

ZFRAME INFRASTRUCTURE

Technical Document

Software Topology

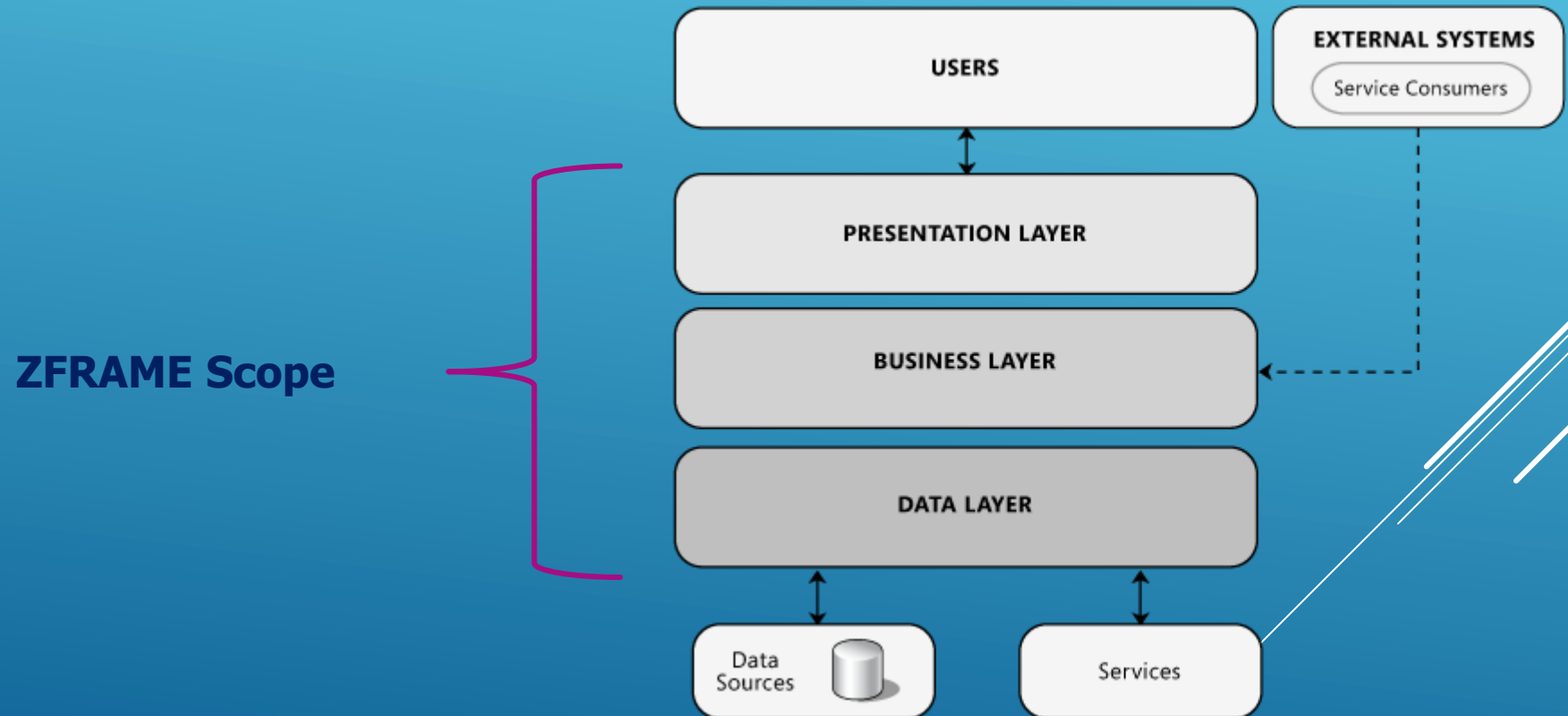
Development

Deployment

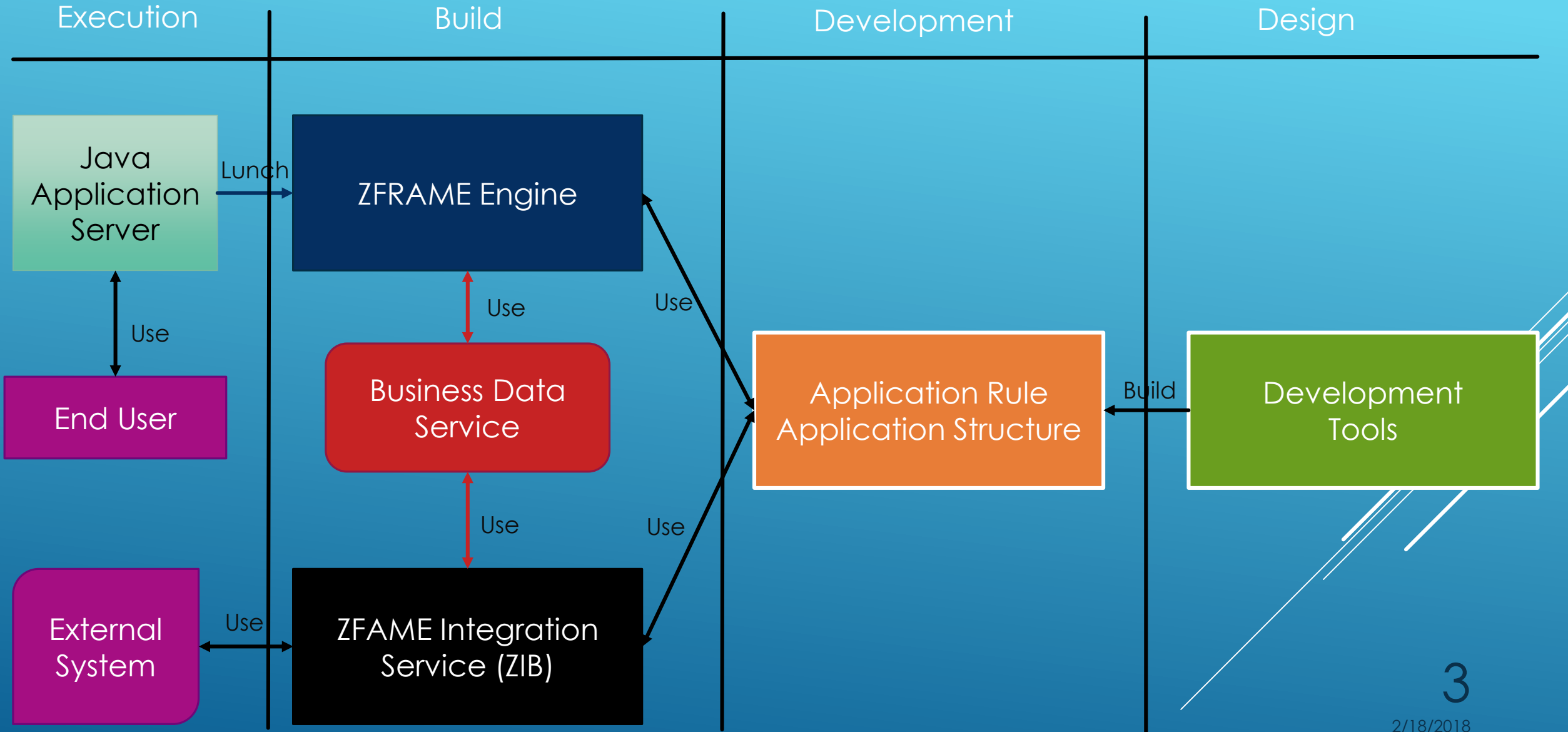
Presenter : Siavash Rafiei



ZFRAME is a low-code application development tool that lets your organization build and deploy custom apps easily and securely

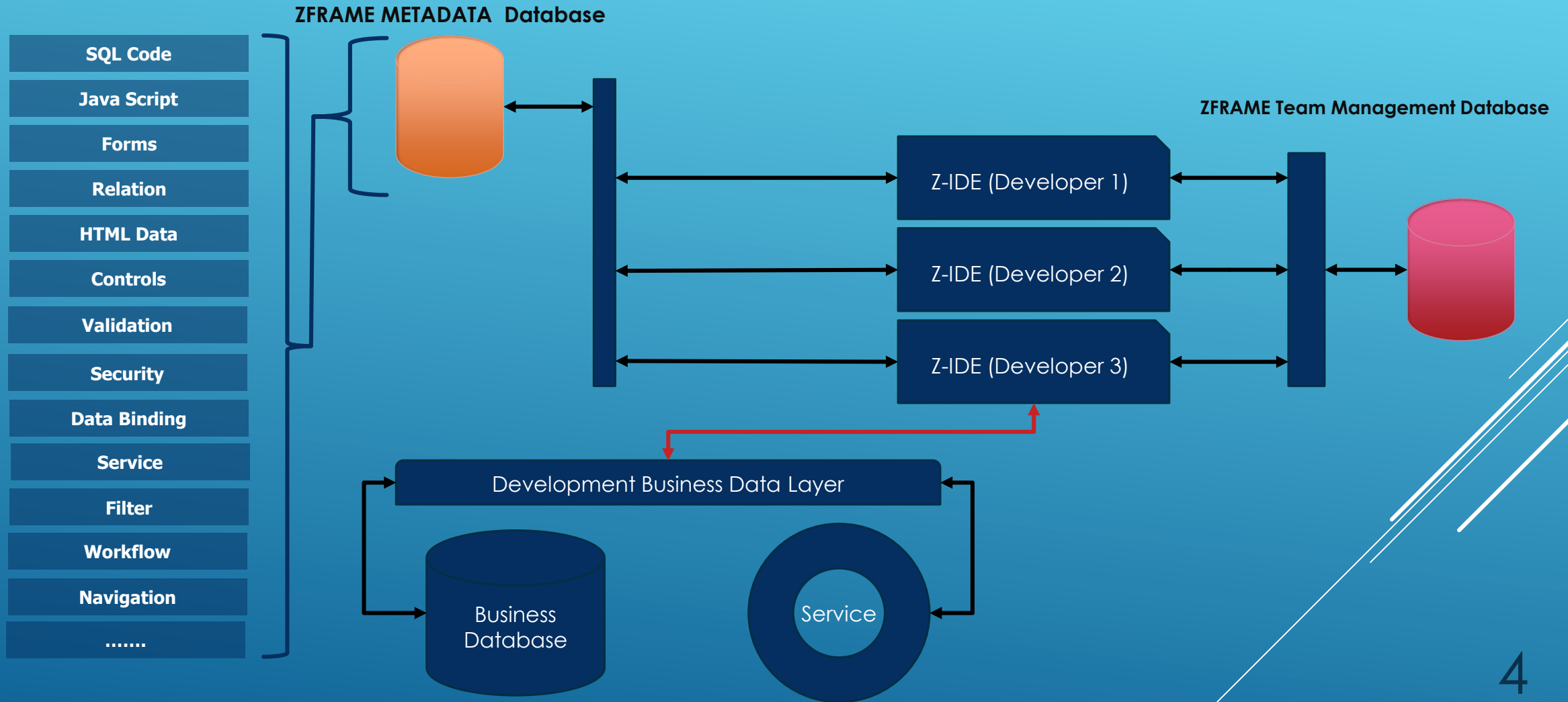


Topology

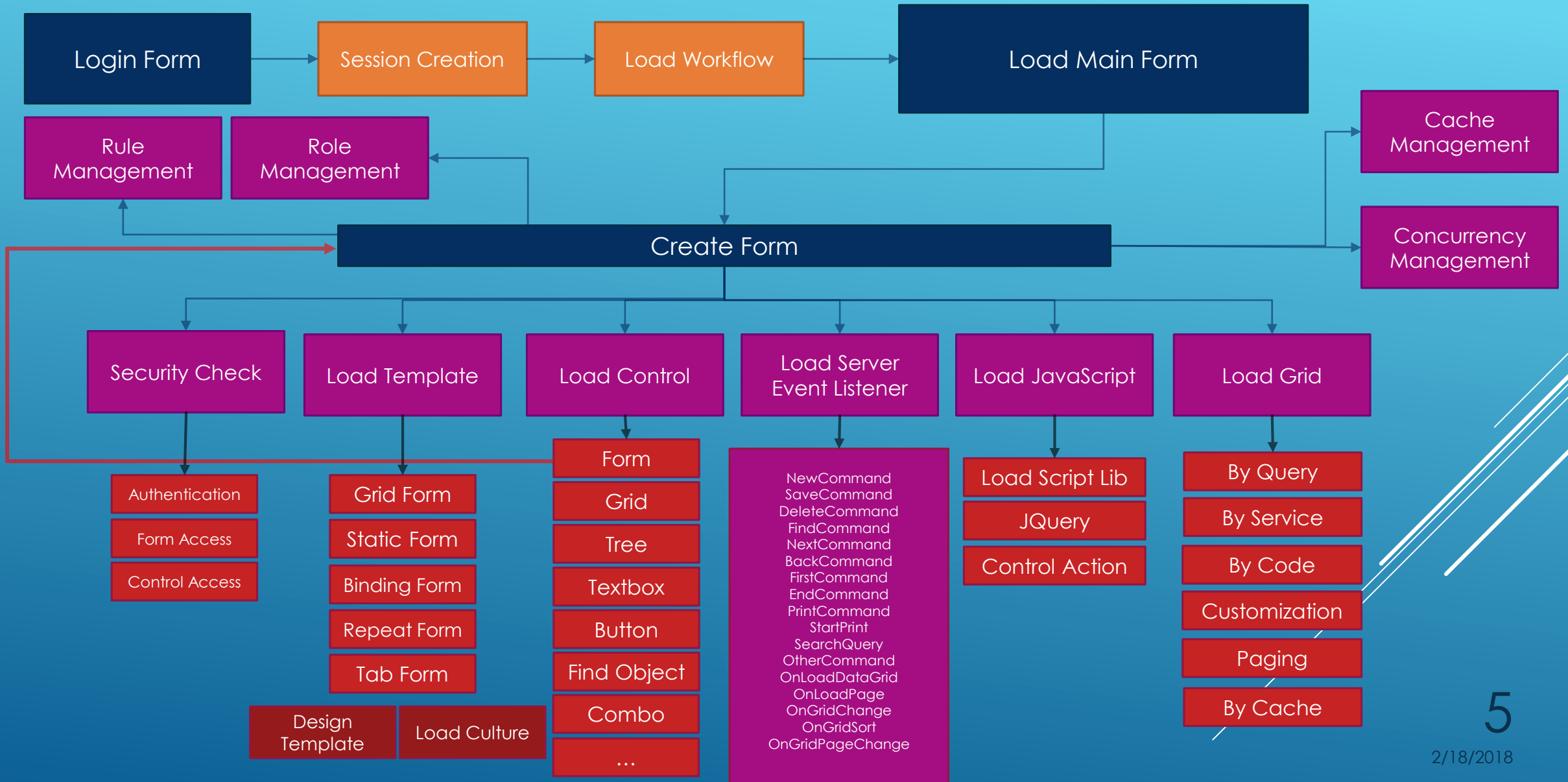


Topology

Simple Development View



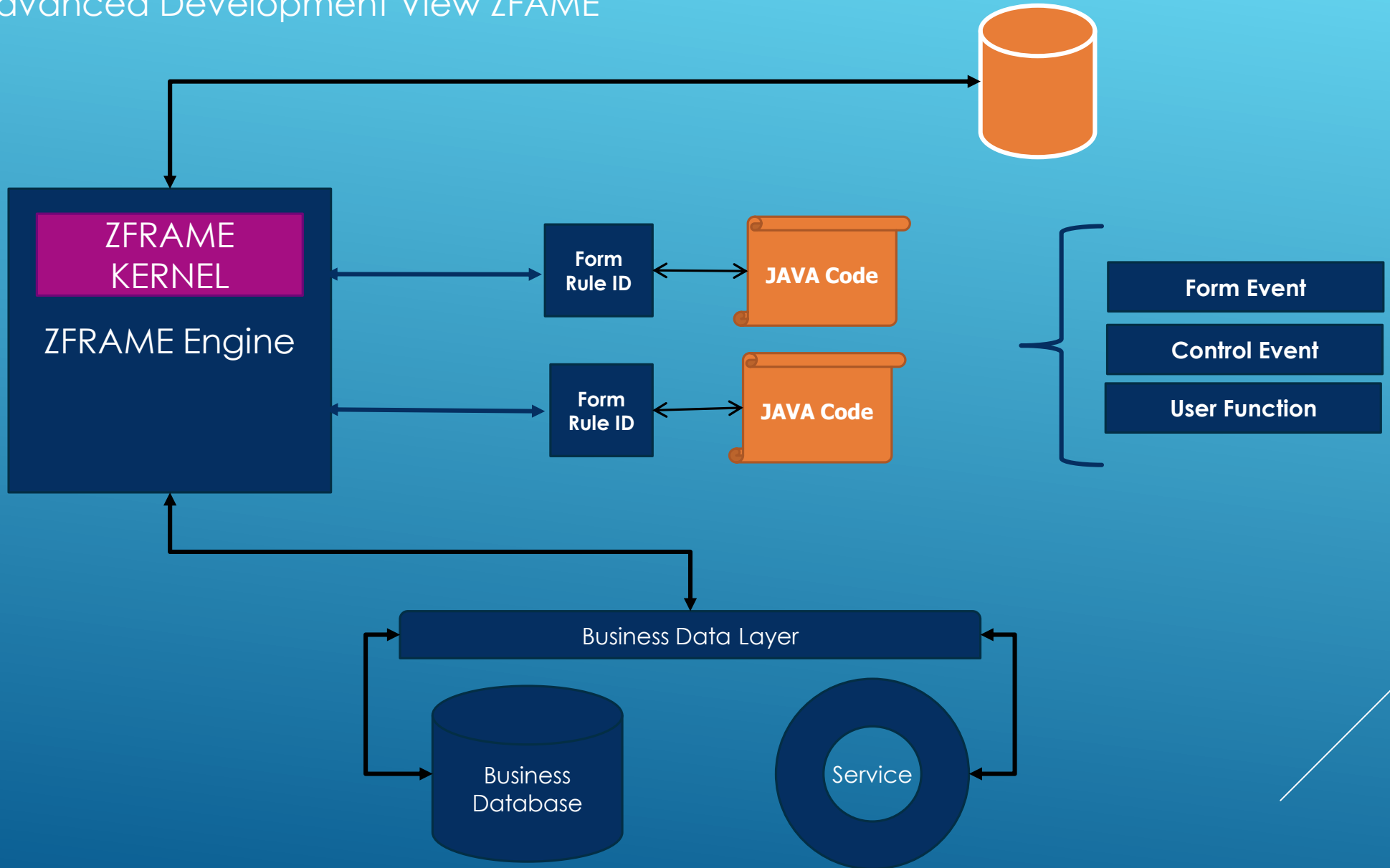
Execution Model



Topology

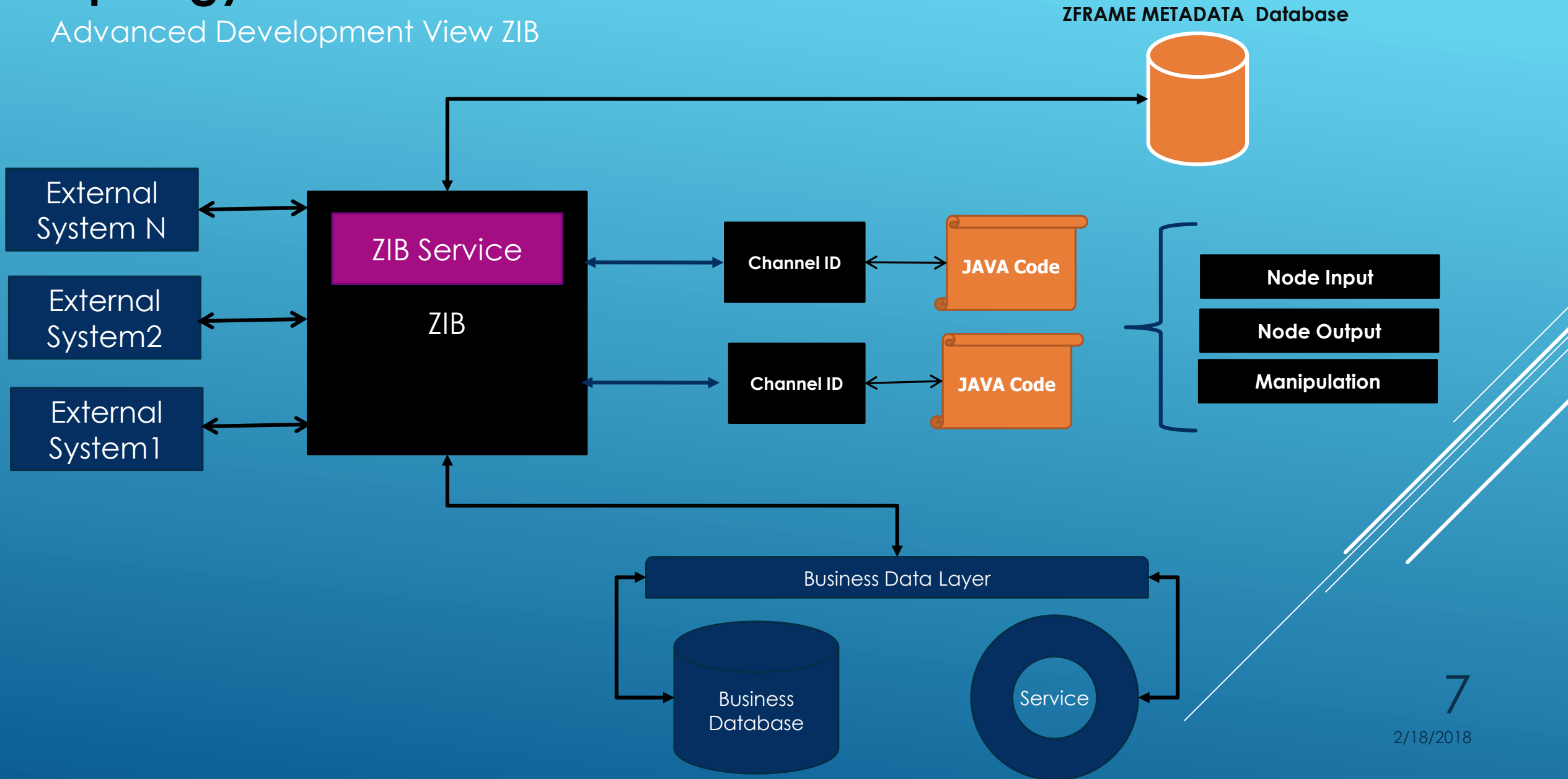
Advanced Development View ZFAME

ZFRAME METADATA Database



Topology

Advanced Development View ZIB



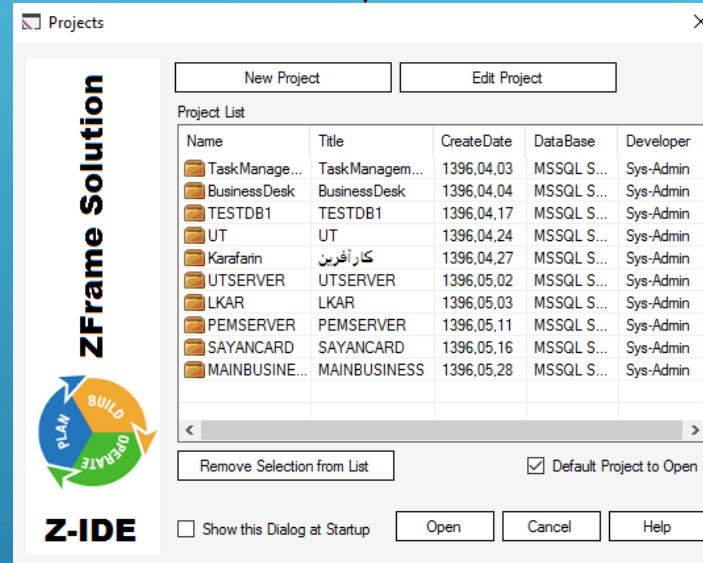
Development

Z-IDE Project And Application

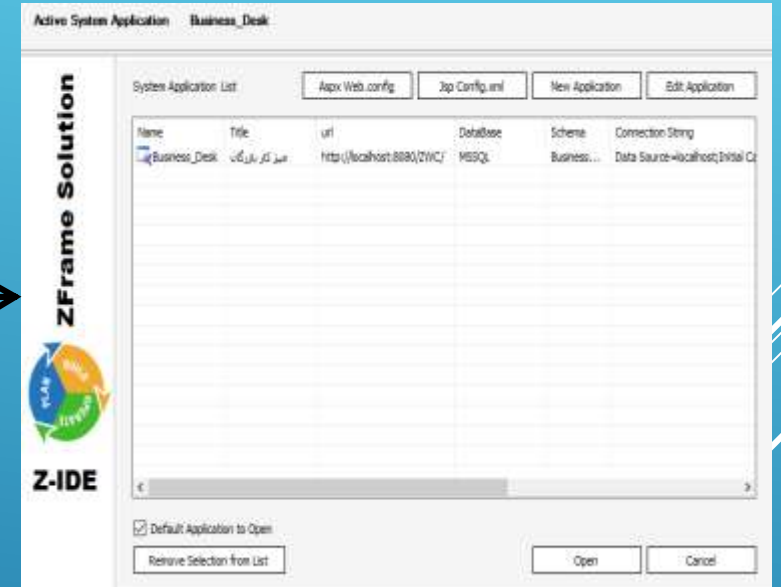


Authentication

Project List



Application List In Project



ERP Project

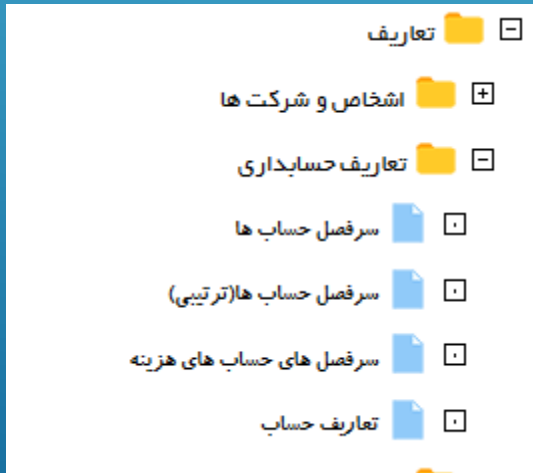
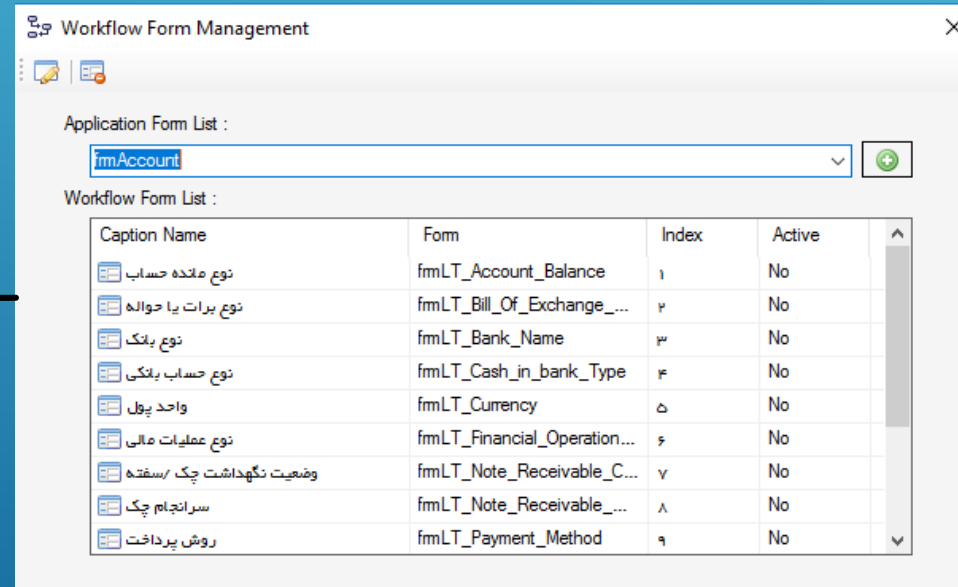
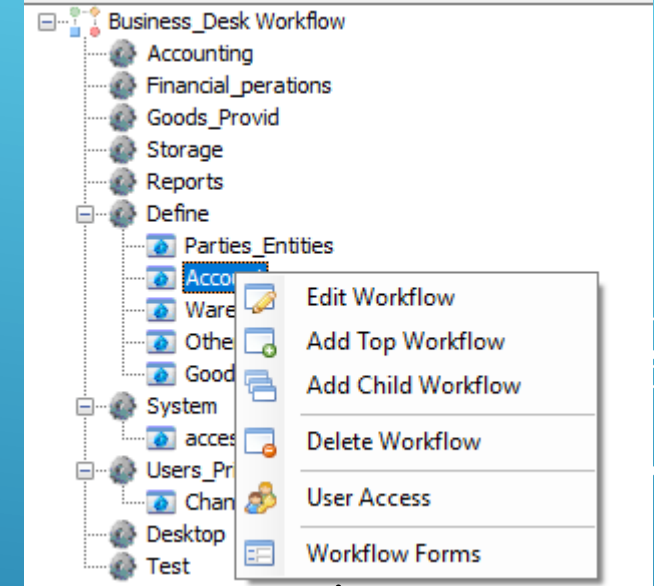
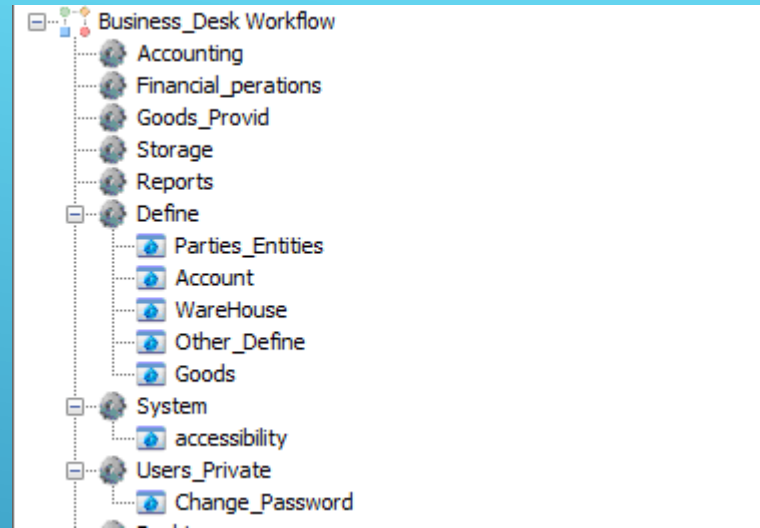
SCM

KMS

CRM

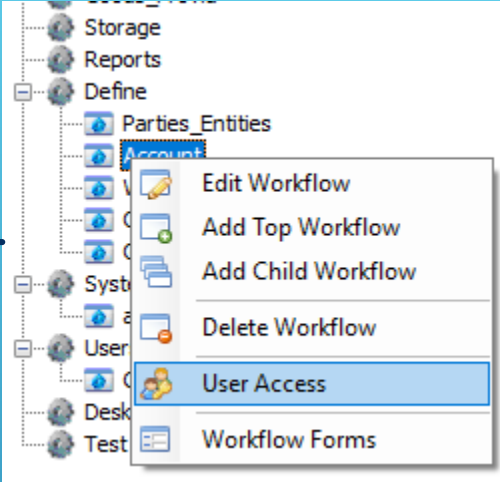
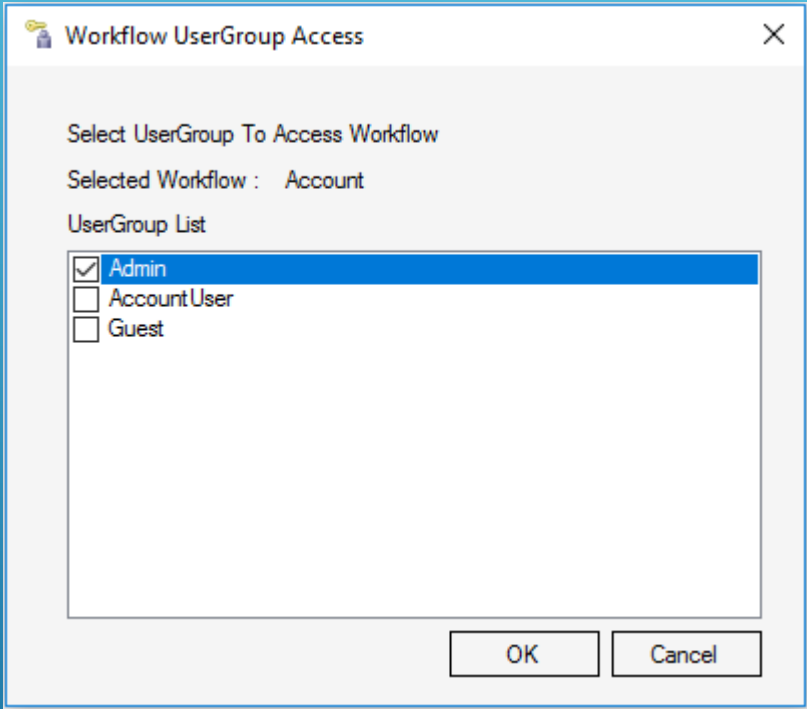
Development

Workflow and Forms



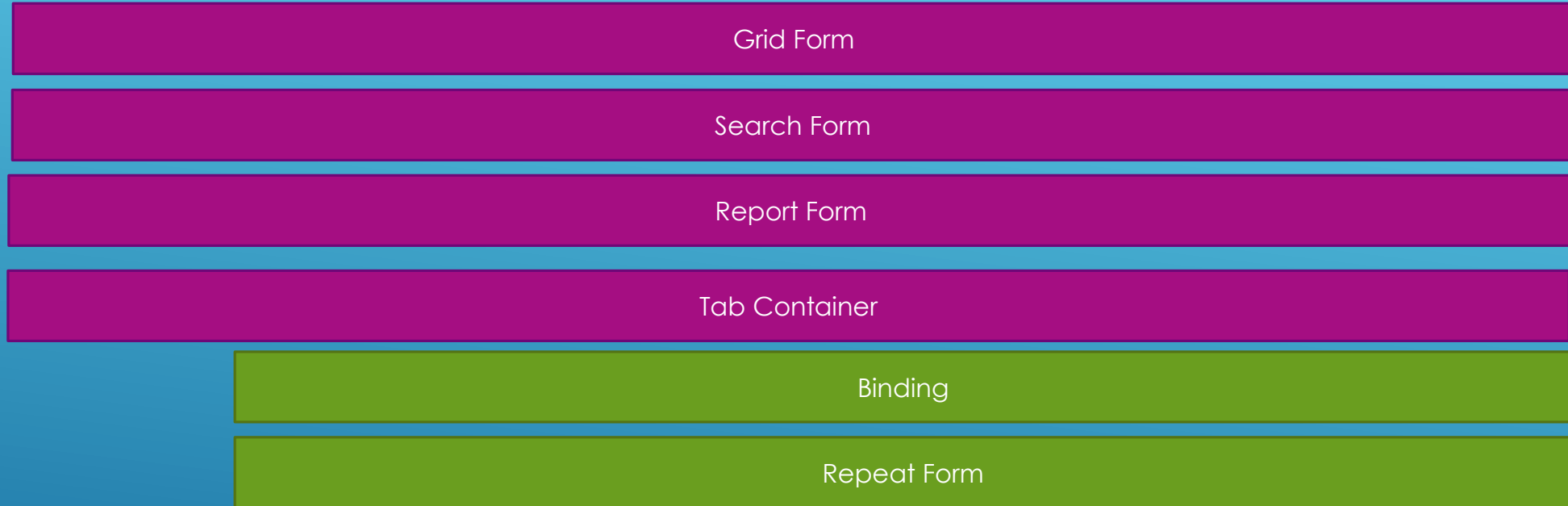
Development

Workflow and Accessibility



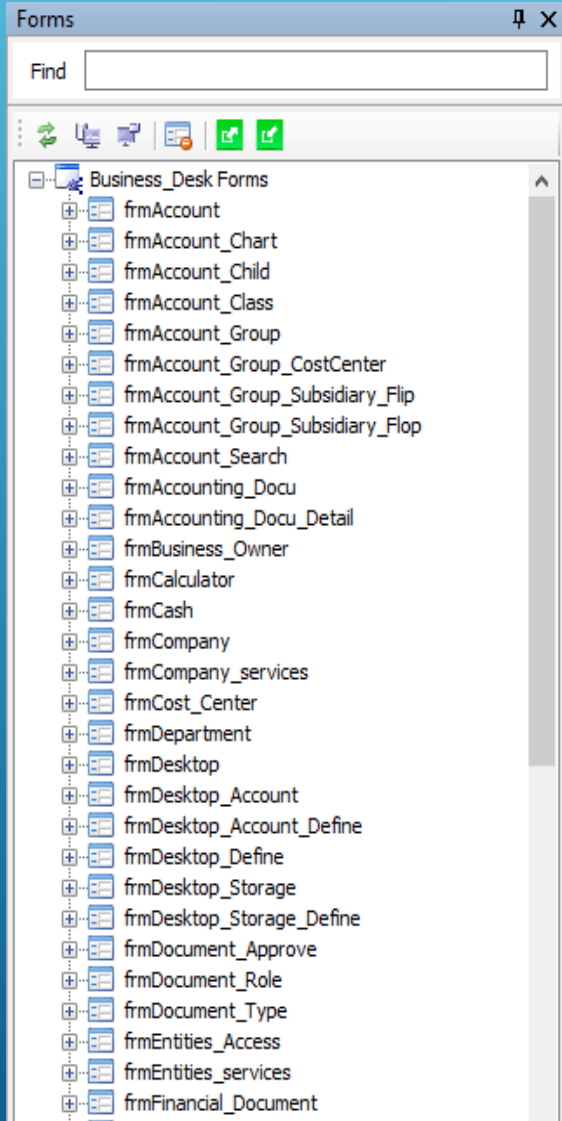
Development

Form Types

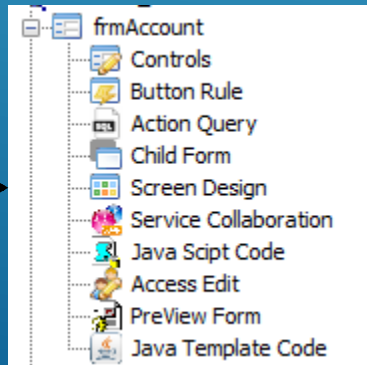


Development

Forms



Form Management



Control

Button Rule

Action Query

Child Form

Screen Design

Service Collaboration

Java Script

Access Edit

Java Code

Development

Forms - Controls

1. Hidden
2. Text Box
3. Data Combo
4. Check Box
5. Option
6. DateBox
7. Multi Line Text
8. Lookup Table Box
9. Find Object Box
10. Grid View
11. File
12. Button
13. Tree
14. Image
15. Check Box List
16. Radio Button List
17. Form
18. Download Object
19. Search Text
20. Label
21. Text Editor
22. List Box
23. Dropdown Tree
24. Chart
25. Menu
26. Flat Tree

Development

Forms – Button Rule In Form

Button Rule

Grid Form



- New
- Save
- Delete
- Search
- Print
- Firest
- Back
- Next
- End
- ExcelGrid
- ExcelReport

Development

Forms – Access Edit

Manage Form Access With User Group

User Group List ▼

Can View Can Insert Can Delete
 Can Edit Can View Report Can Export

Control Name	Can View	Can Edit
AnswerID	<input type="checkbox"/>	<input type="checkbox"/>
QuestionID	<input type="checkbox"/>	<input type="checkbox"/>
AnswerNumber	<input type="checkbox"/>	<input type="checkbox"/>
AnswerText	<input type="checkbox"/>	<input type="checkbox"/>
Weight	<input type="checkbox"/>	<input type="checkbox"/>
NewLabel	<input type="checkbox"/>	<input type="checkbox"/>

Development

Forms – Action Query

Action Query

Insert Query Update Query Delete Query Constraints List

IF Form Access To Database

The screenshot displays the Microsoft Access interface with several overlapping windows:

- Database Object:** Shows the 'dbo.Account' table with fields: Account_ID(int), Account_Group_ID(int), Account_Name(nvarchar), Account_Code(nvarchar), AccountTitle_Complete(nvarchar), Account_Description(nvarchar), Creat_Date(nvarchar), Debit_Verify(numeric), Debit_Total(numeric), Credit_Total(numeric), Debit_Difference(numeric), and Credit_Difference(numeric).
- Insert Query:** Shows the following SQL:

```
INSERT INTO [ACCOUNT]
(
  [ACCOUNT_GROUP_ID]
  , [ACCOUNT_NAME]
  , [ACCOUNT_CODE]
  , [ACCOUNTTITLE_COMPLETE]
  , [ACCOUNT_DESCRIPTION]
  , [CREAT_DATE]
  , [DEBIT_VERIFY]
)
VALUES
(
  @INTACCOUNT_GROUP_ID
  , @STRACCOUNT_NAME
  , @STRACCOUNT_CODE
  , @STRACCOUNTTITLE_COMPLETE
  , @STRACCOUNT_DESCRIPTION
  , @STRCREAT_DATE
  , @LNGDEBIT_VERIFY
)
```
- Update Query:** Shows the following SQL:

```
UPDATE [ACCOUNT]
SET
  [ACCOUNT_GROUP_ID] = @INTACCOUNT_GROUP_ID
  , [ACCOUNT_NAME] = @STRACCOUNT_NAME
  , [ACCOUNT_CODE] = @STRACCOUNT_CODE
  , [ACCOUNTTITLE_COMPLETE] = @STRACCOUNTTITLE_COMPLETE
  , [ACCOUNT_DESCRIPTION] = @STRACCOUNT_DESCRIPTION
  , [CREAT_DATE] = @STRCREAT_DATE
WHERE
  [ACCOUNT_ID] = @INTACCOUNT_ID
```
- Delete Query:** Shows the following SQL:

```
DELETE FROM [ACCOUNT]
WHERE
  [ACCOUNT_ID] = @INTACCOUNT_ID
```
- Error Message:** A dialog box with the title 'خطایه حساب تکراری است' (Account is a duplicate error) and the message: 'شماره حساب تکراری است' (Account number is repeated).

Development

Forms – Child Form

Child Forms List

Child Name	Caption	Active	KeyName
frmAccount_Class	حساب های کل	Yes	Account_Group_ID

Child Form Name:

Reference Form:

Caption:

Key Name:

Active

Load Query

```
1 SELECT
2     [ACCOUNT_GROUP_ID]
3     , [ACCOUNT_GROUP_NAME]
4     , [ACCOUNTCODE]
5     , [ACCOUNT_TITLE_COMPLETE]
6     FROM DBO.Account_Group
7
8     WHERE [PARENT_CODE] =
```

نام حساب	کد	وضعیت
دارین های جاری	۱	
دارین های ثابت	۲	
بدهیهای جاری	۳	
بدهیهای بلندمدت	۴	
حقوق صاحبان سهام	۵	
درآمدها	۶	
هزینه ها	۷	
بهای تمام شده گتای ساخته شده	۸	
حسابهای گتارین	۹	

حساب های کل

حساب های کل

کد	نام حساب	وضعیت
۱	اموال، آنچه و تجهیزات	
۲	دارائیهای غیر منقول	
۳	سرمایه گذاری و مشارکت ها	
۴	هزینه های تقسیص قبل از بهره برداری	
۵	سایر دارین ها	
۶	قرضات تمام شده دارین در حال تکمیل	
۷	ذخیره استهلاک دارائیه	

حساب های کل

کد

نام سر فصل حساب

وضعیت

شرح

Load Form In New I frame With Filter

Development

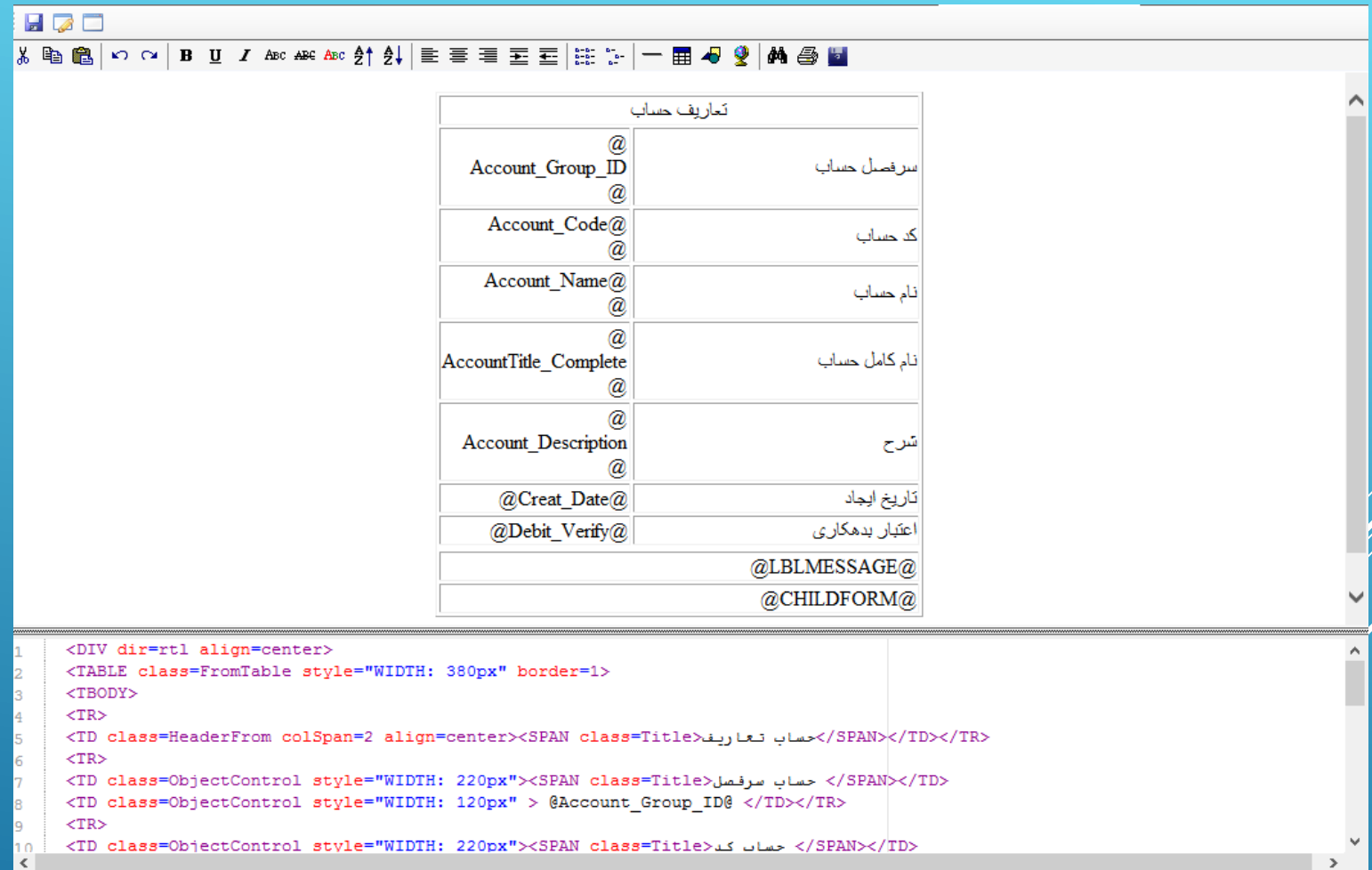
Forms – Screen Design

CSS Management

HTML Code

Inline Java Script

Add Media



The screenshot displays a web design tool interface. The top part shows a preview of a table titled "تعاريف حساب" (Account Definitions). The table has the following structure:

تعاريف حساب	
Account_Group_ID@	سرفصل حساب
Account_Code@	كد حساب
Account_Name@	نام حساب
AccountTitle_Complete@	نام كامل حساب
Account_Description@	شرح
@Creat_Date@	تاريخ ايجاد
@Debit_Verify@	اعتبار بدهكاري
@LBLMESSAGE@	
@CHILDFORM@	

The bottom part of the screenshot shows the HTML code for the table:

```
1 <DIV dir=rtl align=center>
2 <TABLE class=FromTable style="WIDTH: 380px" border=1>
3 <TBODY>
4 <TR>
5 <TD class=HeaderFrom colspan=2 align=center><SPAN class=Title>حساب تعاريف</SPAN></TD></TR>
6 <TR>
7 <TD class=ObjectControl style="WIDTH: 220px"><SPAN class=Title>حساب سرفصل</SPAN></TD>
8 <TD class=ObjectControl style="WIDTH: 120px" > @Account_Group_ID@ </TD></TR>
9 <TR>
10 <TD class=ObjectControl style="WIDTH: 220px"><SPAN class=Title>كد حساب</SPAN></TD>
```

Development

Forms – Web Service Collaboration

Web Service WSDL Schema

WebService

The following operations are supported. For a formal definition, please review the [Service Description](#).

- [CreatreAccount](#)
- [DeleteAccount](#)
- [EditAccount](#)
- [GetAllAccount](#)

This web service is using <http://tempuri.org/> as its default namespace.

Recommendation: Change the default namespace before the XML Web service is made public.

Development

Forms – Web Service Collaboration

External Web Service

Add Service

Service Name:

Service Uri:

SOAP Action:

Name Space:

EnvelopePrefix:

Step 1 Service Register

Add Service

Service Name:

Service Uri:

SOAP Action:

Name Space:

EnvelopePrefix:

```
GetAllAccount
Input Message: GetAllAccount SoapIn
parameters
Output Message: GetAllAccount SoapOut
parameters
CreateAccount
Input Message: CreateAccount SoapIn
parameters
Output Message: CreateAccount SoapOut
parameters
DeleteAccount
Input Message: DeleteAccount SoapIn
parameters
Output Message: DeleteAccount SoapOut
parameters
EditAccount
Input Message: EditAccount SoapIn
parameters
Output Message: EditAccount SoapOut
```

Development

Forms – Web Service Collaboration

Step 1 Service Register

New Service Delete Service

Service Name: Name Space

Service Url:

SOAP Action:

EnvelopePrefix Save

Function List

- GetAllAccount
- GetAllAccountResponse
- CreatreAccount
- CreatreAccountResponse
- DeleteAccount
- DeleteAccountResponse
- EditAccount**
- EditAccountResponse

Parameter List

- AccountID**
- AccountName
- AccountCode

ZFRAME Load Service Function And Parameter

Development

Forms – Web Service Collaboration

Form

Step 2 Service Assignment

Behavior	Web Service	Function			
Insert Service Collaboration	Account		Save	Config	Delete Service Collaboration
Update Service Collaboration	Account		Save	Config	Delete Service Collaboration
Delete Service Collaboration	Account		Save	Config	Delete Service Collaboration
Select Service Collaboration	Account		Save	Config	Delete Service Collaboration

Development

Forms – Web Service Collaboration Simple Mode

Behavior	Web Service	Function			
Insert Service Collaboration	Account	CreateAccount	Save	Config	Delete Service Collaboration
Select Service Collaboration	Account	GetAllAccount	Save	Config	Delete Service Collaboration

Config Service Parameter To From Object

Form Objects

- AccountID
- AccountName
- AccountCode

AccountName

AccountName

Process Function

1 |

Save Delete

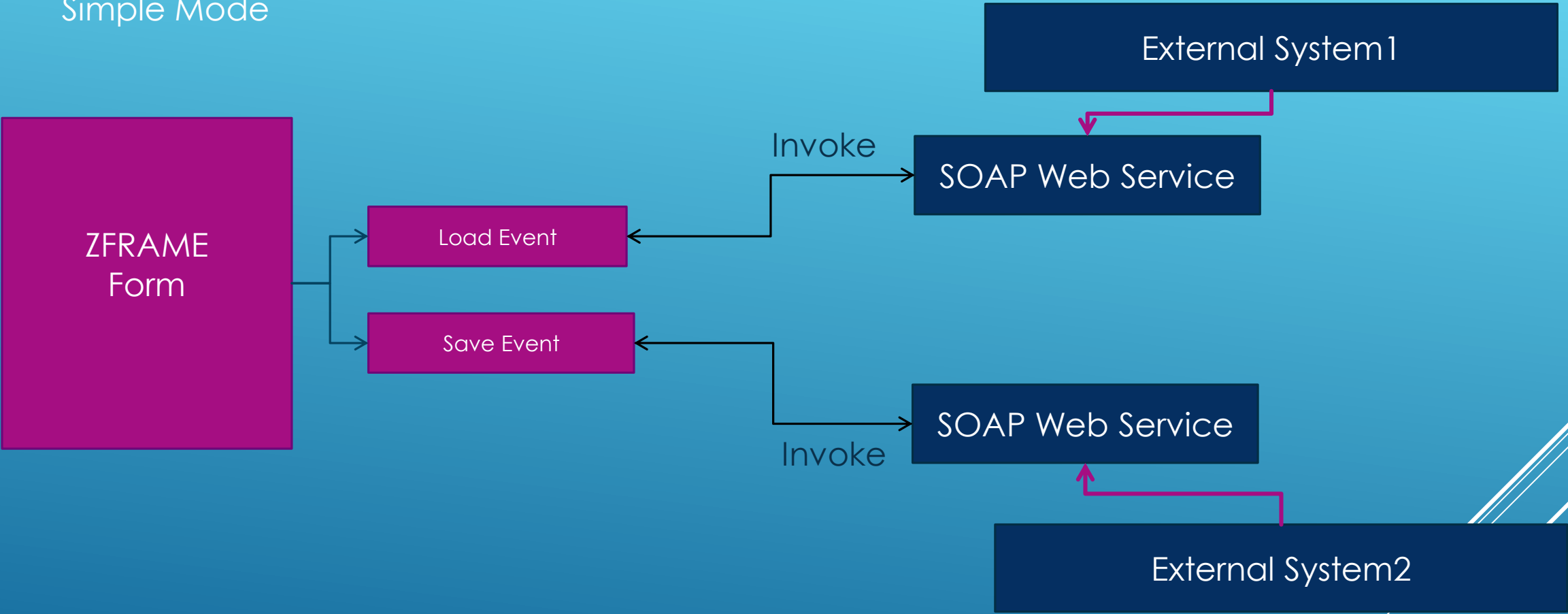
CONTROLNAME	FUNCTIONNAME
AccountName	AccountName
AccountCode	AccountCode
*	

Service Parameter

- AccountName
- AccountCode

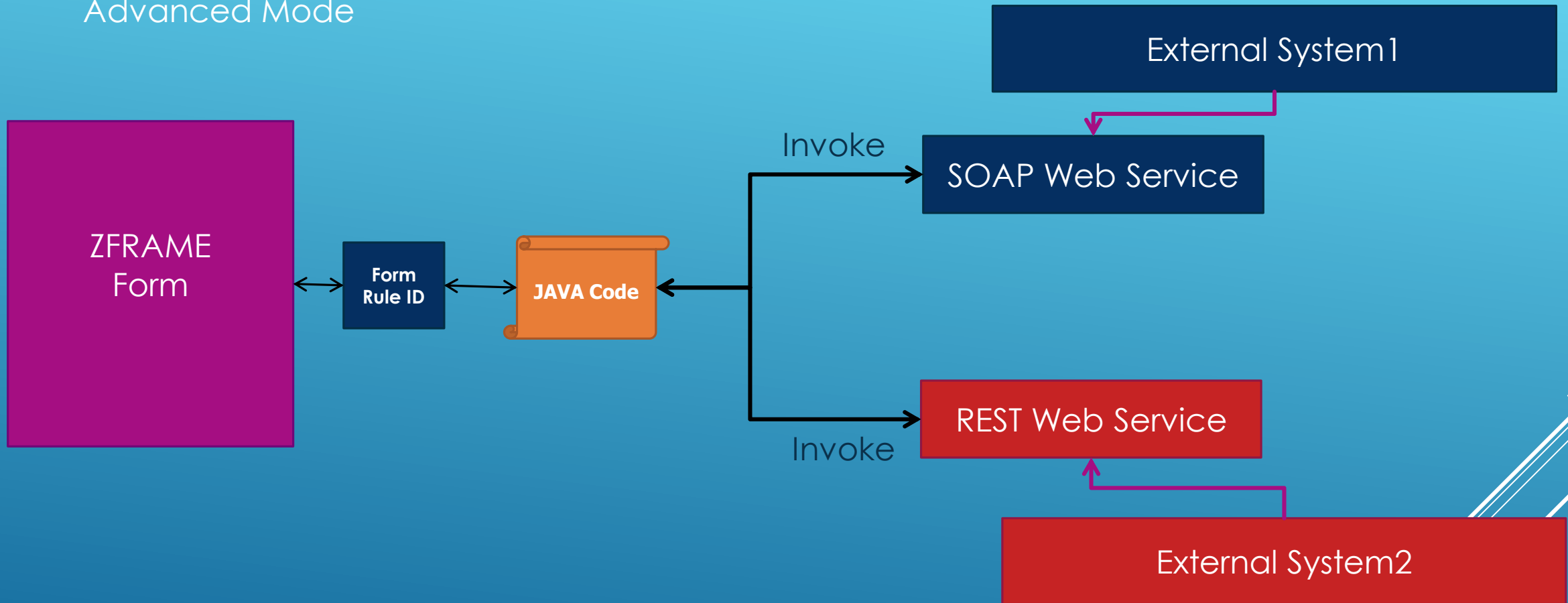
Development

Forms – Web Service Collaboration
Simple Mode



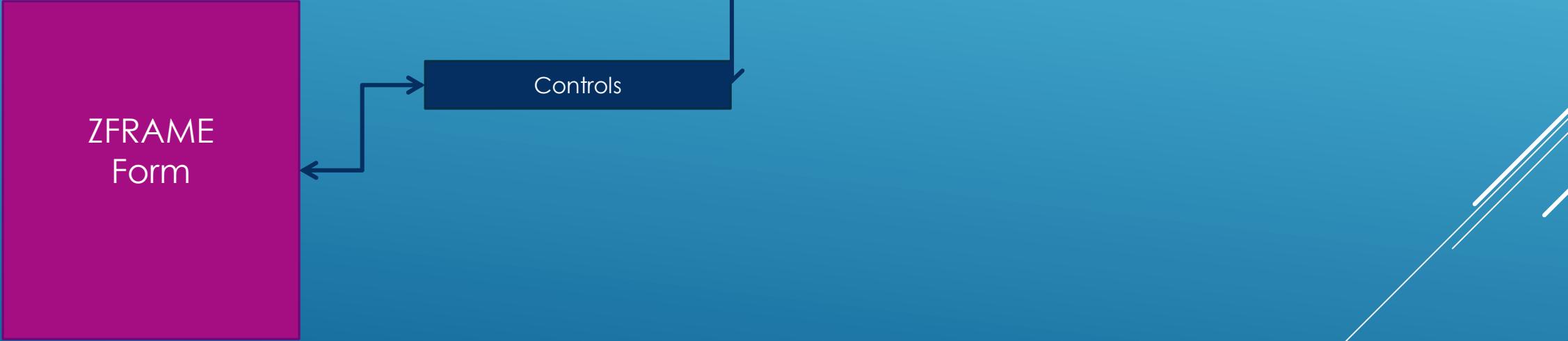
Development

Forms – Web Service Collaboration
Advanced Mode



Development

Java Script



Development

Java Script

JS Control Event

Control Event List

Events

- onabort
- oncanplay
- onchange
- onblur
- oncanplaythrough
- onclick
- oncontextmenu
- oncuechange
- ondblclick
- ondrag
- ondragend

Form Control List

Control Name
AccountID
AccountName
AccountCode

Java Script Function Call

Client Action For : AccountCode

```
1  
2  
3  
4 onclick =\" MFunction (@AccountName@) ;\"  
5  
6
```

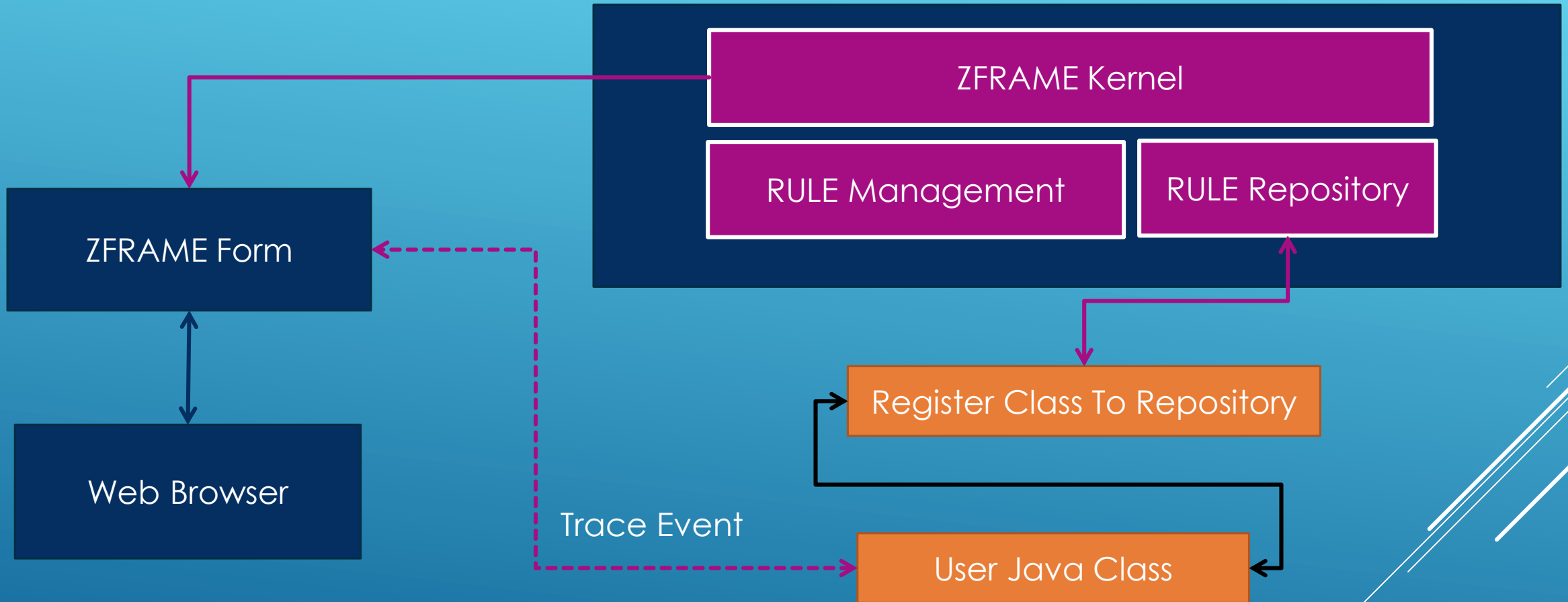
Show Java Script Cancel OK

Java Script Lib

```
1 function MFunction(obj)  
2 {  
3  
4     alert(obj.value);  
5  
6 }
```

Development

Java Programming With ZFRAME



Development

Java Programming With ZFRAME

```
package RuleCode;

import BusinessRule.Structure.Table.Sys_Object_Control;

public class frmAnswer extends I_Framework.UI.RuleCommand.BaseCommandRule
{
    public frmAnswer()
    {
        this.RuleID = 0;
    }

    /* Control List */
    BusinessRule.Structure.Table.Sys_Object_Control Control_AnswerID = new Sys_Object_Control ();
    BusinessRule.Structure.Table.Sys_Object_Control Control_QuestionID = new Sys_Object_Control ();
    BusinessRule.Structure.Table.Sys_Object_Control Control_AnswerNumber = new Sys_Object_Control ();
    BusinessRule.Structure.Table.Sys_Object_Control Control_AnswerText = new Sys_Object_Control ();
    BusinessRule.Structure.Table.Sys_Object_Control Control_Weight = new Sys_Object_Control ();
    BusinessRule.Structure.Table.Sys_Object_Control Control_NewLabel = new Sys_Object_Control ();

    public void FillClassData()
    {
        /* Load Control Data From Request Form */
        Control_AnswerID = this.ControlByClass ("AnswerID");
        Control_QuestionID = this.ControlByClass ("QuestionID");
        Control_AnswerNumber = this.ControlByClass ("AnswerNumber");
        Control_AnswerText = this.ControlByClass ("AnswerText");
        Control_Weight = this.ControlByClass ("Weight");
        Control_NewLabel = this.ControlByClass ("NewLabel");
    }
}
```

```
public void ManageAction()
{
    FillClassData ();

    if (this.CommandType == StandardCommandType.BackCommand)
    {
        OnBackButtonClick ();
        return;
    }
}
```

```
else if (this.CommandType == StandardCommandType.PrintCo
{
    OnPrintCommandButtonClick ();
    return;
}

else if (this.CommandType == StandardCommandType.SaveCom
{
    OnSaveCommandButtonClick ();
    return;
}

else if (this.CommandType == StandardCommandType.Search
{
    OnSearchQueryCommandButtonClick ();
    return;
}

else if (this.CommandType == StandardCommandType.StartPr
{
    OnStartPrintCommandButtonClick ();
    return;
}

}

private void OnBackButtonClick ()
{
}

private void OnDeleteButtonClick ()
{
}
```

Deployment

Operation System

Microsoft Windows

Linux

Main Frame Z/OS

Deployment

Database Engine

MSSQL Server

IBM DB2

Oracle

Deployment

Application Server

Apache Tomcat

Glassfish

Oracle Web Logic

IBM Websphere Application Server