OF VIEW 2

```

MariaDB [sdg11pangtestinglang]> SHOW TABLES;
+-----+
| Tables_in_sdg11pangtestinglang |
+-----+
| asset
| barangay
| disaster_event
| hazard_type
| human_impact
| impacted_asset
| municipality
| population_segment
| region
| view_disaster_summary
| view_total_losses_per_event
+-----+
11 rows in set (0.001 sec)

```

MariaDB [sdg1ipangtestinglang]> SELECT * FROM view_total_losses_per_event;		
Event_ID	Hazard_Type	Total_Loss
5001	Typhoon	3000000.00
5002	Typhoon	1200000.00
5003	Typhoon	500000.00
5004	Typhoon	500000.00
5005	Flood	1800000.00
5006	Earthquake	100000.00
5007	Landslide	1500000.00
5008	Volcanic Eruption	4000000.00
5009	Forest Fire	200000.00
5010	Typhoon	300000.00
5011	Typhoon	1500000.00
5012	Typhoon	3000000.00
5013	Typhoon	100000.00
5014	Typhoon	500000.00
5015	Typhoon	2000000.00
5016	Typhoon	1200000.00
5017	Flood	3000000.00
5018	Earthquake	100000.00
5019	Landslide	100000.00
5020	Volcanic Eruption	500000.00
5021	Typhoon	100000.00
5022	Typhoon	3000000.00
5023	Typhoon	800000.00
5024	Typhoon	2500000.00
5025	Flood	900000.00
5026	Earthquake	100000.00
5027	Landslide	400000.00
5028	Volcanic Eruption	2500000.00
5029	Forest Fire	1500000.00
5030	Typhoon	100000.00
5031	Typhoon	100000.00
5032	Typhoon	2500000.00
5033	Typhoon	700000.00
5034	Typhoon	100000.00
5035	Typhoon	400000.00
5036	Typhoon	1500000.00
5037	Flood	2500000.00
5038	Earthquake	100000.00
5039	Landslide	300000.00
5040	Volcanic Eruption	100000.00
5041	Typhoon	400000.00
5042	Typhoon	2000000.00
5043	Typhoon	100000.00
5044	Typhoon	300000.00
5045	Flood	100000.00
5046	Earthquake	1500000.00
5047	Landslide	400000.00
5048	Volcanic Eruption	100000.00
5049	Forest Fire	300000.00
5050	Earthquake	2500000.00
5051	Typhoon	0.00

51 rows in set (0.001 sec)

3. STORED PROCEDURE TRANSACTION

STORED PROCEDURE USING ROUTINES

1. Click the Routines Tab of the Database and Create New Routine

The screenshot shows the MySQL Workbench interface with the 'Database' tab selected. The 'Routines' tab is highlighted. In the main pane, there is a message: 'There are no routines to display.' Below this message are several buttons: 'Check all', 'Export', 'Drop', 'Search' (with a magnifying glass icon), and 'Create new routine' (with a plus sign icon).

2. Fill in the necessary details in Creating New Routine, such as the Routine Name, Type, Parameters, Definition Box, and SQL Data Access.

Create new routine

Details

Routine name	sp_add_disaster_with_hum																																																																	
Type	PROCEDURE																																																																	
Parameters	<table border="1"> <thead> <tr> <th>Direction</th> <th>Name</th> <th>Type</th> <th>Length/Values</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>IN</td> <td>p_Event_ID</td> <td>INT</td> <td></td> <td></td> </tr> <tr> <td>IN</td> <td>p_Hazard_Type</td> <td>INT</td> <td></td> <td></td> </tr> <tr> <td>IN</td> <td>p_Barangay_ID</td> <td>INT</td> <td></td> <td></td> </tr> <tr> <td>IN</td> <td>p_Start_Date</td> <td>DATE</td> <td>---</td> <td></td> </tr> <tr> <td>IN</td> <td>p_End_Date</td> <td>DATE</td> <td>---</td> <td></td> </tr> <tr> <td>IN</td> <td>p_Severity_Scale</td> <td>INT</td> <td></td> <td></td> </tr> <tr> <td>IN</td> <td>p_Description</td> <td>VARCHAR</td> <td>200</td> <td>Charset</td> </tr> <tr> <td>IN</td> <td>p_Human_Impact_ID</td> <td>INT</td> <td></td> <td></td> </tr> <tr> <td>IN</td> <td>p_Segment_ID</td> <td>INT</td> <td></td> <td></td> </tr> <tr> <td>IN</td> <td>p_Deaths_Count</td> <td>INT</td> <td></td> <td></td> </tr> <tr> <td>IN</td> <td>p_Injuries_Count</td> <td>INT</td> <td></td> <td></td> </tr> <tr> <td>IN</td> <td>p_People_Affected_Count</td> <td>INT</td> <td></td> <td></td> </tr> </tbody> </table>	Direction	Name	Type	Length/Values	Options	IN	p_Event_ID	INT			IN	p_Hazard_Type	INT			IN	p_Barangay_ID	INT			IN	p_Start_Date	DATE	---		IN	p_End_Date	DATE	---		IN	p_Severity_Scale	INT			IN	p_Description	VARCHAR	200	Charset	IN	p_Human_Impact_ID	INT			IN	p_Segment_ID	INT			IN	p_Deaths_Count	INT			IN	p_Injuries_Count	INT			IN	p_People_Affected_Count	INT		
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IN	p_People_Affected_Count	INT																																																																
Add parameter																																																																		
Go Close																																																																		

Add parameter

Definition

```

1 BEGIN
2   DECLARE EXIT HANDLER FOR SQLEXCEPTION
3   BEGIN
4     ROLLBACK;
5     SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Transaction failed and was rolled back.';
6   END;
7
8   START TRANSACTION;
9
10  INSERT INTO disaster_event
11    (Event_ID, Hazard_Type_ID, Barangay_ID, Start_Date, End_Date, Severity_Scale, Description)
12  VALUES
13    (p_Event_ID, p_Hazard_Type_ID, p_Barangay_ID, p_Start_Date, p_End_Date, p_Severity_Scale, p_Description);
14
15  INSERT INTO human_impact
16    (Human_Impact_ID, Event_ID, Segment_ID, Deaths_Count, Injuries_Count, People_Affected_Count)
17  VALUES
18    (p_Human_Impact_ID, p_Event_ID, p_Segment_ID, p_Deaths_Count, p_Injuries_Count, p_People_Affected_Count);
19
20  COMMIT;
21 END

```

Is deterministic

Definer

Security type DEFINER

SQL data access CONTAINS SQL

Comment

Go **Close**

Routines

<input type="checkbox"/> Check all	<input type="button"/> Export	<input type="button"/> Drop						
<table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Returns</th> </tr> </thead> <tbody> <tr> <td>sp_add_disaster_with_hum</td> <td>PROCEDURE</td> <td><input type="button"/> Edit <input type="button"/> Execute <input type="button"/> Export <input type="button"/> Drop</td> </tr> </tbody> </table>			Name	Type	Returns	sp_add_disaster_with_hum	PROCEDURE	<input type="button"/> Edit <input type="button"/> Execute <input type="button"/> Export <input type="button"/> Drop
Name	Type	Returns						
sp_add_disaster_with_hum	PROCEDURE	<input type="button"/> Edit <input type="button"/> Execute <input type="button"/> Export <input type="button"/> Drop						
Search Create new routine								

OUTPUT USING THE INVALID AND VALID CODE IN STORED PROCEDURE

A. INVALID CALL STATEMENT ✗

```
1 CALL sp_add_disaster_with_human_impact(
2   5070, 1001, 4001, '2025-04-01','2025-04-02', 15, 'Typhoon Tina in Cebu',
3   8200, 9999, 0, 0, 10
4 );
```

B. OUTPUT OF THE INVALID CALL STATEMENT ✗

Error

SQL query: [Copy](#)

```
CALL sp_add_disaster_with_human_impact(
  5070, 1001, 4001, '2025-04-01','2025-04-02', 15, 'Typhoon Tina in Cebu',
  8200, 9999, 0, 0, 10
);
```

MySQL said: [?](#)

```
#1644 - Transaction failed and was rolled back.
```

A. VALID CALL STATEMENT ✓

```
1 CALL sp_add_disaster_with_human_impact(
2   5060, 1001, 4003, '2025-03-01','2025-03-03', 6, 'Typhoon Tina in Cebu',
3   8100, 6001, 0, 1, 50
4 );
```

B. OUTPUT OF THE VALID CALL STATEMENT ✓

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0694 seconds.)

```
CALL sp_add_disaster_with_human_impact( 5060, 1001, 4003, '2025-03-01','2025-03-03', 6, 'Typhoon Tina in Cebu', 8100, 6001, 0, 1, 50 );
```

[Edit inline] [Edit] [Create PHP code]