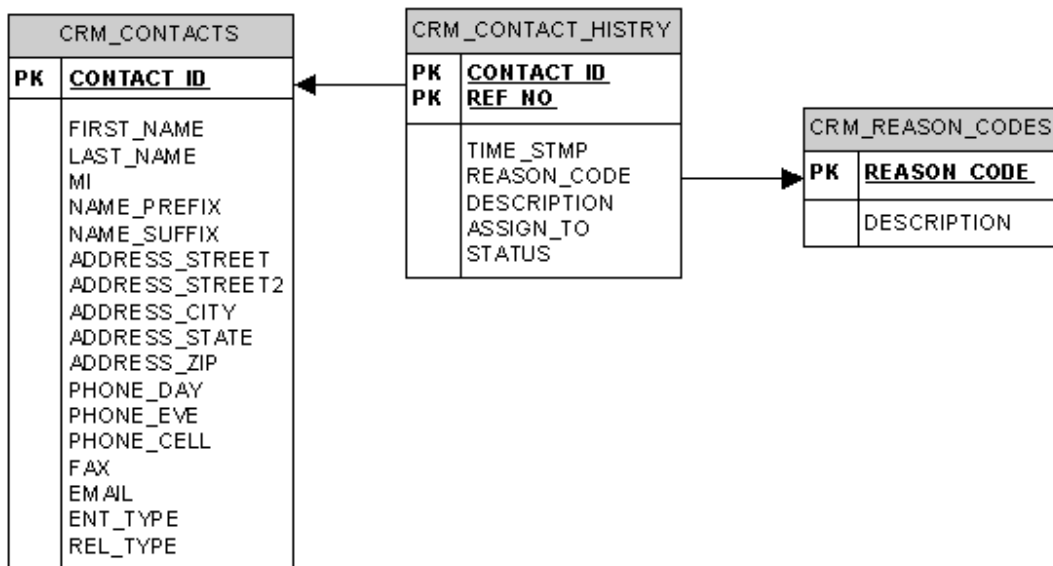## Creating a small Web Data Façade for existing database structure

This exercise demonstrates how to create a Web Data Façade to expose an existing mini database designed to maintain contact information and the contact history of entities interacting with a company.

This application will be provide a web interface to "Create", "Read", "Update", "Delete" (Acronym med "CRUD") and search capability of Contacts. Also it'll provide a way to manage contact history for each contact, which will include to add a new contact event, update existing contact event and so on. Additionally, to demonstrate lookup capabilities and Tree Views, for each contact events, you will be able to assign a "Contact reason", which is picked from a separate table maintained via another page.

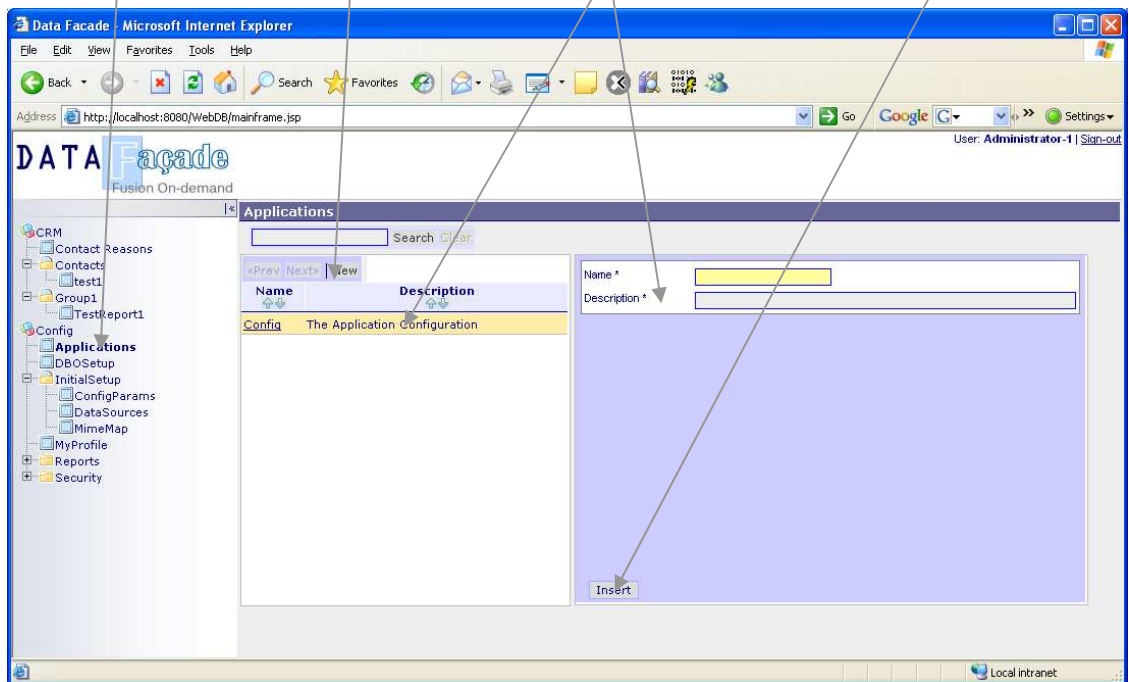Following shows the Entity Relationship model for this mini application.

Note:

Make sure you are logged in as an "Administrator".

For your convenience a several tables are pre-created in the DemoDB data source shipped with the product. In order to check the table structure select Config->InitialSetup->Datasources from the tree menu (on the left hand side) and then pick "DemoDB" data source from the list. Click the "Meta Data/Test" button on the "Details" panel and the tables of the data source will be listed. You can select any of the tables and click next to see the details of each table.

1. Create the "Application" group.

   Select Config->Applications from the main tree menu. Applications defined in the Data Façade will be listed. Click "New" button. The "Details" panel will display a new entry window to provide the Name and Description of the Application. Enter "CRM" for the name and provide a meaningful description (say "Demo CRM System"), and Click "Insert" button.

2. The newly added "CRM" application will be listed. If the "Details" panel is not open, click the "CRM" link to open it. Then Click "DBObjects" link to open the list of DBObjects. A New window will be open with the empty list. Click "New" to create a new DBObject.

3. Provide the Properties for the "CRM_CONTACTS" DBObject listed as follows (Properties are grouped in each tab) and click "Insert" button.

General Info.

DBO Name	**CRM_CONTACTS**
Description	Contacts
Primary Table *	CRM_CONTACTS
Connection Name *	DemoDB
Date Format	yyyy-MM-dd
Page Size	25
Keys	CONTACT_ID
Sort Columns	LAST_NAME|FIRST_NAME|MI
Children DB Objects	CRM_CON_HISTORY
Insertable	☑
Deletable	☐
Cascade Delete	☐
Clonable	☐
Print Preview	☑

Prog.Events

onLoad
onSave
onDelete

Visuals

Children display mode *	Cascade
Record display mode *	InLine
Record search mode *	Browse
Height	600
Detail Panel Height	400
Detail Panel Width	500
List Panel Width	800
Window Height	400
Menu Path	Contacts/Manage
Icon	
Help File	
App. Group *	CRM
Service Request Name	

Security

Roles	Admin
	CRMUsers

4. Click "Columns" link in the newly created CRM_CONTACTS DBObject. List of columns will be displayed. You can modify the properties of each column by selecting one at a time. Modify them as shown in the table below.

NAME_PREFIX ..

Description	Salutation
SQL Type	String
Lookup	Enum
Default Expression	
Format	
Validator	
Enumeration	Mr|Ms|Dr|DR|Rev.
Foreign Key	
Listable	☑
Viewable	☑
Editable	☑
Nullable	☐
Filterable	☐
Group	
Display Order	0
Remarks/Tooltips	

LAST_NAME ..

Description	Last Name
SQL Type	String
Lookup	
Default Expression	
Format	x:40
Validator	
Enumeration	
Foreign Key	
Listable	☑
Viewable	☑
Editable	☐
Nullable	☐
Filterable	☐
Group	
Display Order	1
Remarks/Tooltips	

FIRST_NAME ..

Description	First Name
SQL Type	String
Lookup	
Default Expression	
Format	x:40
Validator	if (valueOf('FIRST_NAME').length<2){ alert('Too Small'); return false;}else{ return true;}
Enumeration	
Foreign Key	
Listable	☑
Viewable	☑
Editable	☑
Nullable	☑
Filterable	☐
Group	
Display Order	2
Remarks/Tooltips	

MI ..

Description	MI
SQL Type	String
Lookup	
Default Expression	
Format	x:1
Validator	
Enumeration	
Foreign Key	
Listable	☑
Viewable	☑
Editable	☑
Nullable	☑
Filterable	☐
Group	
Display Order	3
Remarks/Tooltips	

NAME_SUFFIX ..

Description	Suffix
SQL Type	String
Lookup	Enum
Default Expression	
Format	
Validator	
Enumeration	NA|Jr.|II|III|IV
Foreign Key	
Listable	☐
Viewable	☑
Editable	☑
Nullable	☐
Filterable	☐
Group	
Display Order	4
Remarks/Tooltips	

ENTITY_TYPE ..

Description	Type
SQL Type	String
Lookup	Enum
Default Expression	
Format	
Validator	
Enumeration	Person|Business
Foreign Key	
Listable	☐
Viewable	☑
Editable	☑
Nullable	☐
Filterable	☐
Group	
Display Order	6
Horizontal Position	0
Packing Policy	Default
Dynamic Column Factory	
Remarks/Tooltips	

REL_TYPE ..

Description	Relationship	
SQL Type	String	
Lookup	Enum	
Default Expression		
Format		
Validator		
Enumeration	Customer|Lead|Employee|Associate	
Foreign Key		
Listable	☐	
Viewable	☑	
Editable	☑	
Nullable	☐	
Filterable	☐	
Group		
Display Order		7
Remarks/Tooltips		

ADDRESS_STREET ..

Description	Street	
SQL Type	String	
Lookup		
Default Expression		
Format	x:40	
Validator		
Enumeration		
Foreign Key		
Listable	☐	
Viewable	☑	
Editable	☑	
Nullable	☐	
Filterable	☐	
Group	Address	
Display Order		10
Remarks/Tooltips		

ADDRESS_STREET2 ..

Description	
SQL Type	String
Lookup	
Default Expression	
Format	x:40
Validator	
Enumeration	
Foreign Key	
Listable	☐
Viewable	☑
Editable	☑
Nullable	☑
Filterable	☐
Group	Address
Display Order	11
Remarks/Tooltips	

ADDRESS_CITY ..

Description	City
SQL Type	String
Lookup	
Default Expression	
Format	x:40
Validator	
Enumeration	
Foreign Key	
Listable	☐
Viewable	☑
Editable	☑
Nullable	☐
Filterable	☐
Group	Address
Display Order	12
Remarks/Tooltips	

ADDRESS_STATE ..

Description	State	
SQL Type	String	
Lookup		
Default Expression		
Format	x:2	
Validator		
Enumeration		
Foreign Key		
Listable	☐	
Viewable	☑	
Editable	☑	
Nullable	☐	
Filterable	☐	
Group		Address
Display Order		13
Remarks/Tooltips		

ADDRESS_ZIP ..

Description	Zip	
SQL Type	String	
Lookup		
Default Expression		
Format	x:5	
Validator		
Enumeration		
Foreign Key		
Listable	☐	
Viewable	☑	
Editable	☑	
Nullable	☐	
Filterable	☐	
Group		Address
Display Order		15
Remarks/Tooltips		

PHONE_DAY ..

Description	Phone (Day Time)	
SQL Type	String	
Lookup		
Default Expression		
Format		
Validator		
Enumeration		
Foreign Key		
Listable	☑	
Viewable	☑	
Editable	☑	
Nullable	☑	
Filterable	☐	
Group	Contacts	
Display Order		300
Remarks/Tooltips		

PHONE_EVE ..

Description	Phone (Evening)	
SQL Type	String	
Lookup		
Default Expression		
Format		
Validator		
Enumeration		
Foreign Key		
Listable	☐	
Viewable	☑	
Editable	☑	
Nullable	☑	
Filterable	☐	
Group	Contacts	
Display Order		301
Remarks/Tooltips		

PHONE_CELL ..

Description	Phone (Cell)	
SQL Type	String	
Lookup		
Default Expression		
Format		
Validator		
Enumeration		
Foreign Key		
Listable	☐	
Viewable	☑	
Editable	☑	
Nullable	☑	
Filterable	☐	
Group	Contacts	
Display Order		303
Horizontal Position		0
Packing Policy	Default	
Dynamic Column Factory		
Remarks/Tooltips		

FAX ..

Description	Fax	
SQL Type	String	
Lookup		
Default Expression		
Format		
Validator		
Enumeration		
Foreign Key		
Listable	☑	
Viewable	☑	
Editable	☑	
Nullable	☑	
Filterable	☐	
Group	Contacts	
Display Order		305
Horizontal Position		0
Packing Policy	Default	
Dynamic Column Factory		
Remarks/Tooltips		

EMAIL ..

Description	EMail	
SQL Type	String	
Lookup		
Default Expression		
Format		
Validator		
Enumeration		
Foreign Key		
Listable	☑	
Viewable	☑	
Editable	☑	
Nullable	☑	
Filterable	☐	
Group	Contacts	
Display Order		306
Remarks/Tooltips		

CONTACT_ID ..

Description	CONTACT_ID	
SQL Type	String	
Lookup		
Default Expression	UniqueKey	
Format		
Validator		
Enumeration		
Foreign Key		
Listable	☐	
Viewable	☐	
Editable	☐	
Nullable	☐	
Filterable	☐	
Group		
Display Order		9999
Remarks/Tooltips		

5. Repeat the same process for CRM_CON_HISTORY using the following parameter.

General Info.	
DBO Name	**CRM_CON_HISTORY**
Description	History
Primary Table *	
	CRM_CONTACT_HISTRY
Connection Name *	DemoDB
Date Format	
	yyyy-MM-dd
Page Size	
	25
Keys	CONTACT_ID|REF_NO
Sort Columns	
	TIME_STMP DESC
Children DB Objects	
Insertable	☑
Deletable	☐
Cascade Delete	☐
Clonable	☐
Print Preview	☐

Prog.Events
onLoad
onSave
onDelete

Visuals	
Children display mode *	Inline-PopUp
Record display mode *	InLine
Record search mode *	Browse
Height	400
Detail Panel Height	370
Detail Panel Width	500
List Panel Width	600
Window Height	450
Menu Path	
Icon	
Help File	
App. Group *	CRM
Service Request	

6. Click "Columns" link in the newly created CRM_CON_HISTORY DBObject. List of columns will be displayed. You can modify the properties of each column by selecting one at a time. Modify them as shown in the table below.

TIME_STMP ..

Description	Time Stamp
SQL Type	TimeStamp
Lookup	
Default Expression	TimeStamp
Format	MM/dd/yy HH:mm
Validator	if (Date.parse(document.forms[0].elements['TIME_STMP'].value).after(new Date())){alert('Date cannot be in the future');return false;}else{return true;}
Enumeration	
Foreign Key	
Listable	☑
Viewable	☑
Editable	☑
Nullable	☐
Filterable	☐
Group	
Display Order	1
Remarks/Tooltips	

REASON_CODE ..

Description	Reason
SQL Type	String
Lookup	SQL::DemoDB::SELECT REASON_CODE,REASON FROM CRM_REASON_CODES ORDER BY REASON
Default Expression	
Format	
Validator	
Enumeration	
Foreign Key	
Listable	☑
Viewable	☑
Editable	☑
Nullable	☐
Filterable	☐
Group	
Display Order	2
Remarks/Tooltips	

DESCRIPTION ..

Description	Description
SQL Type	String
Lookup	
Default Expression	
Format	x:60X5
Validator	if (document.forms[0].elements['DESCRIPTION'].value.length<5){alert('Too Small');return false;}else{return true;}
Enumeration	
Foreign Key	
Listable	☐
Viewable	☑
Editable	☑
Nullable	☑
Filterable	☐
Group	
Display Order	3
Remarks/Tooltips	

STATUS ..

Description	Status
SQL Type	String
Lookup	Enum
Default Expression	
Format	
Validator	
Enumeration	Open|Assigned|Closed
Foreign Key	
Listable	☑
Viewable	☑
Editable	☑
Nullable	☐
Filterable	☐
Group	
Display Order	4
Remarks/Tooltips	

ASSIGN_TO ..

Description	AssignTo
SQL Type	String
Lookup	SQL::DemoDB::SELECT CONTACT_ID,LAST_NAME||','||FIRST_NAME||' '||MI FROM CRM_CONTACTS WHERE REL_TYPE='Employee' ORDER BY LAST_NAME,FIRST_NAME
Default Expression	
Format	
Validator	
Enumeration	
Foreign Key	
Listable	☐
Viewable	☑
Editable	☑
Nullable	☐
Filterable	☐
Group	
Display Order	9999
Remarks/Tooltips	

REF_NO ..

Description	REF_NO
SQL Type	String
Lookup	
Default Expression	UniqueKey
Format	
Validator	
Enumeration	
Foreign Key	
Listable	☐
Viewable	☐
Editable	☐
Nullable	☐
Filterable	☐
Group	
Display Order	9999
Remarks/Tooltips	

CONTACT_ID ..

Description	CONTACT_ID
SQL Type	String
Lookup	
Default Expression	
Format	
Validator	
Enumeration	
Foreign Key	CONTACT_ID
Listable	☐
Viewable	☐
Editable	☐
Nullable	☐
Filterable	☐
Group	
Display Order	9999
Remarks/Tooltips	

7. Repeat the same process for CRM_REASON_CODES using the following parameter.

General Info.	
DBO Name	**CRM_REASON_CODES**
Description	Reason Codes
Connection Name *	DemoDB
Primary Table *	CRM_REASON_CODES
Date Format	yyyy-MM-dd
Page Size	25
Keys	REASON_CODE
Sort Columns	REASON
Children DB Objects	
Insertable	☑
Deletable	☑
Cascade Delete	☐
Clonable	☐
Print Preview	☐

Prog.Events	
onLoad	
onSave	
onDelete	

Visuals	
Children display mode *	Cascade
Record display mode *	InLine
Record search mode *	TreeView
Height	500
Detail Panel Height	320
Detail Panel Width	500
List Panel Width	600
Window Height	400
Menu Path	Contact Reasons
Icon	
Help File	
App. Group *	CRM

Security	
Roles	

8. Click "Columns" link in the newly created CRM_REASON_CODES DBObject. List of columns will be displayed. You can modify the properties of each column by selecting one at a time. Modify them as shown in the table below.

REASON ..

Description		Reason
SQL Type		String
Lookup		
Default Expression		
Format		x:40
Validator		
Enumeration		
Foreign Key		
Listable		☑
Viewable		☑
Editable		☑
Nullable		☐
Filterable		☐
Group		
Display Order		1
Horizontal Position		0
Packing Policy		Default
Dynamic Column Factory		
Remarks/Tooltips		

REASON_CODE ..

Description		REASON_CODE
SQL Type		String
Lookup		
Default Expression		UniqueKey
Format		
Validator		
Enumeration		
Foreign Key		
Listable		☐
Viewable		☐
Editable		☐
Nullable		☐
Filterable		☐
Group		
Display Order		9999
Horizontal Position		0
Packing Policy		Default
Dynamic Column Factory		
Remarks/Tooltips		

9. Close the browser window opened to create DBObjects. In the main Browser window, click the refresh button. The new menu entries will appear in the main tree menu and you can click them to add/view data.