

Accessing Databases

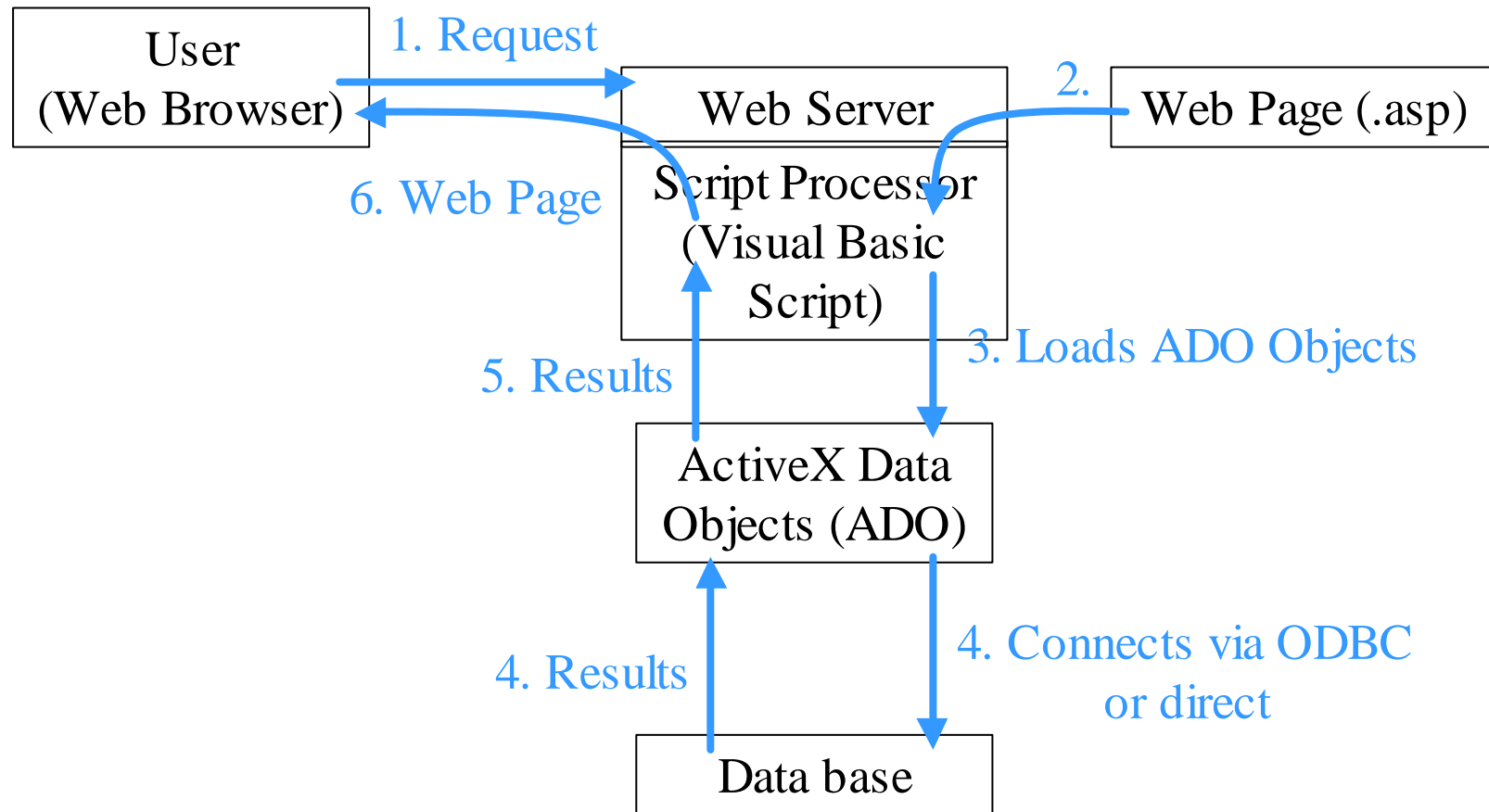
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Processing of Active Server Pages



How to get ADO

- ADO is part of MDAC (MS Data Access Components) and comes with various MS products:
 - Windows
 - IIS-Internet Information Services (Web-Server)
 - MS Internet Explorer...
- Look at: <http://www.microsoft.com/data/> for info about ADO, ODBC,... with MS Windows

ADO Objects

- Objects:

Connection (to the DB)

- Recordset (= result of a query)
- Record (= one row of the result)
- Error
- ...

Opening an Connection

- Create an ADO Conn. Object

```
Set cnn1 = Server.CreateObject("ADODB.Connection")
```

- Open an ADO Conn. Object

```
connection.Open ConnString[, UserID, Password]
```

Example:

```
openstr="driver={Microsoft Access Driver (*.mdb)};" & _  
        "dbq=" & Server.MapPath("project.mdb")  
Set cn = Server.CreateObject("ADODB.Connection")  
cn.Open openstr
```

Closing an Connection

- Close

```
cnn1.Close
```

- Release the object memory

```
Set cnn1 = Nothing
```

ODBC Data Sources

- ODBC DBs are identified by a **DSN** (Data Source Name) set by the Operating System
- Define a new DSN

Control Panel -> Administrative Tools -> ODBC

Opening an ODBC Connection

```
Set cnn1 = Server.CreateObject("ADODB.Connection")
```

```
cString = "Provider=ODBC; DSN=grades "
```

```
cnn1.Open cString
```

```
.....
```

```
cnn1.Close
```

```
Set cnn1 = Nothing
```

Accessing Tables

- The most important Object is the Recordset
- It has many methods to:
 - Obtaining results from a DB
 - Move within the result (records)
 - Update (Batch) ...
- And even more properties:
 - Cursor type (move within a recordset)
 - EOF, Index ...

Creating a Recordset

```
Set rs = Server.CreateObject ("ADODB.Recordset ")  
rs.Open Source, ActiveConnection,  
CursorType, LockType[, Options]
```

Example:

```
sql="SELECT * FROM members"  
rs.Open sql, conn1, 0, 1  
(see book pp .71-73)
```

```
Close: rs.Close    set rs = Nothing
```

Move through a Recordset

```
rs.MoveFirst          rs.MoveLast
rs.MoveNext           rs.MovePrev
rs.EOF                rs.BOF
```

Example:

```
rb.MoveFirst
Do While Not rs.EOF
    ' Code
    rb.MoveNext
Loop
```

Move through a Recordset II

```
rs.Move 10[, Startpoint]
```

Startpoint can be:

- 0 ... Current position
- 1 ... First record
- 2 ... Last record

Problem: Positions are not stable (deletion, filtering)

-> Bookmarks

Access Fields in a Recordset

- The record has to be selected by the move method
- Then you can get the fields of the selected record
`rs.Fields("memberid").Value` or
`rs.Fields(0).Value` or
`rs("memberid")` or `rs(0)`

Example:

```
For i=0 To rs.Fields.Count-1
Response.Write "<td>" & rs.Fields(i) &_
    "</td>"
Next
```

Modify a Record

- You have to:
 - Open a connection
 - Open a recordset that contains the record you want to modify (the options have to allow changes! e.g. 2,2; see p. 71)
 - Position to the record
 - Replace the content
 - Save the changes (update or move method)
 - Close the recordset and the connection

Add a Record

- You have to:
 - Open a connection
 - Open a recordset (the options have to allow changes! e.g. 2,2; see p. 71)
 - **Call the AddNew method**
 - **set the values**
 - **Save the changes (update or move method)**
 - Close the recordset and the connection

Delete a Record

- You have to:
 - Open a connection
 - **Open a recordset that contains the record you want to delete (the options have to allow changes! e.g. 2,2; see p. 71)**
 - **Call the Delete method**
 - **Save the changes (update or move method)**
 - Close the recordset and the connection

ADO Commands

```
sql = "DROP TABLE test"  
Set cmd = Server.CreateObject("ADODB.Command")  
Set cmd.ActiveConnection = cnn1  
cmd.CommandText = sql  
cmd.CommandType = adCmdText  
cmd.Execute()
```

Stored Query (ADO Parameter)

- Queries can be predefined in the DB (stored procedure)
- **Advantage:** No SQL Code in the script
- see Book pp. 97-100

ADO Error

- Program goes on after error

```
On Error Resume Next
```

Example:

```
On Error Resume Next
```

```
...
```

```
cnn1.Open ConnectionStr, "", ""
```

```
if Err Then
```

```
    Response.Write "<p>Cannot connect: " &_  
        Err.Number &"-"& Err.Description &_  
    "</p>"
```

```
End If
```

```
On Error GoTo 0
```