

DIAMView

Common Script example

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2020/04



Outline

- Variable dictionary batch assignment example
- Global switching system language example
- Variable record query example
- Query history group record example
- Database Access example

Purpose

After this chapter, you will learn ...

...more about common script examples

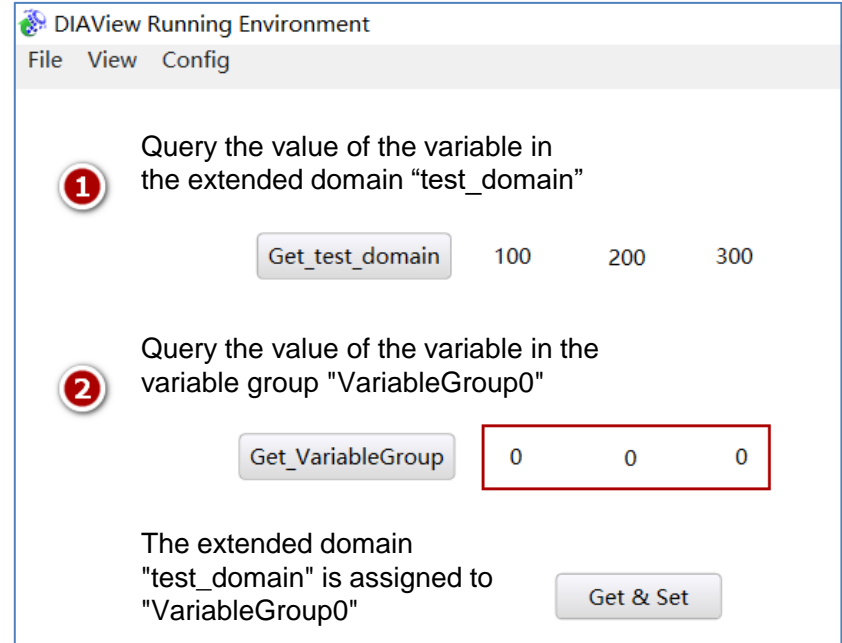
Outline

- Variable dictionary batch assignment example
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➤ **Example 1:**

- **Assign the value of the variable in the extended domain test_domain to the variable in VariableGroup0**

- ① Query the values of the three variables in the extended domain test_domain as 100, 200, and 300 respectively
- ② Query the values of the three variables in VariableGroup0 are 0



The screenshot shows the DIAView Running Environment interface with a menu bar (File, View, Config) and two numbered steps:

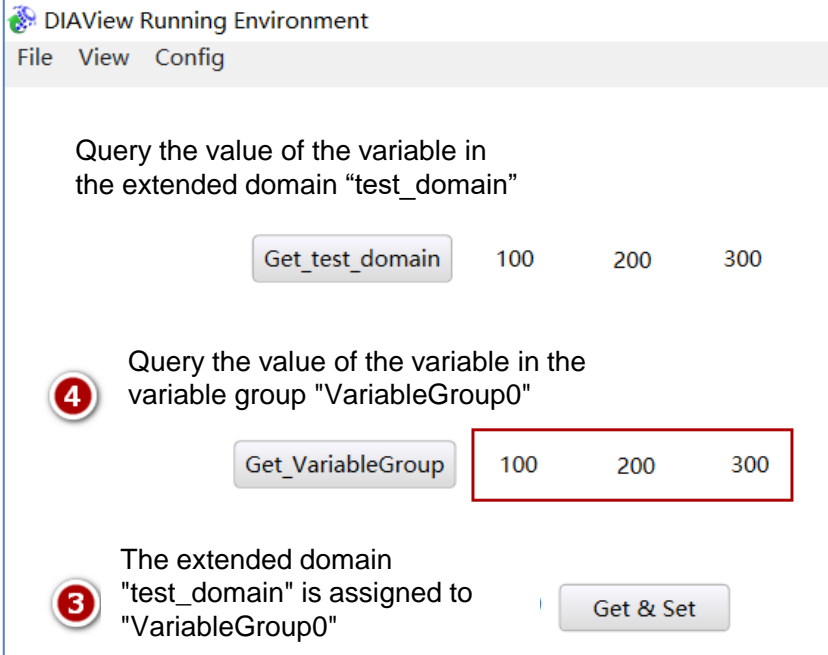
Step 1: Query the value of the variable in the extended domain "test_domain". Below the text is a button labeled "Get_test_domain" followed by three input fields containing the values 100, 200, and 300.

Step 2: Query the value of the variable in the variable group "VariableGroup0". Below the text is a button labeled "Get_VariableGroup" followed by three input fields, each containing the value 0. These input fields are highlighted with a red rectangular border.

At the bottom, a text label states: "The extended domain 'test_domain' is assigned to 'VariableGroup0'", followed by a button labeled "Get & Set".

➤ Example 1:

- **Assign the value of the variable in the extended domain test_domain to the variable in VariableGroup0**
 - ③ Execute the button event script to assign the value of the variable in the extended domain test_domain to the variable in VariableGroup0
 - ④ Query the values of the three variables in VariableGroup0 again are 100, 200, and 300, and the assignment is successful

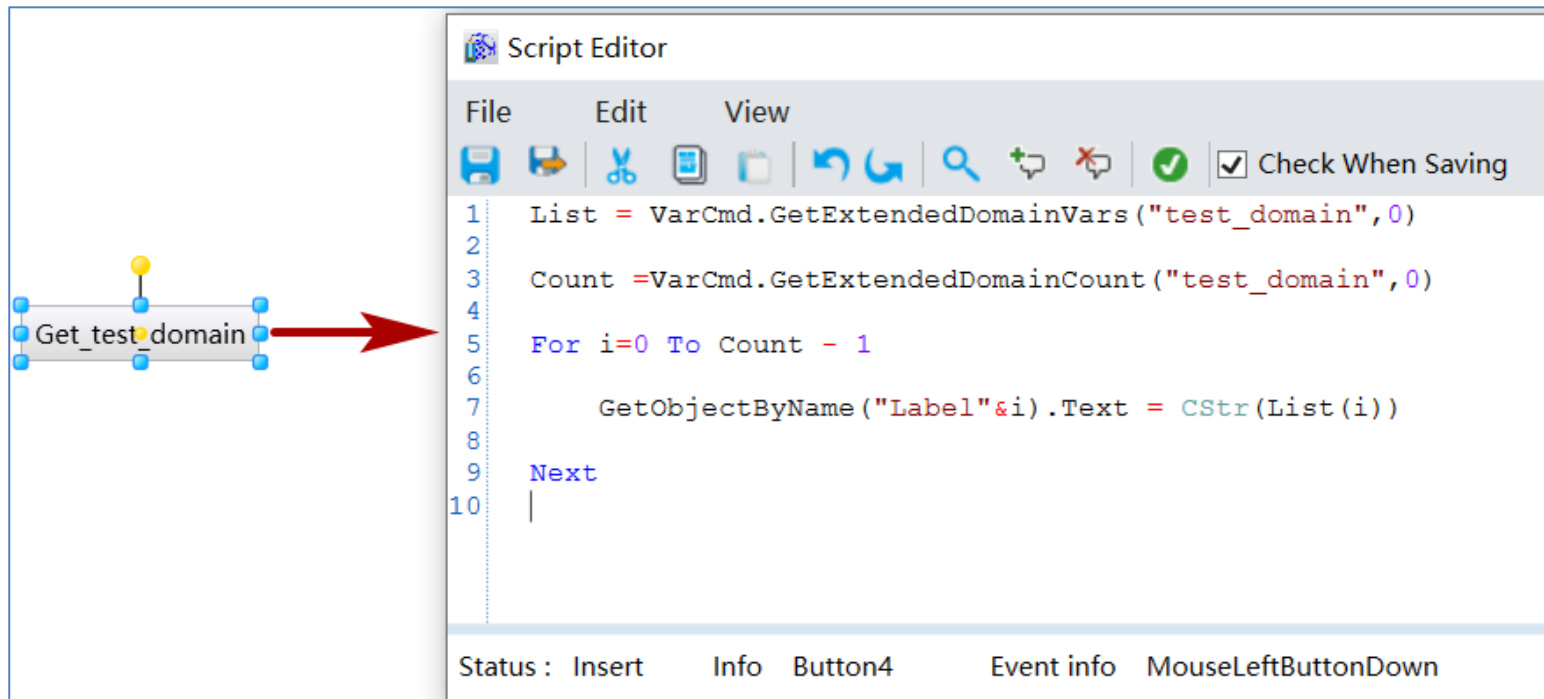


The screenshot shows the DIAView Running Environment interface with a menu bar (File, View, Config) and a main workspace. The workspace contains three steps:

- Step 1:** Query the value of the variable in the extended domain "test_domain". Below the text is a button labeled "Get_test_domain" followed by the values 100, 200, and 300.
- Step 2:** Query the value of the variable in the variable group "VariableGroup0". Below the text is a button labeled "Get_VariableGroup" followed by the values 100, 200, and 300, which are enclosed in a red rectangular box.
- Step 3:** The extended domain "test_domain" is assigned to "VariableGroup0". Below the text is a button labeled "Get & Set".

➤ Example 1: Get_test_domain button script

- Query the value of each variable in the extended domain test_domain and display it in the running window with a label



The diagram illustrates the setup for the 'Get_test_domain' button script. On the left, a button labeled 'Get_test_domain' is shown with a red arrow pointing to the 'Script Editor' window on the right.

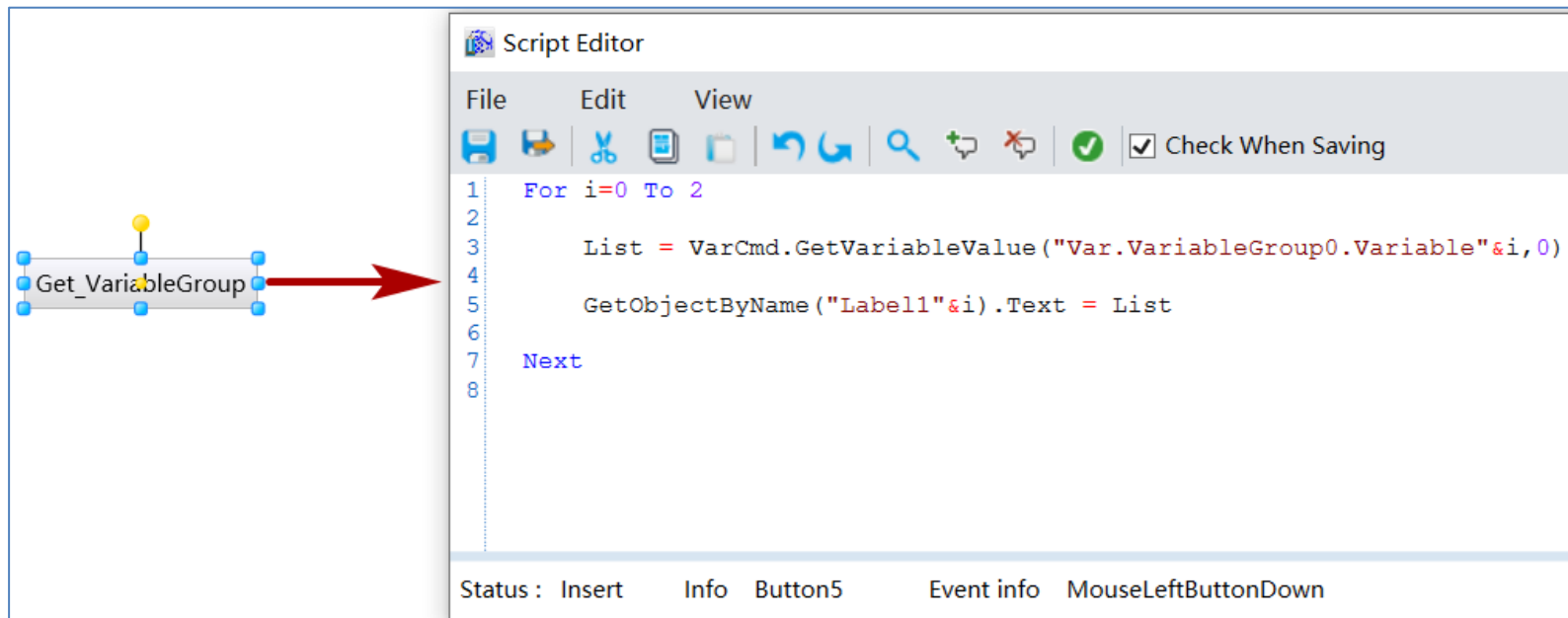
Script Editor

```
1 List = VarCmd.GetExtendedDomainVars("test_domain",0)
2
3 Count =VarCmd.GetExtendedDomainCount("test_domain",0)
4
5 For i=0 To Count - 1
6
7     GetObjectByName("Label"&i).Text = CStr(List(i))
8
9 Next
10 |
```

Status : Insert Info Button4 Event info MouseLeftButtonDown

➤ Example 1: Get_variableGroup0 button script

- Query the value of each variable in VariableGroup0 and display it in the running window with a label



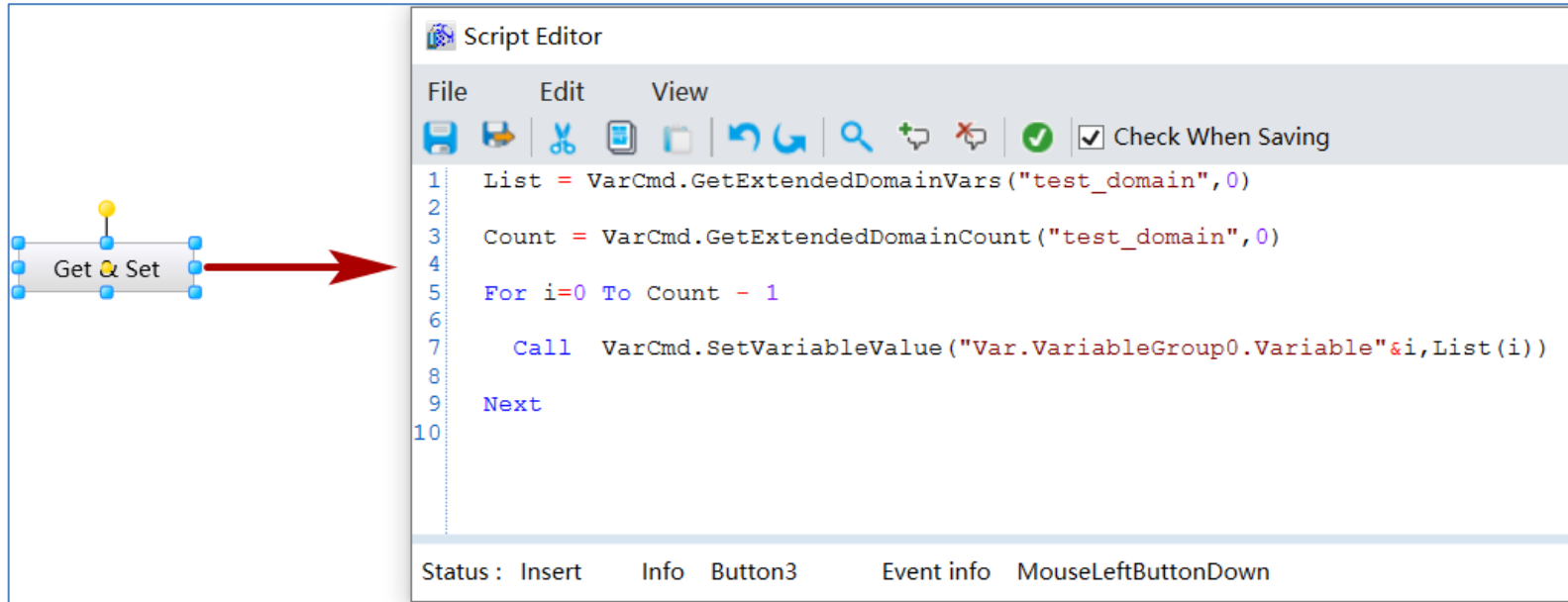
The diagram illustrates the setup for a button script. On the left, a button labeled "Get_VariableGroup" is shown with a red arrow pointing to a "Script Editor" window on the right. The script editor contains the following code:

```
1  For i=0 To 2
2
3      List = VarCmd.GetVariableValue("Var.VariableGroup0.Variable"&i,0)
4
5      GetObjectByName("Label1"&i).Text = List
6
7  Next
8
```

The script editor window has a menu bar with "File", "Edit", and "View". Below the menu bar is a toolbar with icons for file operations (save, open, print), editing (cut, copy, paste, undo, redo), and search (find, replace). A checkbox labeled "Check When Saving" is also present. The status bar at the bottom of the script editor shows "Status : Insert", "Info", "Button5", "Event info", and "MouseLeftButtonDown".

➤ Example 1: Get & Set button script

- Assign the value of each variable in the extended domain test_domain to the variable group VariableGroup0



The diagram illustrates the setup for a button script. On the left, a 'Get & Set' button is shown with a yellow dot on its 'Set' side. A red arrow points from this button to a 'Script Editor' window on the right. The 'Script Editor' window displays the following code:

```
1 List = VarCmd.GetExtendedDomainVars("test_domain",0)
2
3 Count = VarCmd.GetExtendedDomainCount("test_domain",0)
4
5 For i=0 To Count - 1
6     Call VarCmd.SetVariableValue("Var.VariableGroup0.Variable"&i,List(i))
7
8 Next
9
10
```

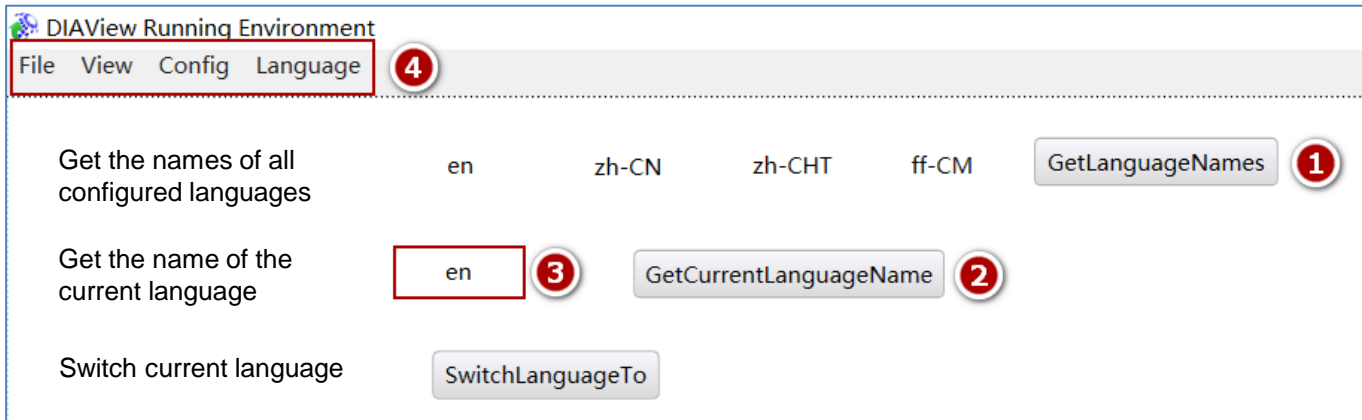
The status bar at the bottom of the 'Script Editor' window shows: Status : Insert Info Button3 Event info MouseLeftButtonDown

※For detailed descriptions of variable methods and properties, please refer to the user manual "CH20.3 Script Syntax and Functions-Programming Model-Variables"

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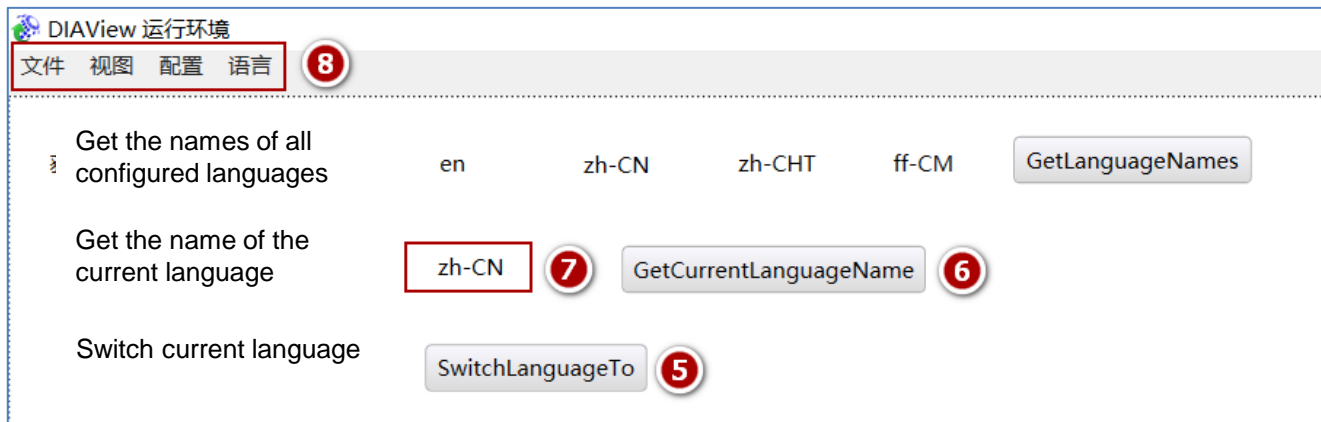
➤ Example 2:

- **Query the names of all configured languages and switch the current language**
 - ① Get the names of all configured languages as **en, zh-CN, zh-CHT, ff-CM**
 - ② Get the name of the current language
 - ③ The label content shows that the name of the current language is **en**
 - ④ Make sure the system language is **en**



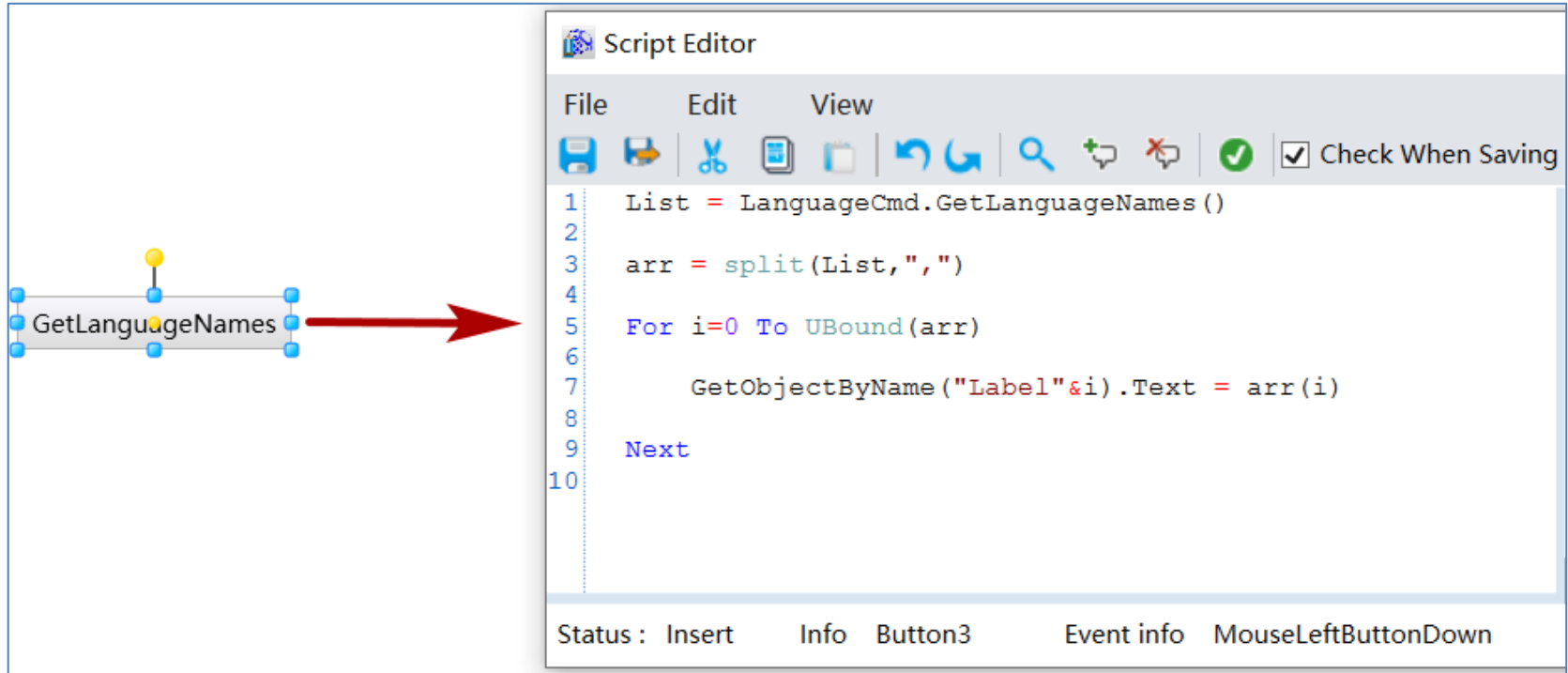
➤ Example 2:

- **Query the names of all configured languages and switch the current language**
 - ⑤ Switch the current language
 - ⑥ Get the name of the current language again
 - ⑦ The label content shows that the name of the current language is **zh-CN**
 - ⑧ Make sure the system language is **zh-CN**



➤ Example 2: GetLanguageNames button script

- Query the names of all configured languages and display them in the running window with tags.



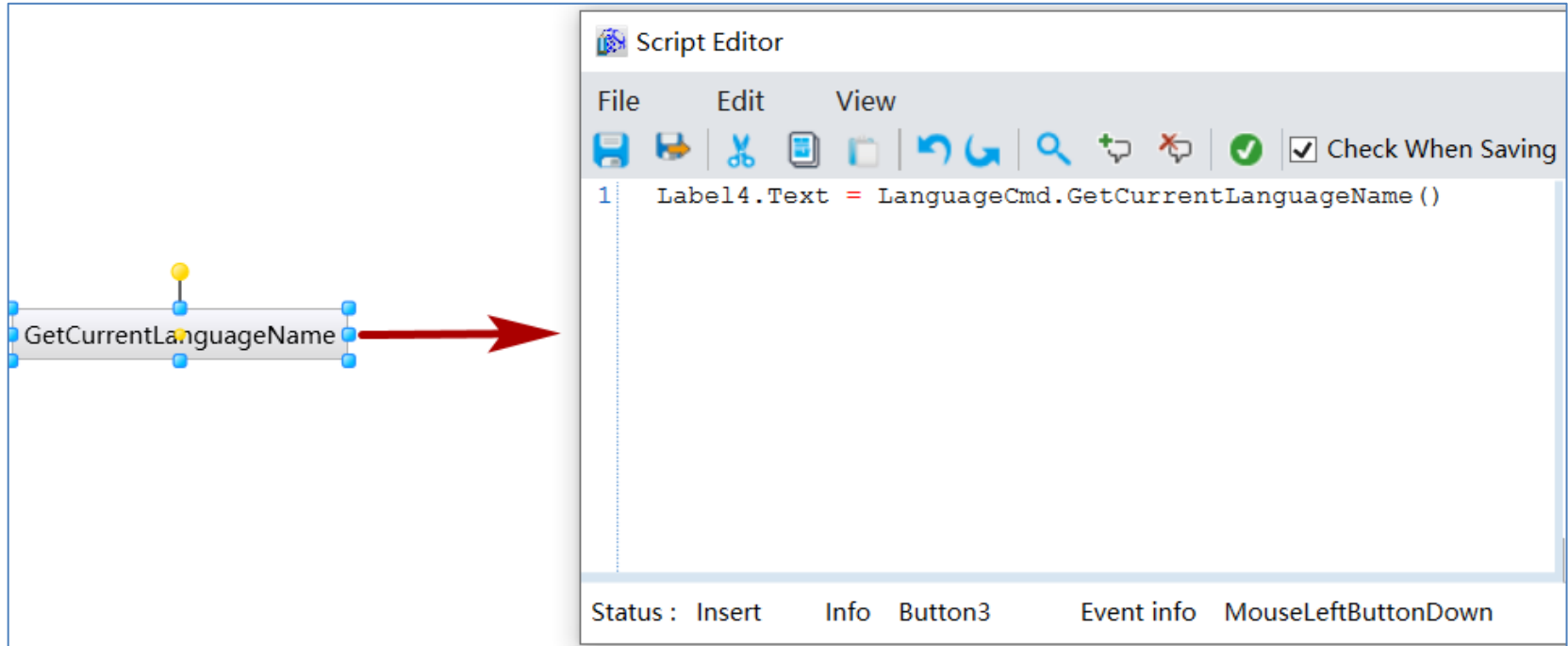
The diagram illustrates the connection between a UI element and its associated script. On the left, a button labeled "GetLanguageNames" is shown with a yellow dot indicating the event trigger. A red arrow points from this button to a "Script Editor" window on the right. The script editor displays the following code:

```
1 List = LanguageCmd.GetLanguageNames ()
2
3 arr = split(List, ",")
4
5 For i=0 To UBound(arr)
6
7     GetObjectByName("Label"&i).Text = arr(i)
8
9 Next
10
```

The script editor window includes a menu bar (File, Edit, View), a toolbar with icons for file operations, editing, and navigation, and a status bar at the bottom showing "Status : Insert", "Info", "Button3", "Event info", and "MouseButtonDown". A checkbox labeled "Check When Saving" is also present in the toolbar.

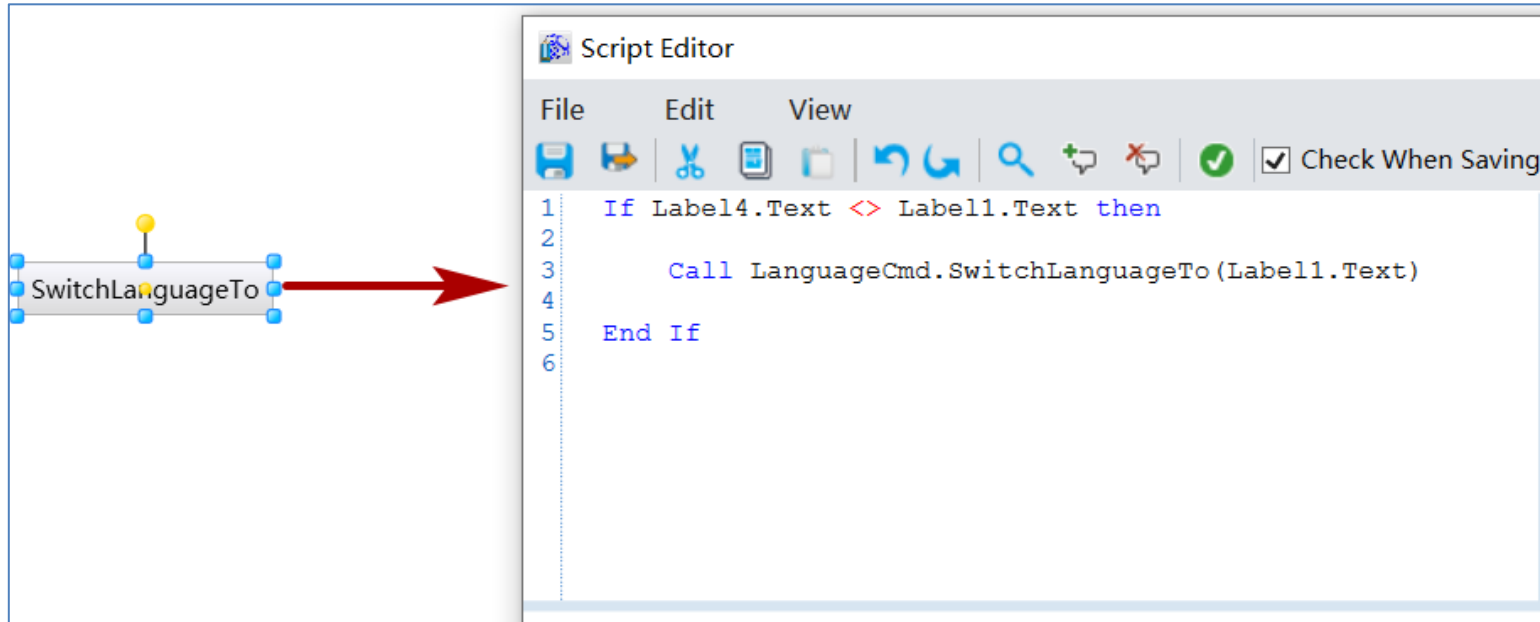
➤ Example 2:GetCurrentLanguageName button script

- Query the name of the current language and display it in the running window with a label.



➤ Example 2: SwitchLanguageTo button script

- Switch current language.

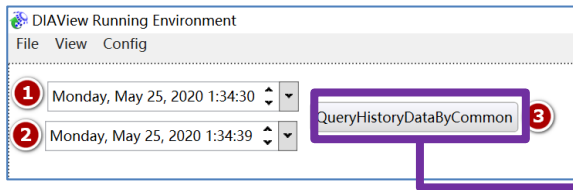


※Note: For a detailed description of globalization methods and attributes, please refer to the user manual "CH 20.3 Script Syntax and Functions-Programming Model-Globalization"

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- **Example 3: Variable record query script**
The variable record is read through the script and displayed in the report.

- QueryHistoryDataByCommon Button(sheetIndex, conditions, types):
variable record query
 1. sheetIndex: worksheet index
 2. conditions: Variable record collection, separated by commas
 3. types: TriggeringTime, Value, can also be replaced with 0 and 1 respectively



```
DateTimePicker0.Value = Sys.StartTime
DateTimePicker1.Value = Sys.Now
Call Report0.SetWorkSheetStartTime(0,DateTime
Picker0.ValueTime)
Call Report0.SetWorkSheetEndTime(0,DateTime
Picker1.ValueTime)
Call Report0.SetVarRecordRuleName(0,"m1")
Call Report0.QueryHistoryDataByCommon(0,"Var
Record.RecordVariable,VarRecord.RecordVariabl
e,VarRecord.RecordVariable2",0,1,1")
```

DIAView Running Environment

File View Config

Monday, May 25, 2020 3:21:21

Monday, May 25, 2020 3:31:58

QueryHistoryDataByCommon 4

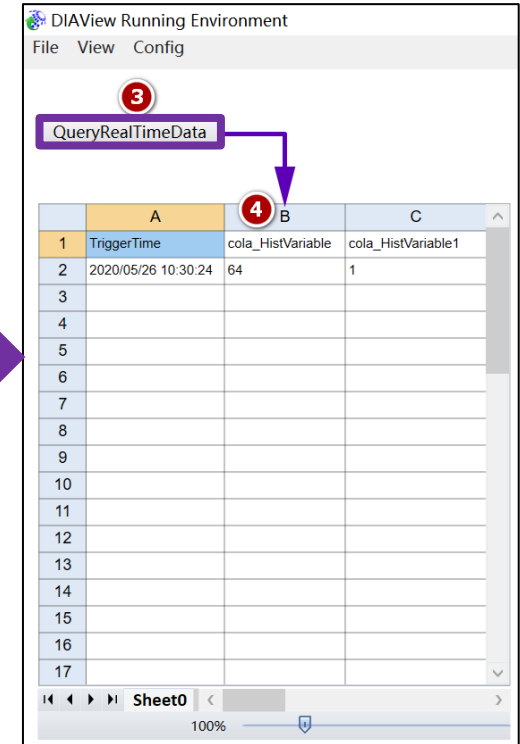
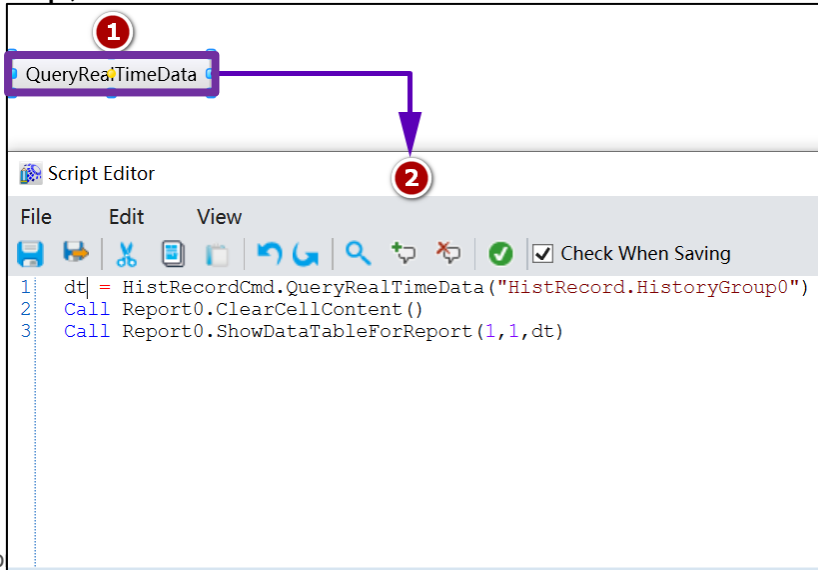
5	A	B	C
1	TriggerTime	VarRecord.RecordVariable	VarRecord.RecordVariable2
2	2020/05/25 15:22:00	38	38
3	2020/05/25 15:23:00	97	97
4	2020/05/25 15:24:00	55	55
5	2020/05/25 15:25:00	12	12
6	2020/05/25 15:26:00	71	71
7	2020/05/25 15:27:00	29	29
8	2020/05/25 15:28:00	88	88
9	2020/05/25 15:29:00	46	46
10	2020/05/25 15:30:00	4	4
11	2020/05/25 15:31:00	62	62
12			
13			
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15			
16			
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19			

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- Variable dictionary batch assignment example
- Global switching system language example
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- **Query history group record example**
- Database Access example

➤ Example 4: Query history group record script

- Read the real-time data of the historical record group through the script and display it with the report.
- QueryRealTimeData Button: query real-time data of historical record group;



The screenshot shows the DIAView Running Environment. A button labeled 'QueryRealTimeData' (marked with a red circle 3) is shown with an arrow pointing to the report preview (marked with a red circle 4). The report preview displays a table with the following data:

	A	B	C
1	TriggerTime	cola_HistVariable	cola_HistVariable1
2	2020/05/26 10:30:24	64	1
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			

- Variable dictionary batch assignment example
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- Query history group record example
- **Database Access example**

- **Example 5: Query history group record script**
- Read the historical record group data through the script and display it with the report.
 - QueryWithStorageItemName Button: Query historical record group data, the example is to query the data of the last hour.
 - Use the **DateAdd** function to set the query time range to the past hour;

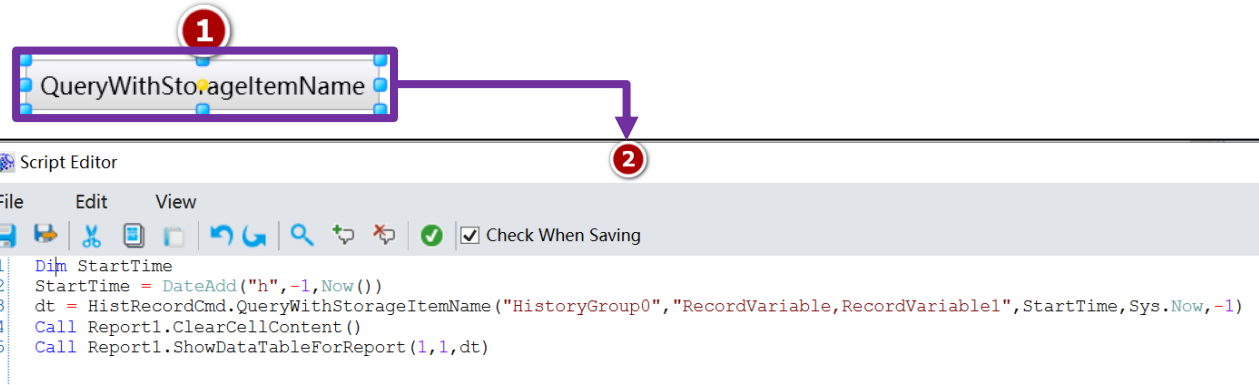


Diagram illustrating the setup for Example 5:

- 1**: A button labeled "QueryWithStorageItemName" is highlighted.
- 2**: An arrow points from the button to the Script Editor.

Script Editor

```

1 Dim StartTime
2 StartTime = DateAdd("h",-1,Now())
3 dt = HistRecordCmd.QueryWithStorageItemName("HistoryGroup0", "RecordVariable",RecordVariable1",StartTime, Sys.Now,-1)
4 Call Report1.ClearCellContent()
5 Call Report1.ShowDataTableForReport(1,1,dt)
  
```

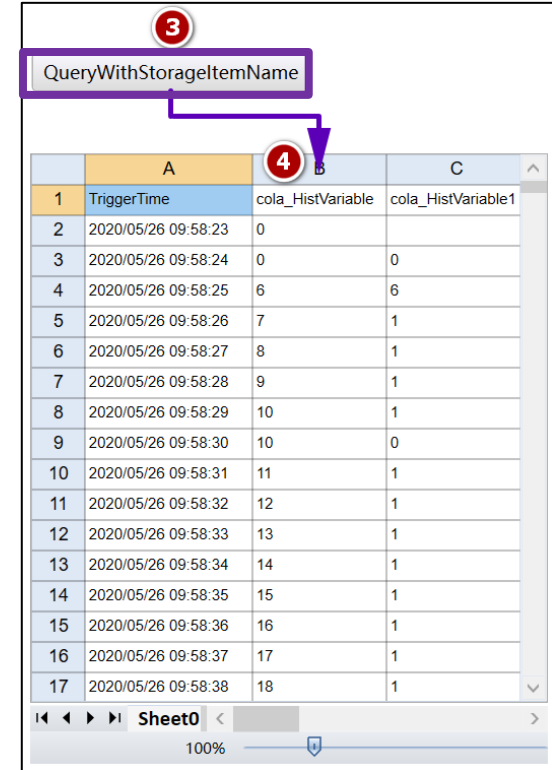


Diagram illustrating the setup for Example 5:

- 3**: A button labeled "QueryWithStorageItemName" is highlighted.
- 4**: An arrow points from the button to the report table.

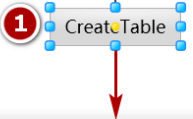
	A	B	C
1	TriggerTime	cola_HistVariable	cola_HistVariable1
2	2020/05/26 09:58:23	0	
3	2020/05/26 09:58:24	0	0
4	2020/05/26 09:58:25	6	6
5	2020/05/26 09:58:26	7	1
6	2020/05/26 09:58:27	8	1
7	2020/05/26 09:58:28	9	1
8	2020/05/26 09:58:29	10	1
9	2020/05/26 09:58:30	10	0
10	2020/05/26 09:58:31	11	1
11	2020/05/26 09:58:32	12	1
12	2020/05/26 09:58:33	13	1
13	2020/05/26 09:58:34	14	1
14	2020/05/26 09:58:35	15	1
15	2020/05/26 09:58:36	16	1
16	2020/05/26 09:58:37	17	1
17	2020/05/26 09:58:38	18	1

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- Variable dictionary batch assignment example
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- **Database Access example**

➤ Example 6 : Database Access









- ① Programming button event script, create table **stu_table**
- ② Execute the button event script, return True to create the table **stu_table** successfully, and display the table **stu_table** in the running window;



Create table stu_table

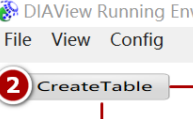
Script Editor

File Edit View









☒ Check When Saving

```

1 dim dt
2 dt = DbAccessCmd.CreateTable("stu_table")
3 Call DbAccessCmd.AddColumn(dt,"ID","stu_id",1,500,false,true,true)
4 Call DbAccessCmd.AddColumn(dt,"NAME","stu_name",4,500,true,false,false)
5 Call DbAccessCmd.AddColumn(dt,"AGE","stu_age",4,500,true,false,false)
6 Call DbAccessCmd.AddColumn(dt,"CHINESE","chinese",4,500,true,false,false)
7 Call DbAccessCmd.AddColumn(dt,"MATH","math",4,500,true,false,false)
8 Call DbAccessCmd.AddColumn(dt,"ENGLISH","english",4,500,true,false,false)
9 Call DbAccessCmd.SetPrimary(dt,"ID")
10 call Report0.ClearCellContent()
11 Call Report0.ShowDataTableForReport(1,1,dt)
12 cc = DbAccessCmd.ExecuteCreateDatabaseTable("DbAccess.DatabaseAccess","mysql",dt)
13 MsgBox cc
    
```



Created successfully

DIView Running Environment

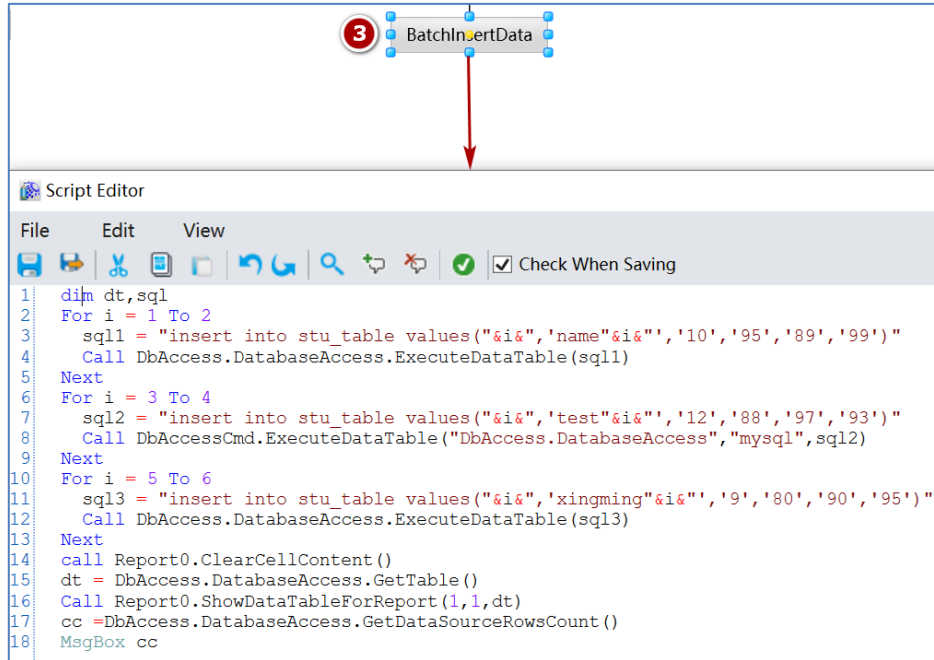
File View Config

True

	A	B	C	D	E	F
1	ID	NAME	AGE	CHINESE	MATH	ENGLISH
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

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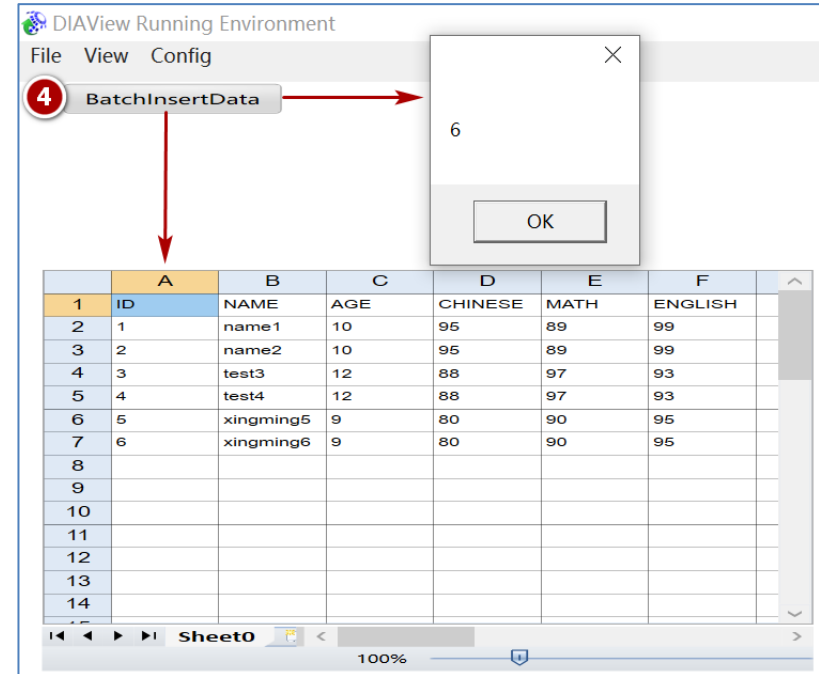
- ③ Programming button event script to add multiple data to the table **stu_table**;
- ④ Execute the button event script, return the number of added data 6 and display the table **stu_table** in the running window;



The screenshot shows a VBA Script Editor with a button labeled "BatchInsertData" (marked with a red circle 3) and its corresponding script. The script inserts data into the "stu_table" table in three batches.

```

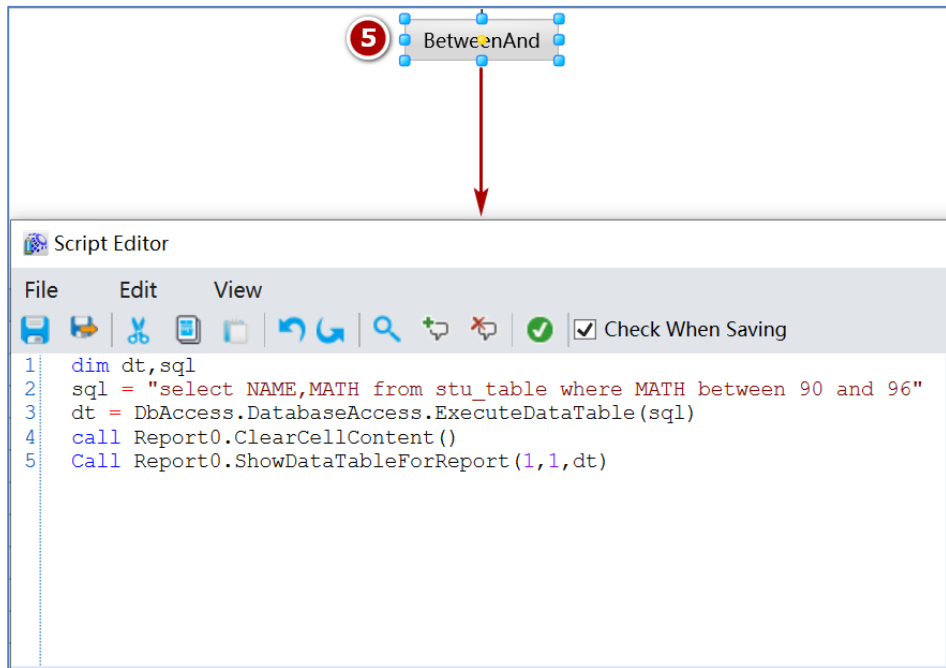
1 dim dt,sql
2 For i = 1 To 2
3     sql1 = "insert into stu_table values('&i&','name"&i&"','10','95','89','99')"
4     Call DbAccess.DatabaseAccess.ExecuteDataTable(sql1)
5 Next
6 For i = 3 To 4
7     sql2 = "insert into stu_table values('&i&','test"&i&"','12','88','97','93')"
8     Call DbAccessCmd.ExecuteDataTable("DbAccess.DatabaseAccess","mysql",sql2)
9 Next
10 For i = 5 To 6
11     sql3 = "insert into stu_table values('&i&','xingming"&i&"','9','80','90','95')"
12     Call DbAccess.DatabaseAccess.ExecuteDataTable(sql3)
13 Next
14 call Report0.ClearCellContent()
15 dt = DbAccess.DatabaseAccess.GetTable()
16 Call Report0.ShowDataTableForReport(1,1,dt)
17 cc =DbAccess.DatabaseAccess.GetDataSourceRowsCount()
18 MsgBox cc
    
```



The screenshot shows the DIAView Running Environment. A button labeled "BatchInsertData" (marked with a red circle 4) is shown with a red arrow pointing to a message box displaying the number "6". Below the button, a table is displayed with the following data:

	A	B	C	D	E	F
1	ID	NAME	AGE	CHINESE	MATH	ENGLISH
2	1	name1	10	95	89	99
3	2	name2	10	95	89	99
4	3	test3	12	88	97	93
5	4	test4	12	88	97	93
6	5	xingming5	9	80	90	95
7	6	xingming6	9	80	90	95
8						
9						
10						
11						
12						
13						
14						

- ⑤ Programming button event script, query table **stu_table** qualified data;
- ⑥ Execute the button event script to display the queried data in the running window;



5 BetweenAnd

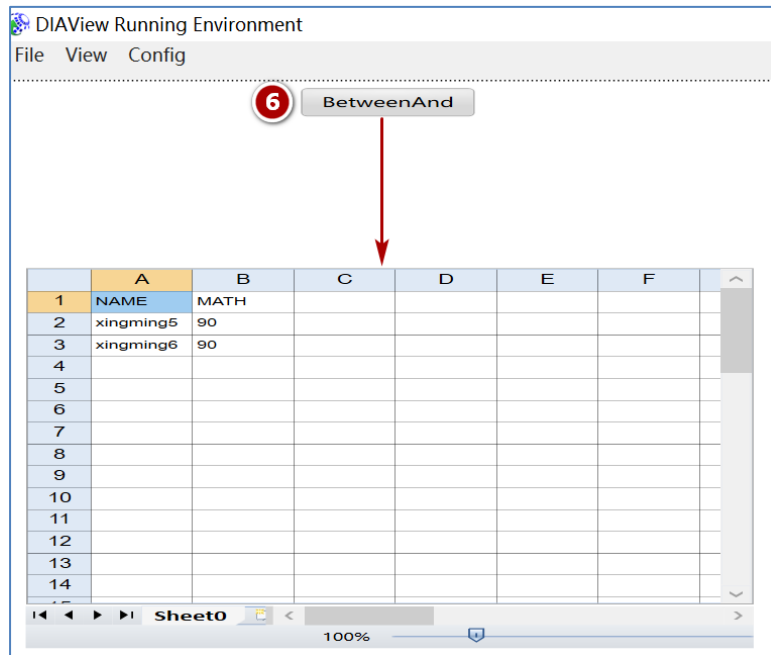
Script Editor

File Edit View

Check When Saving

```

1 dim dt,sql
2 sql = "select NAME,MATH from stu_table where MATH between 90 and 96"
3 dt = DbAccess.DatabaseAccess.ExecuteDataTable(sql)
4 call Report0.ClearCellContent()
5 Call Report0.ShowDataTableForReport(1,1,dt)
  
```



DIAView Running Environment

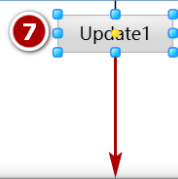
File View Config

6 BetweenAnd

	A	B	C	D	E	F
1	NAME	MATH				
2	xingming5	90				
3	xingming6	90				
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

Sheet0 100%

- ⑦ Programming a button event script to update the qualified data in the table **stu_table**;
- ⑧ Execute the button event script and display the executed table **stu_table** in the running window;



Script Editor

File Edit View

Check When Saving

```
1 dim dt,sql
2 sql = "update stu_table set NAME = 'new_name' where MATH between 90 and 96"
3 cc = DbAccess.DatabaseAccess.ExecuteNonQuery(sql)
4 MsgBox cc
5 dt = DbAccess.DatabaseAccess.GetTable()
6 call Report0.ClearCellContent()
7 Call Report0.ShowDataTableForReport(1,1,dt)
```



	A	B	C	D	E	F	
1	ID	NAME	AGE	CHINESE	MATH	ENGLISH	
2	1	name1	10	95	89	99	
3	2	name2	10	95	89	99	
4	3	test3	12	88	97	93	
5	4	test4	12	88	97	93	
6	5	new_name	9	80	90	95	
7	6	new_name	9	80	90	95	
8							
9							
10							
11							
12							
13							
14							

- ⑨ Write a button event script to delete the qualified data in the table **stu table**;
- ⑩ Execute the button event script and display the executed table **stu table** in the running window;

⑨ Delete...Where

Script Editor

File Edit View

Check When Saving

```

1 dim dt,sql
2 sql1 = "delete from stu_table where id < 3;"
3 Call DbAccess.DatabaseAccess.ExecuteDataTable(sql1)
4 dt = DbAccess.DatabaseAccess.GetTable()
5 call Report0.ClearCellContent()
6 Call Report0.ShowDataTableForReport(1,1,dt)|
  
```

⑩ Delete...Where

DIView Running Environment

File View Config

	A	B	C	D	E	F
1	ID	NAME	AGE	CHINESE	MATH	ENGLISH
2	3	test3	12	88	97	93
3	4	test4	12	88	97	93
4	5	new_name	9	80	90	95
5	6	new_name	9	80	90	95
6						
7						
8						
9						
10						
11						
12						
13						
14						

Sheet0 100%

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