

Developing Intelligent Quiz Apps Using WKA Studio

This document explains about how quiz app can be developed following rule based approach.

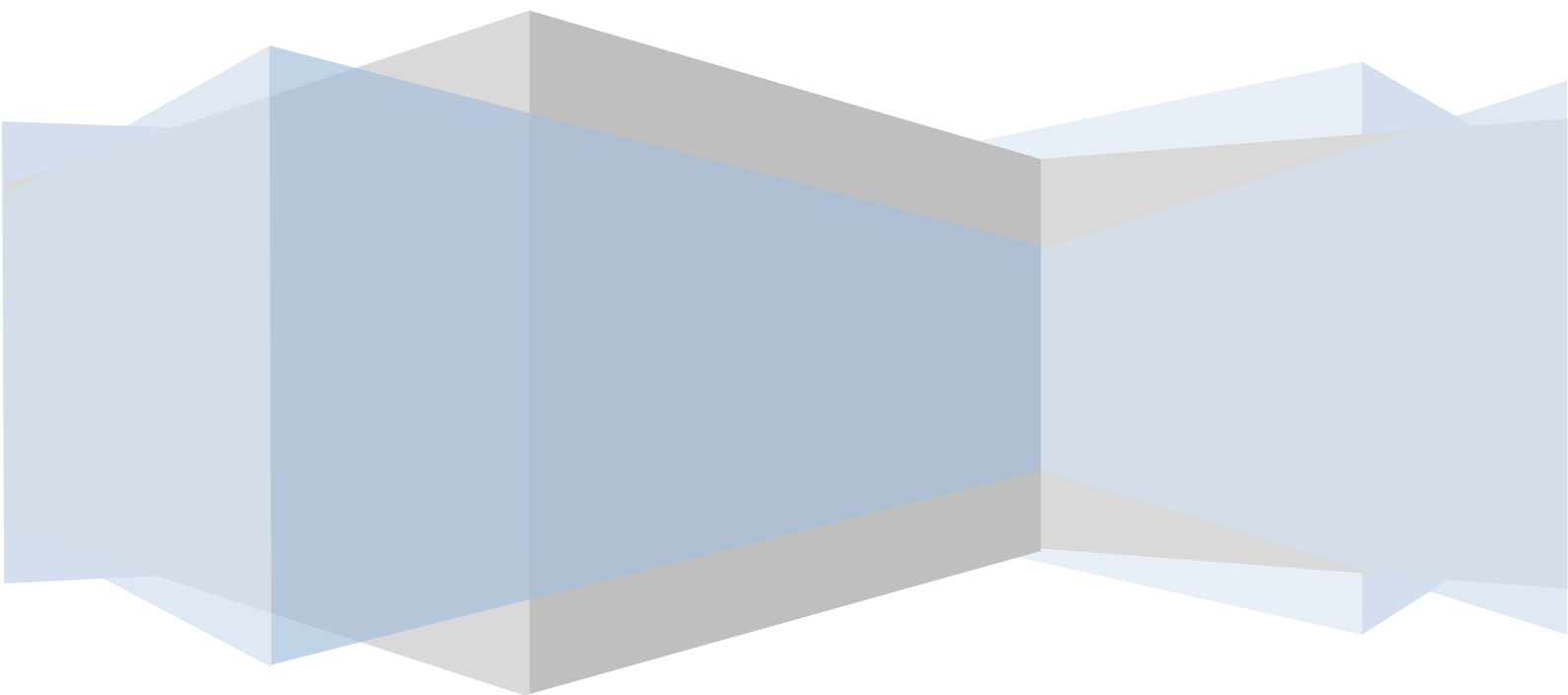


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About Quiz Application

The document demonstrates building intelligent quiz app following rule based approach.

1. Developing Quiz Application

This document illustrates how quiz application can be developed using excel file.

1.1 Preparing Excel File to Create Quiz Application

To prepare an excel file, the questions, quiz list and quiz details in excel sheet need to be defined. The following figures below (Figure 1, Figure 2 and Figure3) show the three sheets (names of the worksheets can be different and need not be Questions, Quizzes and QuizzesDetails).

SNo	QSetID	QID	Description	Prompt	NumberingPattern	Option1	Option2	Option3	Option4	Option5
1	Reasoning		Three of the words will be in the same classification, the remaining one will not be. Your answer will be the one word that does NOT belong in the same classification as the others.	Which word does NOT belong with the others?	ABCD	parsley	basil	dill	mayonnaise	
2	Reasoning	1	Three of the words will be in the same classification, the remaining one will not be. Your answer will be the one word that does NOT belong in the same classification as the others.	Which word does NOT belong with the others?	ABCD	Tyre	Steering wheel	Car	Engine	
3	Reasoning	2	Read the below passage carefully and answer the questions: At a small company, parking spaces are reserved for the top executives: CEO, president, vice president, secretary, and treasurer with the spaces lined up in that order. The parking lot guard can tell at a glance if the cars are parked correctly by looking at the color of the cars. The cars are yellow, green, purple, red, and blue, and the	Who is the secretary?	ABCD	Enid	David	Cheryl	Bert	Alice

Figure 1: Questions Worksheet Part 1

Option6	Option7	MaxOptionsToBeSelected	IsMandatory	DifficultyLevel	ImageURL	AnswerKey	Marks	NegativeMarks	KeyExplanation
		1	NO	1		D		1	0 Parsley, basil, and dill are types of herbs. Mayonnaise is not an herb.
		1	NO	1		C		1	0 Tyre, steering wheel, and engine are all parts of a car.
		1	NO	1		E		1	0

Figure 2: Questions Worksheet Part 2

Table 1: Description of Column in Excel Sheet

Column	Mandatory	Description
SrNo	Yes	Unique Serial number for every question.
QSetID	Yes	Name given to question set (it can be subject/type example: reasoning, maths etc.)
QID	Yes	Question serial number within question set, keep it 1,2,3...
Description	Yes	Description of the question that appears on the top.
Prompt	Yes	Question
NumberingPattern	Yes	Serial number or alphabet to the questions ABCD, abcd, 1234 and Roman.
Option1	No	Options of the questions. It can be text or image file (example: for pattern). If options are skipped, textbox is considered.
Option2		
Option3		
Option4		
...		
MaxOptionsToBeSelected	Yes	How many options user is allowed to select, if selected one, radio box is used, if more than one then check box is used.
IsMandatory	No	Answer to the question by the user is not mandatory, it can be skipped.
DifficultyLevel	No	Can be set in case questions are with different difficulty levels 1, 2, 3... Keep default 0.
ImageURL	No	Any image to be included in web-page.
AnswerKey	Yes	Answerkey of the question.
Marks	Yes	Marks given to the question.
NegativeMarks	No	Negative marks if any, keep default 0.
KeyExplanation	No	Explanation of answer if needed.

A	B	C	D
QuizID	Name		
QZ1	Q1 Test		
QZ2	Q2 Test		

Figure 3: Quizzes Worksheet

A	B	C	D	E	F
QuizID	QsetID	MaxQuestions	IsRandomQuestions	QuestionNos	Duration
QZ1	Reasoning	5	No	[1,2,3,4,5]	5
QZ2	Maths	3	Yes		5

Figure 4: QuizzesDetails Worksheet

1.2 Importing Excel File

After preparing an excel file, the user needs to import that file in WKA Studio.

1. Go to *Main Menu -> Database Interfaces -> Connections.*

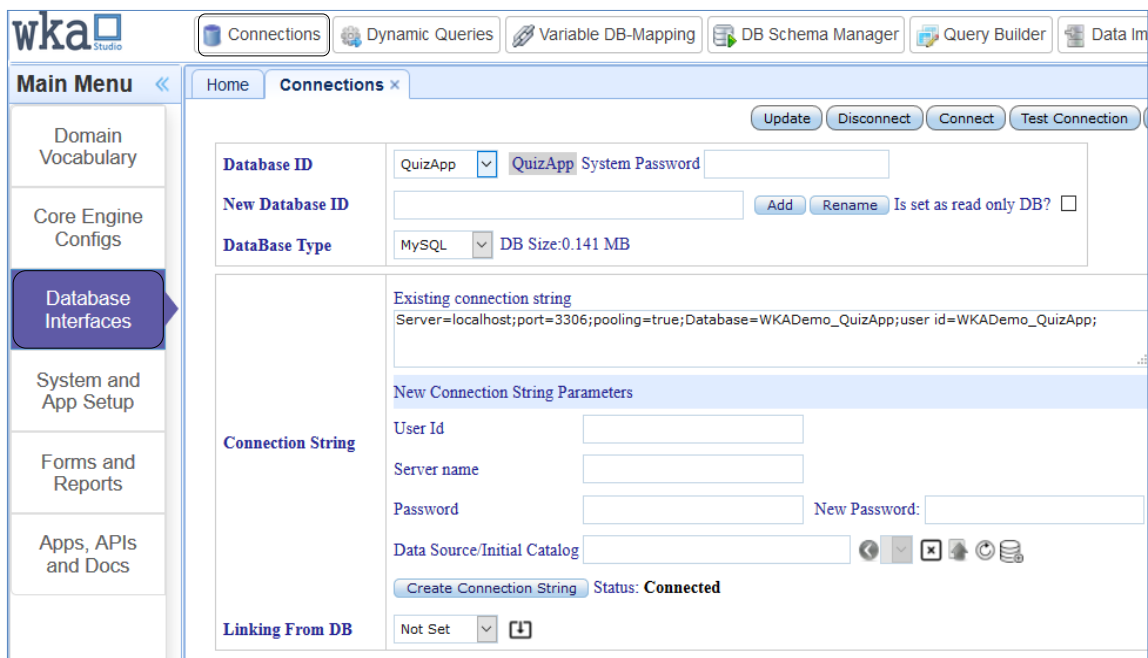


Figure 5: Connection Screen

2. Enter New Database ID in *New Database ID* field (Example: QuizDB).
Select *DataBase Type* from dropdown menu as *MSExcel* as shown in the figure below.

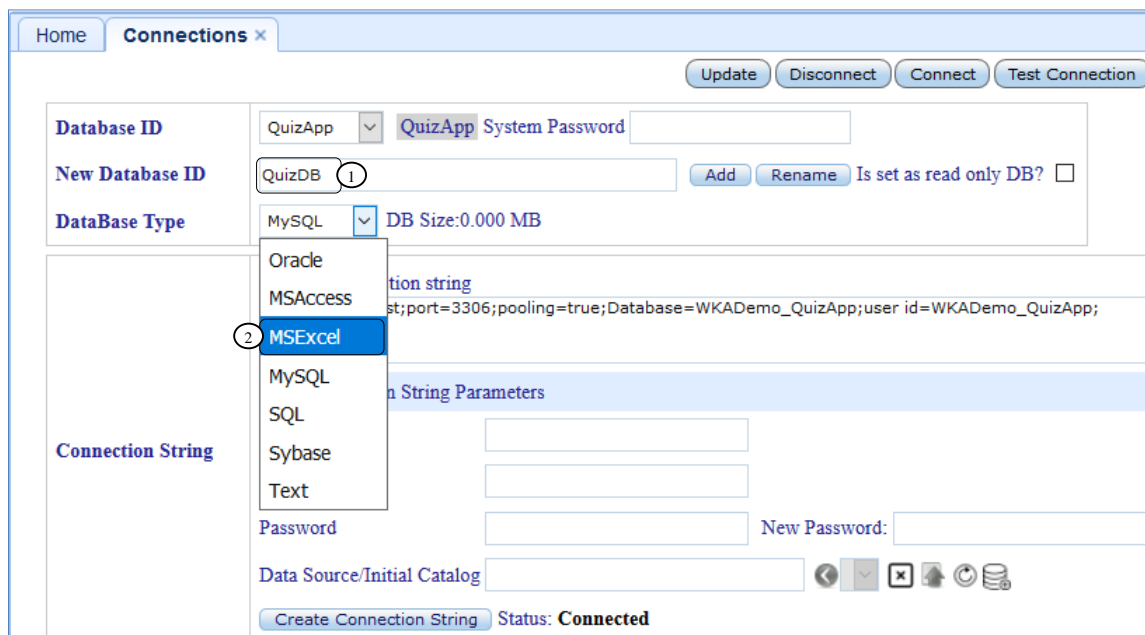


Figure 6: Specifying Database ID and Database Type

3. To upload the excel file, click the button .

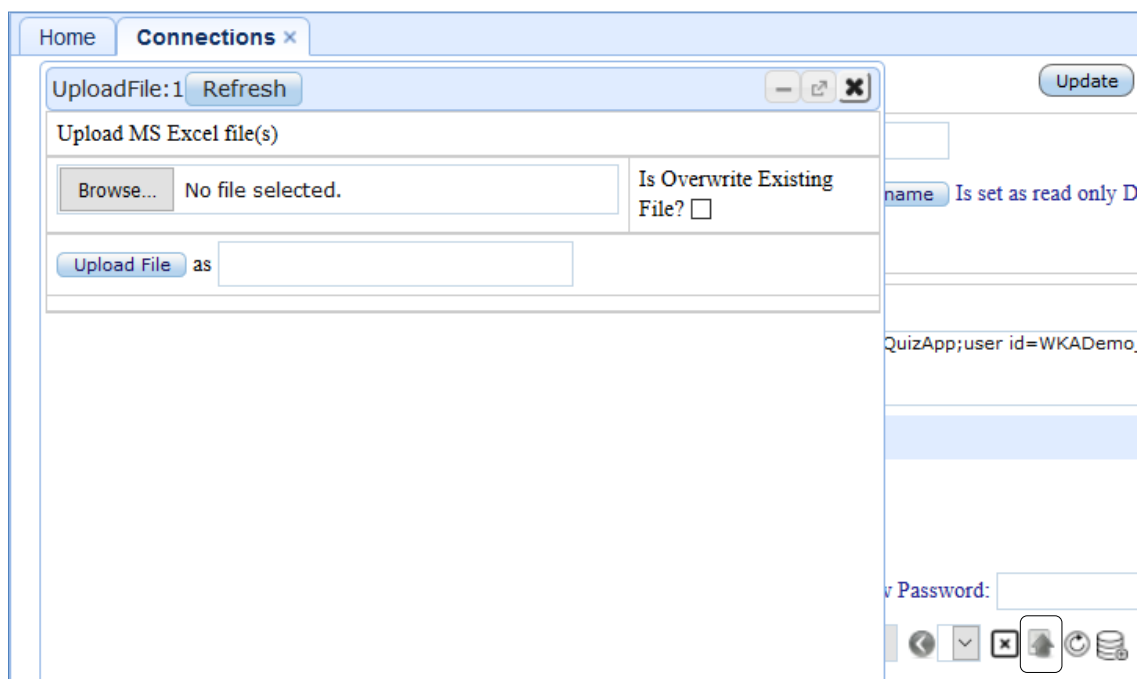


Figure 7: Uploading the Excel File

4. To choose the excel file from specified location, click *Browse*. Select the required excel file (Example: QuizDemo(2).xlsx) and click *Open*.

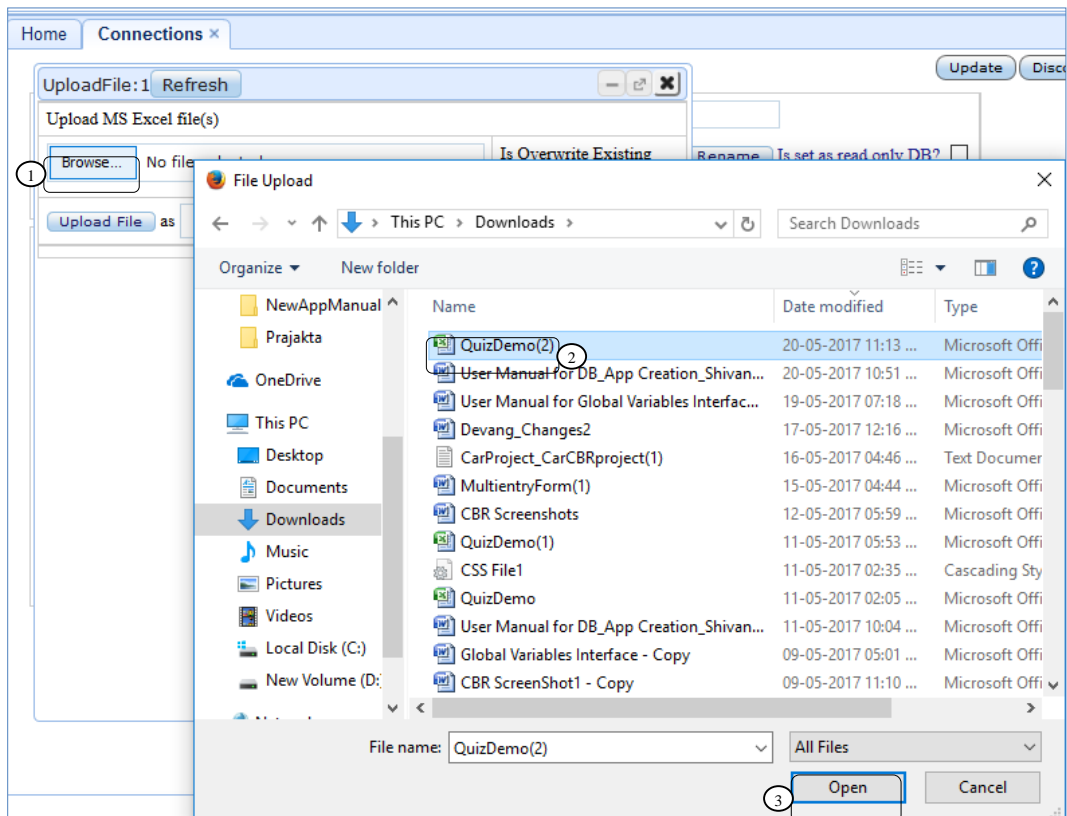


Figure 8: Browsing the File

5. After clicking *Open*, selected file name gets added in *Browse* field.

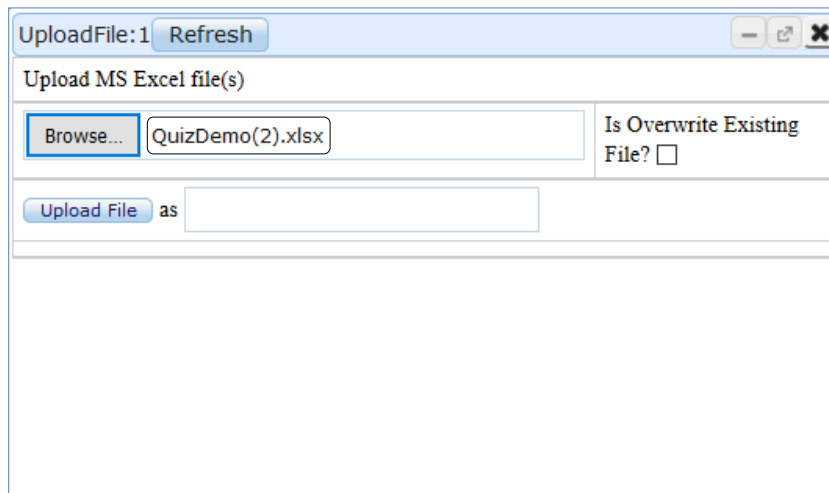


Figure 9: Excel File Added

5. Click *Upload File* and the file gets uploaded with the following message is displayed.

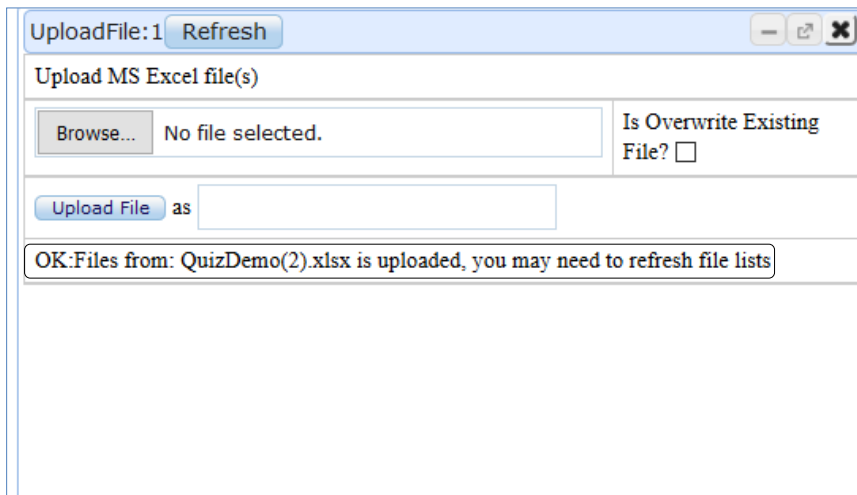



Figure 10: Uploading the Excel File

6. Click refresh button , the uploaded file name gets populated in the dropdown list. Select the required file (Example: QuizDemo(2).xlsx).

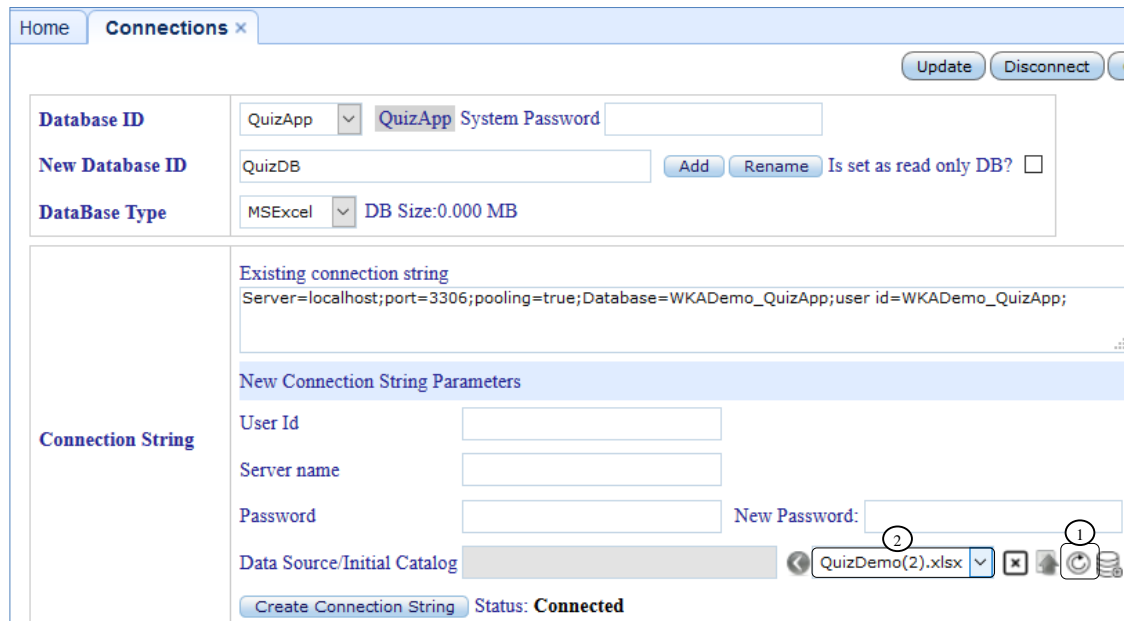



Figure 11: Selecting the Excel File

7. To add new excel connection for selected file, click the button .

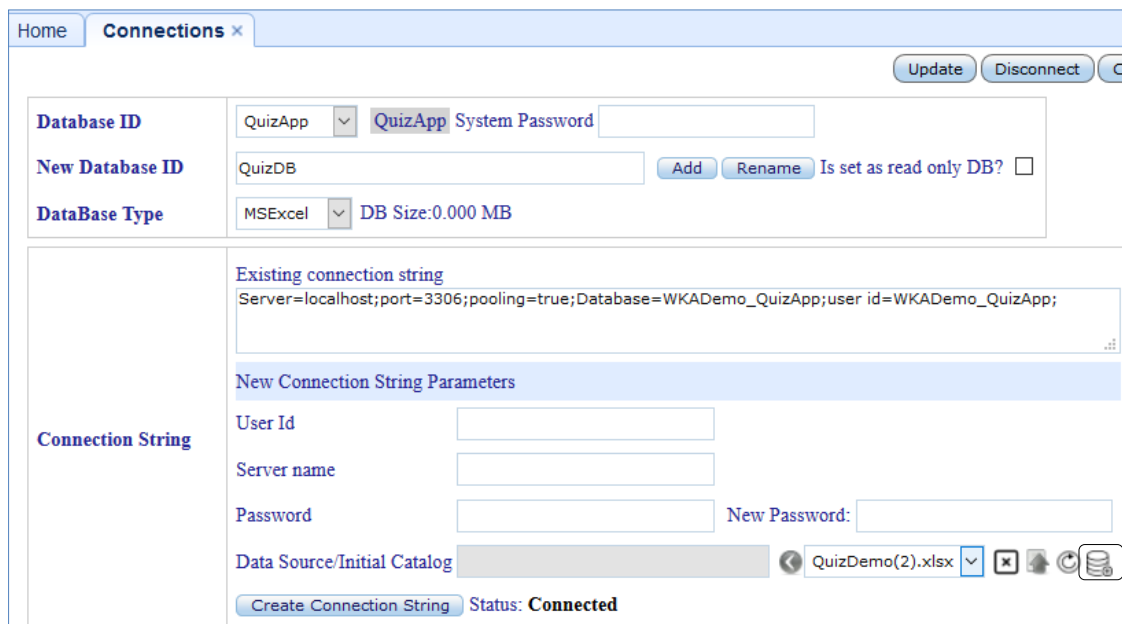


Figure 12: Adding Excel Connection to Database

8. After clicking the button , an alert is displayed on screen:

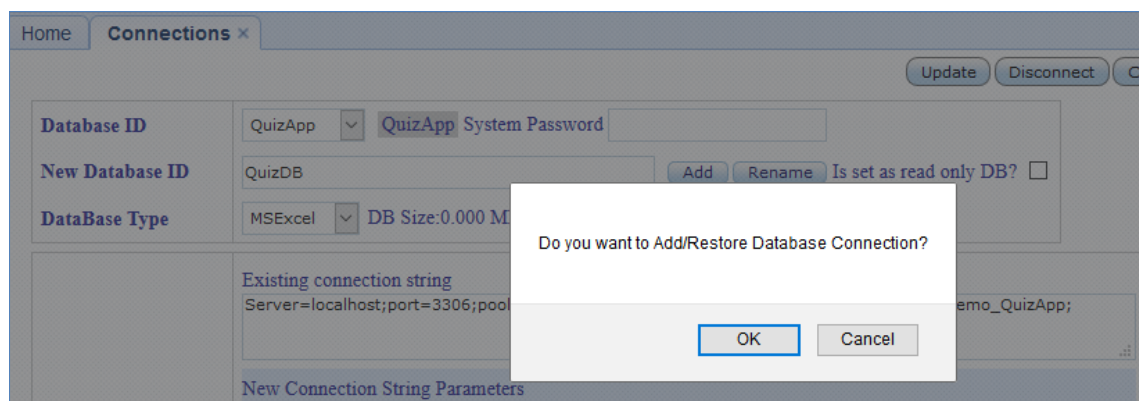


Figure 13: Showing Alert for Adding Database Connection

9. Click *Ok* and the message is displayed as *Database Added* and *Status* is changed as *Connected*.

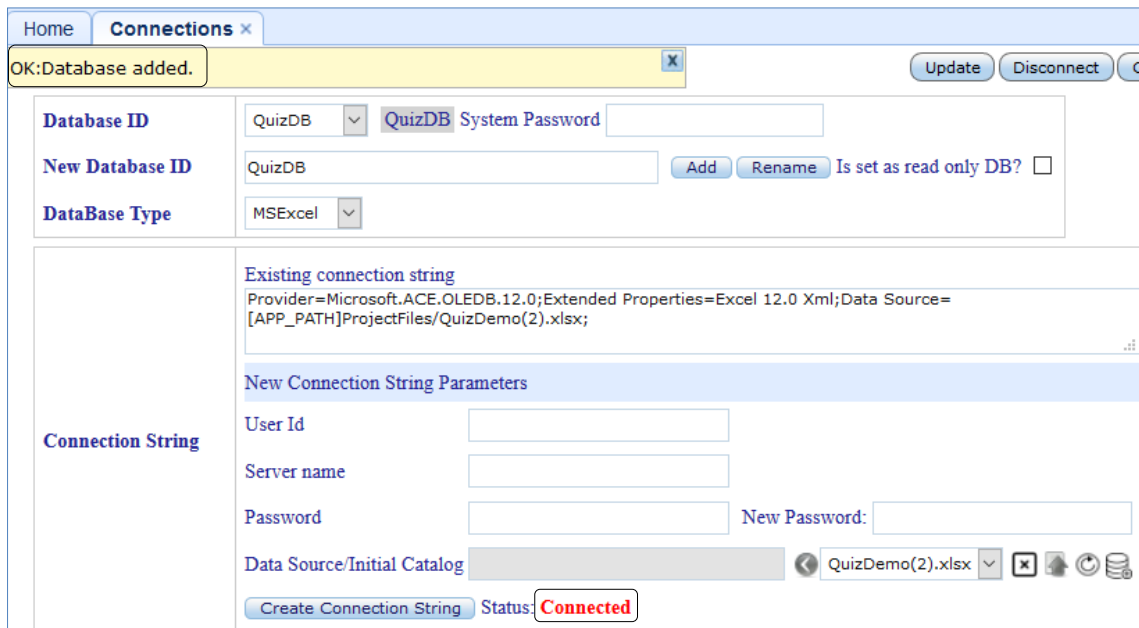


Figure 14: Database Connected

Note: In the figure above, Status as Connected indicates that the connection is created between WKA Studio and Database.

- To check the database is created properly or not, click *Main Menu -> Database Interfaces -> Query Builder.*

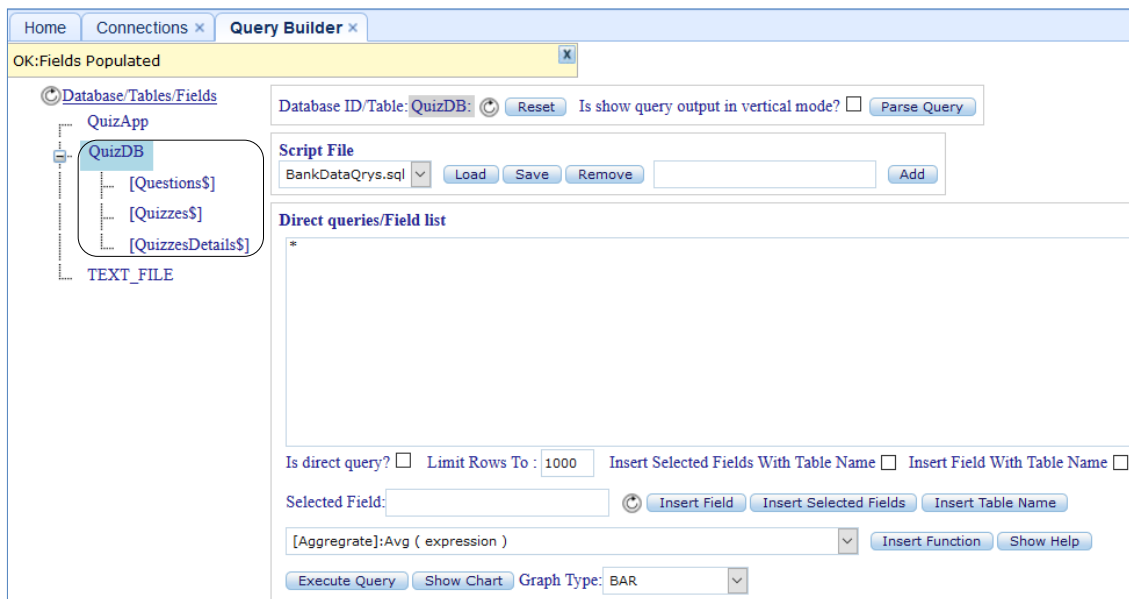


Figure 15: Checking the Database Created

Note: As shown in the figure above, for QuizDB, we are importing excel file and creating connection with name QuizDB. Questions, Quizzes and QuizzesDetails are the table defined in excel file.

11. After importing an excel file, import data into database. Go to *Main Menu* -> *Database Interfaces* -> *Data Import & Transfer*.

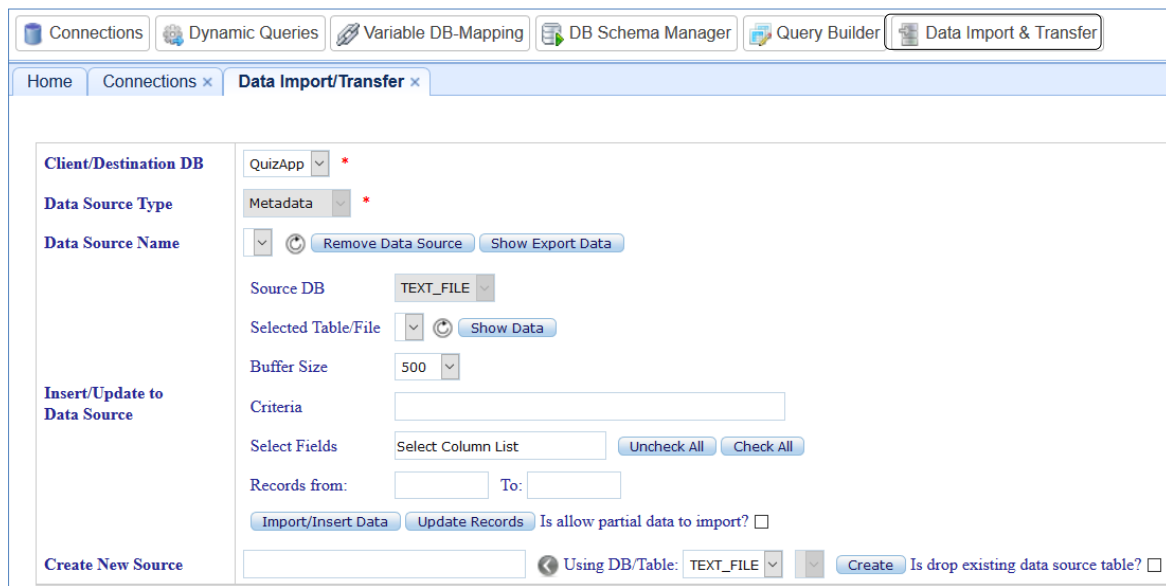


Figure 16: Data Import & Transfer Interface

11. Select database from *Client/Destination* dropdown menu into which data is imported from source table.

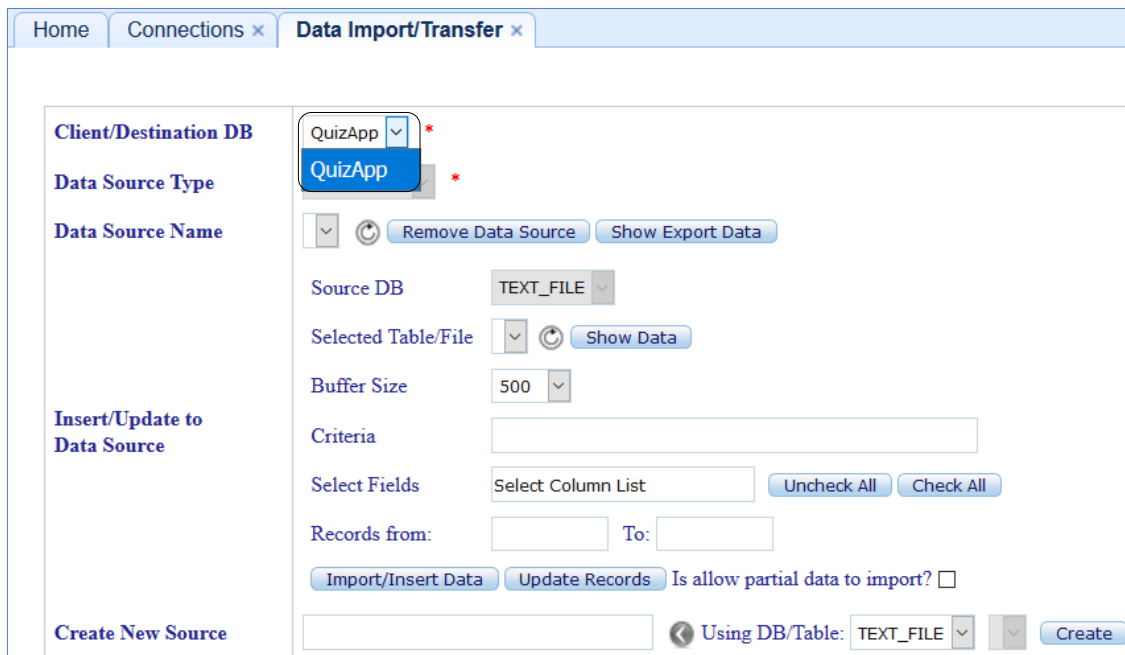


Figure 17: Selecting Client Database

12. To import *QuizzesDetails* sheet, enter the required source name in *Create New Source* field (Example: QuizDetails).

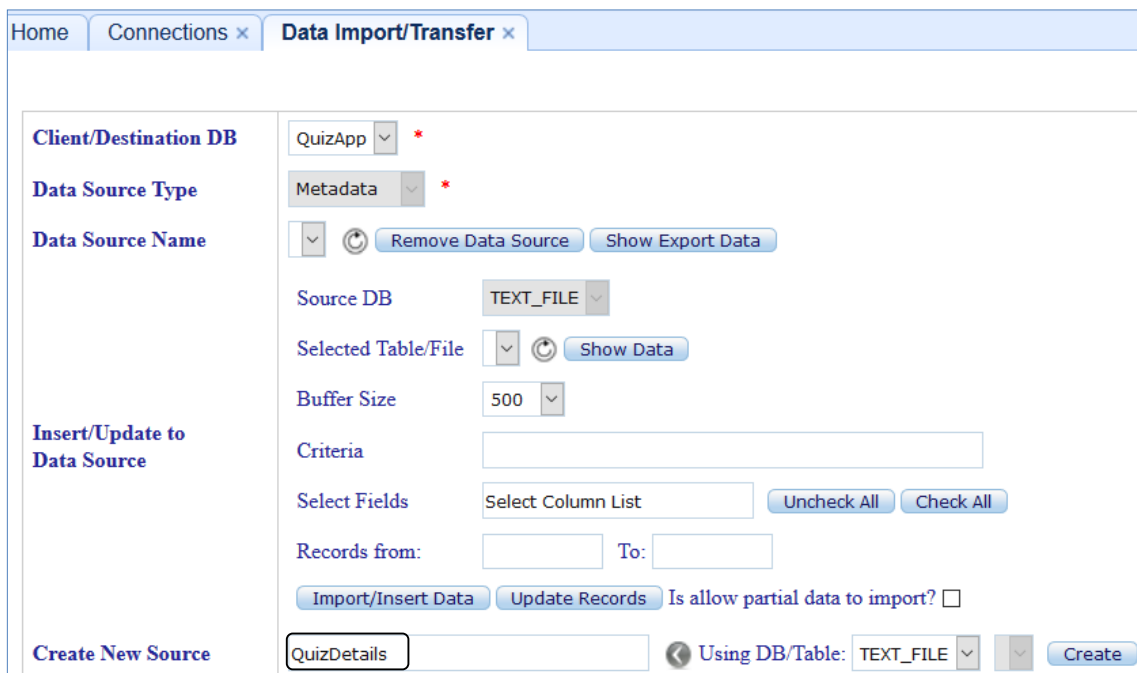


Figure 18: Specifying Source Name

13. Select the database created (*QuizDB*) from *Using DB/Table* dropdown menu.

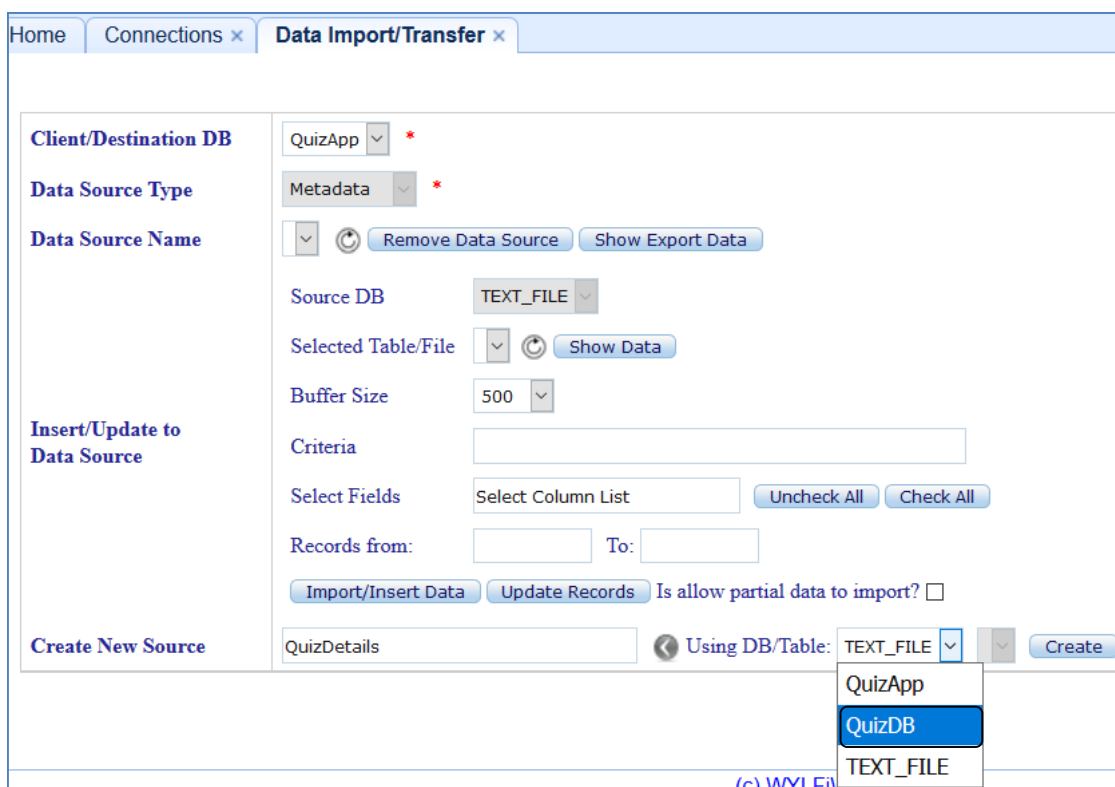


Figure 19: Selecting Database

14. After selecting database, its corresponding excel sheets imported gets populated in dropdown menu. Select excel sheet (*QuizzesDetails.xlsx*) from dropdown menu.

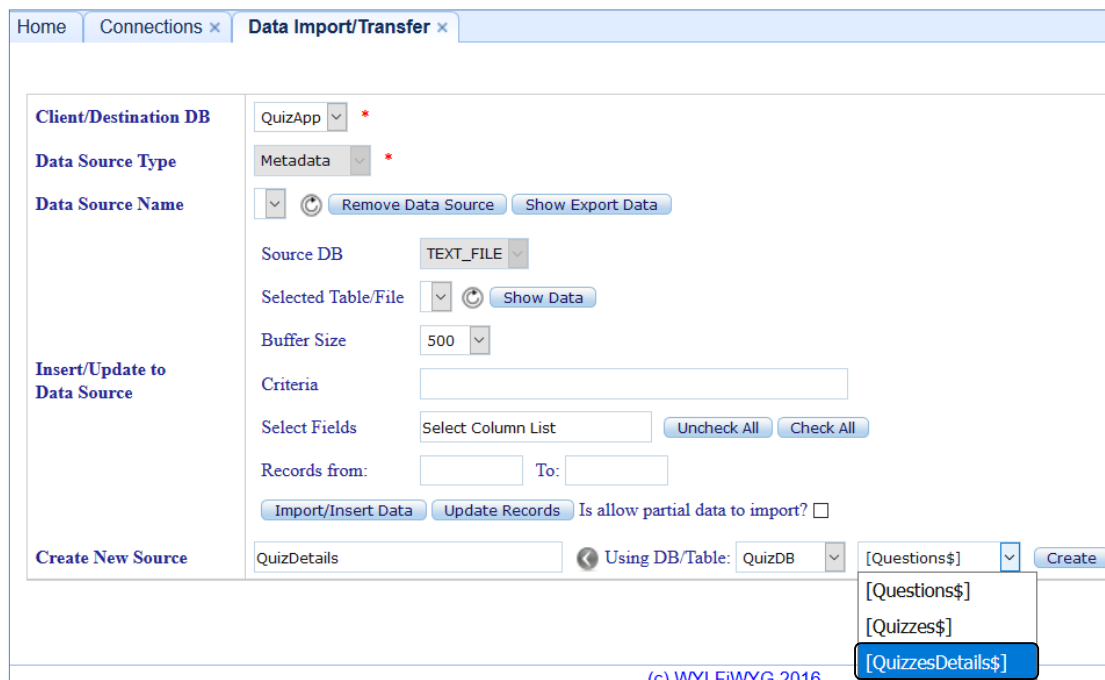


Figure 20: Selecting Excel Sheet

15. To create data source, click *Create*. *Browse* button is disabled because excel file is already imported.

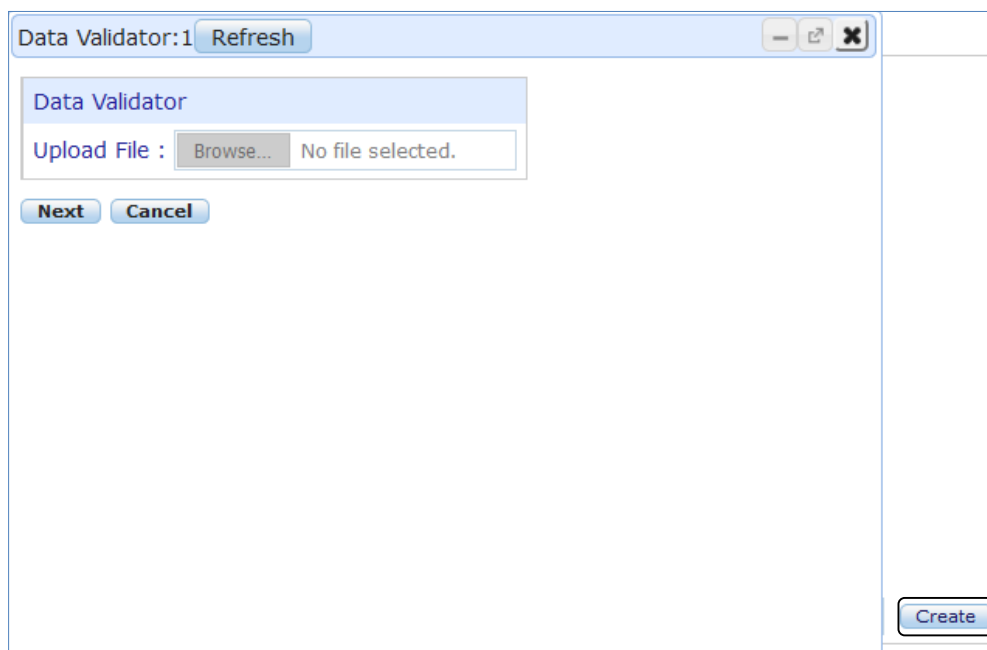


Figure 21: Creating Data Source

16. After clicking *Create*, the following screen is displayed which shows the number of options, column names and values of *QuizDetails* worksheet. Select the required option (Example: *Is first Row header? Is replace header spaces with _?* and *Do not add extra fields?*).

- *Is first Row header?* - First row of the file can be taken as header name or column name.
- *Is replace header spaces with _?* Space in header name will be replaced with “_”.
- *Do not add extra fields?* - It avoids extra fields like *CL_ID*, *CL_MATCH* in table.
- *Is set field size from current data being imported?* – To set the size of columns check this option.
- *Is use 4 byte charset for table?* – It supports the special characters/signs like square root (Example: to store value like $2(\sqrt{2} - 1)$).

Data Validator:1 Refresh

Is first Row header? Is replace header spaces with _? Is make first letter of word in header capital?
 Do not add extra fields? Is set field size from current data being imported? Is use 4 byte charset for table?
 Delimited Fixed Width
 Tab Semicolon Comma Space Other

QuizID	QsetID	MaxQuestions	IsRandomQuestions	QuestionNos	Duration
QZ1	Reasoning	5	No	[1,2,3,4,5]	5
QZ2	Maths	3	Yes		5

Previous Next Cancel

Figure 22: Data Validator Screen

17. Click *Next* and the following screen is shown.

Data Validator:1 Refresh

Date and Time
 Date Order : DMY Month Format: Short Name (ex.Jan) Four Digit Years
 (If month in text format) Full Name (ex.January)
 Default
 Date Delimiter: / Is Time Present Make primary key auto increment?

Select	Primary Key	Unique Key	Source Column/Field Name	Database Field Name	Data Type	Data Size
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QuizID	QuizID	varchar	3
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QsetID	QsetID	varchar	9
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MaxQuestions	MaxQuestions	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IsRandomQuestions	IsRandomQuestions	varchar	3
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QuestionNos	QuestionNos	varchar	11
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Duration	Duration	int	10

Previous Next Cancel

Figure 23: Data Validator Screen

18. Select and enter the required information as explained in table below:

Table 2: Fields of Data Validator Screen

Fields	Description
Select	By default, for all column names this option is checked. If unchecked then that column name is not inserted as field.
Primary Key	If this option is checked then corresponding field is set as primary key of the table.
Unique Key	If this option is checked then corresponding field is treated uniquely.
Source Column/Field Name	It contains list of the fields in table.
Database Field Name	New field name for particular field can be set and in table field name is replaced with new one.
Data Type	Sets data type of the field.
Data size	Sets data size of the field.

19. Edit *Data type & Data Size* for field values if required. Click *Next*.

The screenshot shows a window titled "Data Validator: 1" with a "Refresh" button. Below the title bar, there are settings for "Date and Time", including "Date Order" (DMY), "Month Format" (Short Name, Full Name, Default), and "Date Delimiter" (/). There are also checkboxes for "Is Time Present" and "Make primary key auto increment?". The main part of the window is a table with the following columns: Select, Primary Key, Unique Key, Source Column/Field Name, Database Field Name, Data Type, and Data Size. The table contains six rows of data:

Select	Primary Key	Unique Key	Source Column/Field Name	Database Field Name	Data Type	Data Size
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QuizID	QuizID	varchar	3
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QsetID	QsetID	varchar	9
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MaxQuestions	MaxQuestions	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IsRandomQuestions	IsRandomQuestions	varchar	3
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QuestionNos	QuestionNos	varchar	11
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Duration	Duration	int	10

At the bottom of the window, there are three buttons: "Previous", "Next" (which is highlighted with a red box), and "Cancel".

Figure 24: Editing Data Type, Data Size of Fields

20. After clicking *Next* it shows an alert message. Click *OK* if primary key is to be added by the system.

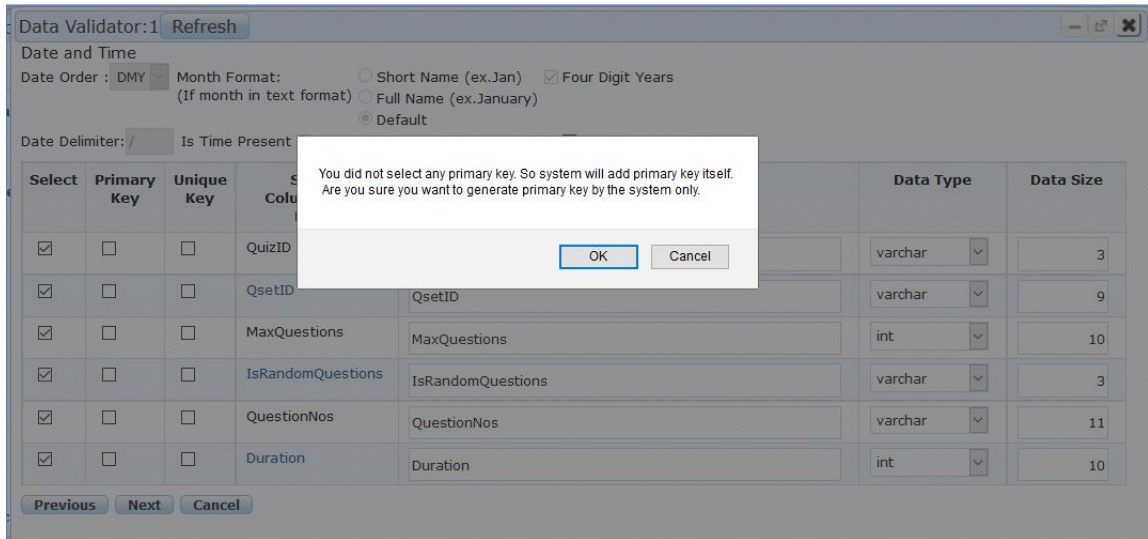


Figure 25: Data Validator Screen

21. After clicking on *OK*, it shows an alert message for creating source without specifying *Unique key*.

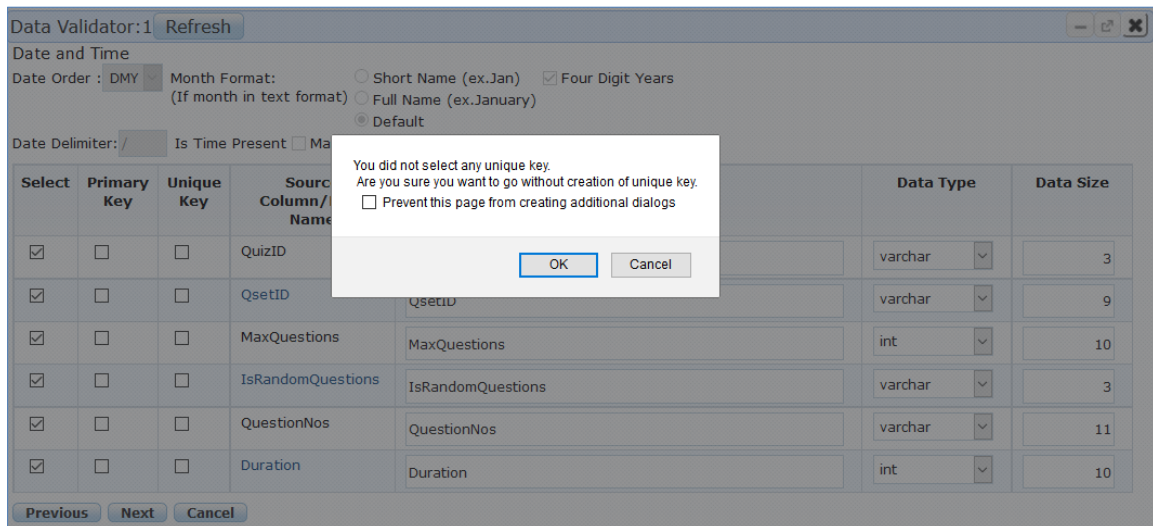


Figure 26: Data Validator Screen

22. After clicking *OK*, system creates the source table without unique key as shown in status below. It shows data importing status i.e. *Project Name, Selected Date Format, Table Name, Primary & Unique key field* and total number of imported records.

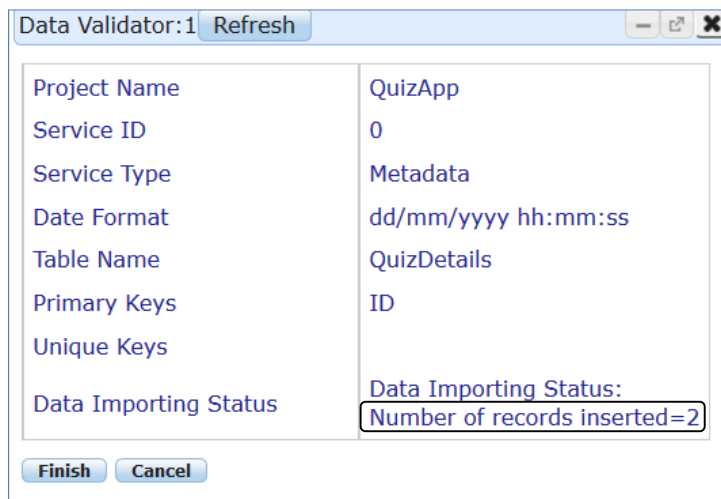


Figure 27: Data importing Status

23. Now, to check table (*QuizDetails*) is created in *QuizApp* database, go to *Query Builder Interface*.

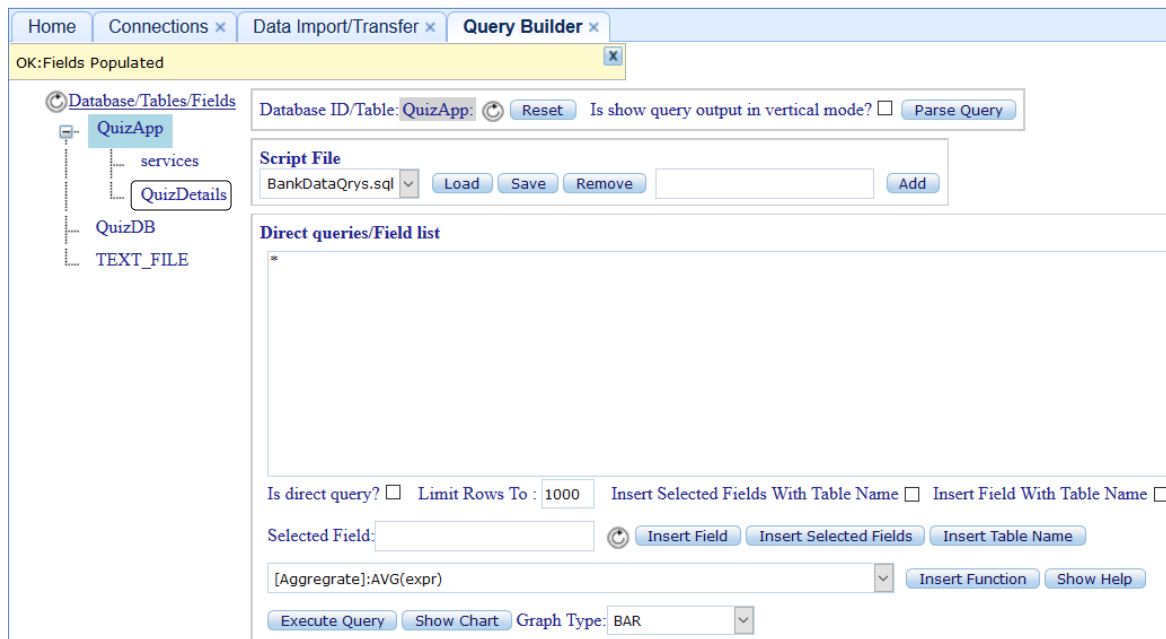


Figure 28: QuizDetails Table

24. To create source table for *Questions*, go to *Data Import/Transfer* (Follow the same steps as explained above in figures 16–20). Specify the required source name (*Questions*) in *Create New Source* field, select the database (*QuizDB*) created and its corresponding table *Questions.xlsx* sheet from dropdown menu.

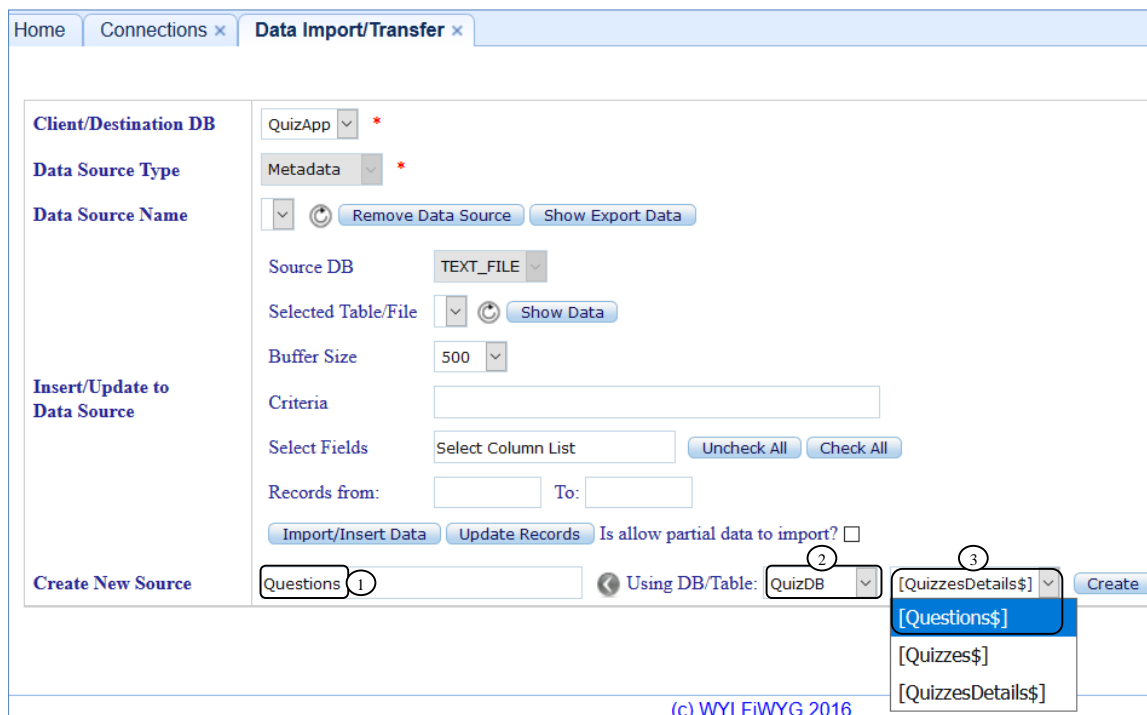


Figure 29: Specifying Source Name, Database & Excel Sheet

25. To create source table, click *Create*.

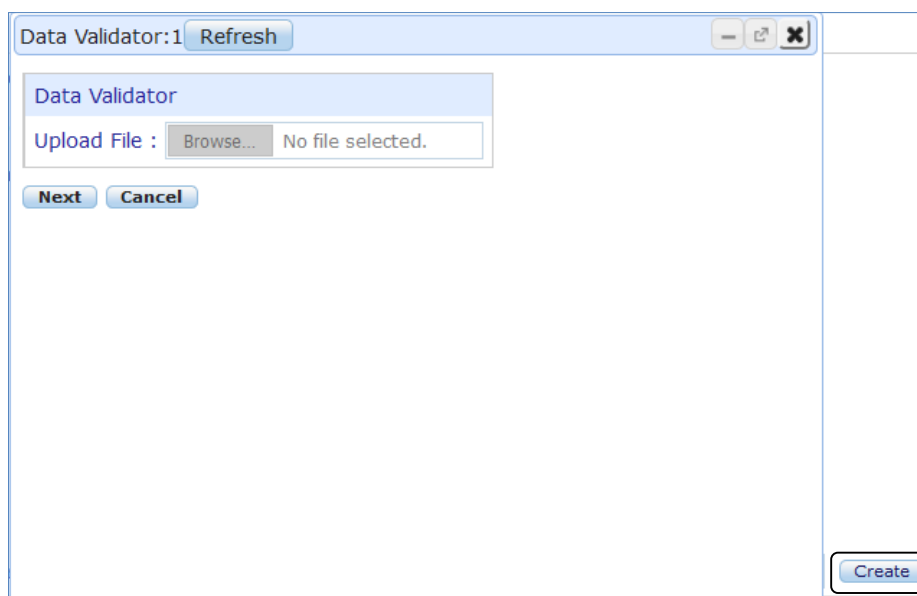


Figure 30: Data Validator Screen

26. After clicking *Create*, *Data Validator* screen is displayed which shows the number of options, column names and values of *Questions* worksheet. Check the option *Is use 4 byte charset for table?* which supports the special characters/signs and click *Next*.

Data Validator: 1 Refresh

Is first Row header? Is replace header spaces with _? Is make first letter of word in header capital?

Do not add extra fields? Is set field size from current data being imported? Is use 4 byte charset for table?

Delimited Fixed Width

Tab Semicolon Comma Space Other

SrNo	QSetID	QID	Description	Prompt	NumberingPattern	Option1	Option2	Option3
1	Reasoning	1	Three of the words will be in the same classification, the remaining one will not be. Your answer will be the one word that does NOT belong in the same classification as the others.	Which word does NOT belong with the others?	ABCD	parsley	basil	
2	Reasoning	2	Three of the words will be in the same classification, the remaining one will not be. Your answer will be the one word that does NOT belong in the same classification as the others.	Which word does NOT belong with the others?	ABCD	Tyre	Steering wheel	

Previous Next Cancel

Figure 31: Data Validator Screen

27. After clicking *Next*, the column details are displayed as shown in screen shots below.

Data Validator: 1 Refresh

Date and Time

Date Order : DMY Month Format: Short Name (ex.Jan) Four Digit Years
 Full Name (ex.January)
 Default

Date Delimiter: / Is Time Present Make primary key auto increment?

Select	Primary Key	Unique Key	Source Column/Field Name	DB Column/Field Name	Data Type	Data Size
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SrNo	SrNo	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QSetID	QSetID	varchar	17
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QID	QID	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description	Description	varchar	796
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prompt	Prompt	varchar	255
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NumberingPattern	NumberingPattern	varchar	5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option1	Option1	varchar	66
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option2	Option2	varchar	63
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option3	Option3	varchar	56

Previous Next Cancel

Figure 32: Data Validator Screen

Data Validator: 1 Refresh

Date and Time

Date Order : DMY Month Format: Short Name (ex.Jan) Four Digit Years
 (If month in text format) Full Name (ex.January)
 Default

Date Delimiter: / Is Time Present Make primary key auto increment?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option6	Option6	varchar	12
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option7	Option7	varchar	7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MaxOptionsToBeSelected	MaxOptionsToBeSelected	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IsMandatory	IsMandatory	varchar	2
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DifficultyLevel	DifficultyLevel	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ImageURL	ImageURL	varchar	84
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AnswerKey	AnswerKey	varchar	9
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Marks	Marks	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NegativeMarks	NegativeMarks	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	KeyExplanation	KeyExplanation	varchar	377

Previous Next Cancel

Figure 33: Data Validator Screen

28. Edit data size if required .

Data Validator: 1 Refresh

Date and Time

Date Order : DMY Month Format: Short Name (ex.Jan) Four Digit Years
 (If month in text format) Full Name (ex.January)
 Default

Date Delimiter: / Is Time Present Make primary key auto increment?

Select	Primary Key	Unique Key	Source Column/Field Name	DB Column/Field Name	Data Type	Data Size
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SrNo	SrNo	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QSetID	QSetID	varchar	20
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QID	QID	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description	Description	varchar	800
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prompt	Prompt	varchar	255
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NumberingPattern	NumberingPattern	varchar	5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option1	Option1	varchar	70
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option2	Option2	varchar	70
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option3	Option3	varchar	70
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option4	Option4	varchar	

Previous Next Cancel

Figure 34: Editing Data Size

29. Edit data type for Marks, NegativeMarks and Difficulty Level.

Data Validator:1 Refresh

Date and Time
 Date Order : DMY Month Format: Short Name (ex.Jan) Four Digit Years
 (If month in text format) Full Name (ex.January)
 Default

Date Delimiter: / Is Time Present Make primary key auto increment?

Select	Primary Key	Unique Key	Source Column/Field Name	DB Column/Field Name	Data Type	Data Size
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option6	Option6	varchar	12
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option7	Option7	varchar	7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MaxOptionsToBeSelected	MaxOptionsToBeSelected	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IsMandatory	IsMandatory	varchar	2
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DifficultyLevel	DifficultyLevel	float	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ImageURL	ImageURL	varchar	84
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AnswerKey	AnswerKey	varchar	9
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Marks	Marks	float	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NegativeMarks	NegativeMarks	float	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	KeyExplanation	KeyExplanation	varchar	377

Previous Next Cancel

Figure 35: Editing Data Types

30. Set primary key and unique key constraint and click Next.

Data Validator:1 Refresh

Date and Time
 Date Order : DMY Month Format: Short Name (ex.Jan) Four Digit Years
 (If month in text format) Full Name (ex.January)
 Default

Date Delimiter: / Is Time Present Make primary key auto increment?

Select	Primary Key	Unique Key	Source Column/Field Name	DB Column/Field Name	Data Type	Data Size
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SrNo	SrNo	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QSetID	QSetID	varchar	20
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QID	QID	int	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description	Description	varchar	800
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prompt	Prompt	varchar	255
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NumberingPattern	NumberingPattern	varchar	5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option1	Option1	varchar	70
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option2	Option2	varchar	70
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option3	Option3	varchar	70
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option4	Option4	varchar	70

Previous Next Cancel

Figure 36: Set Constraints

31. After clicking Next, following screen shows data importing status i.e. Project Name, Selected Date Format, Table Name, Primary & Unique key field and total number of imported records.

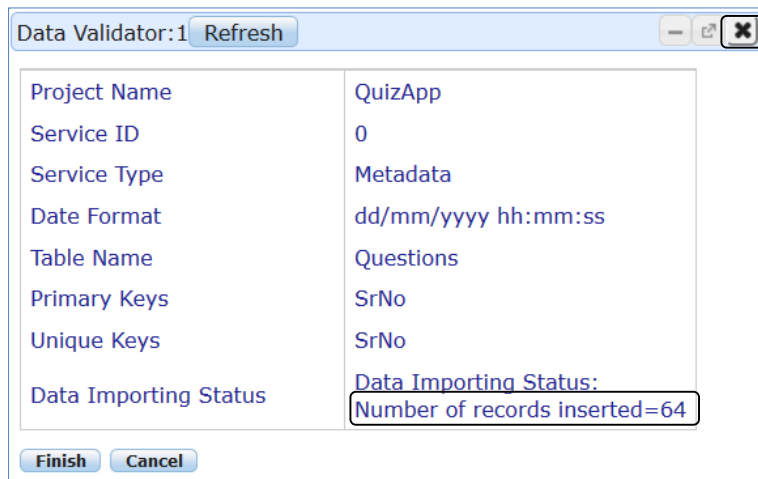


Figure 37: Data Importing Status

32. Check data table created using *Query Builder* interface.

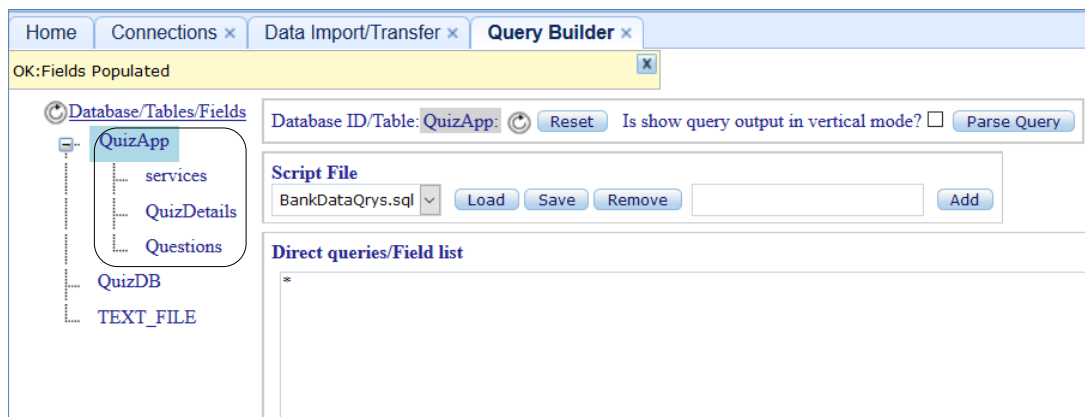


Figure 38: Questions Table Created

33. Similarly, follow the same steps as explained above to create *QuizList* table using *Quizzes.xlsx* sheet.

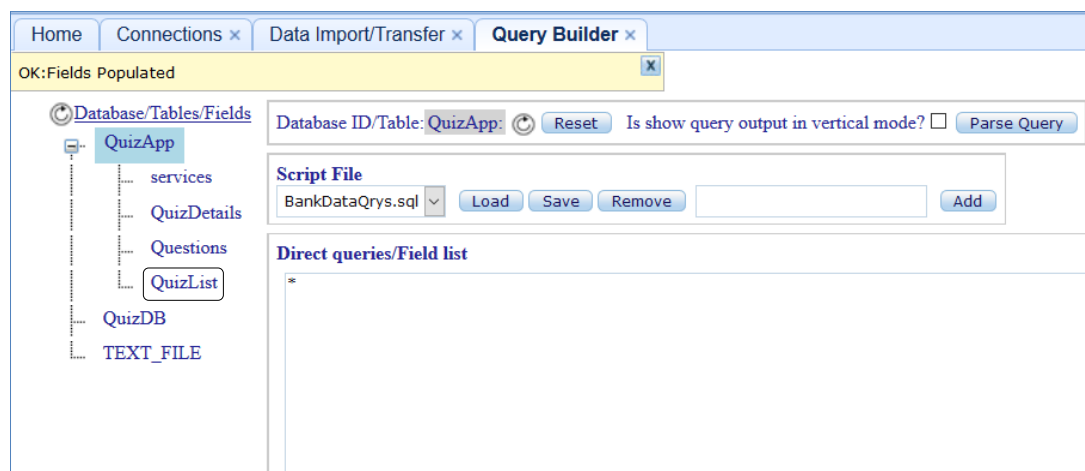


Figure 39: QuizList Table Created

2. Creating App

After importing an excel sheet, create an app. First create *QuizDetails* App (Refer document *Developing Expert System based App from Rules Stored in Excel File to create an app*).

2.1 App Create Option

To create an app, click the following tabs:

1. Go to *Main Menu* -> *System and App Setup* -> *Create and Manage Apps* -> *App Create Options*.

The screenshot displays the 'App Create Options' screen within the WKA Studio interface. The sidebar on the left shows the navigation menu with 'System and App Setup' highlighted. The main content area is divided into several sections for configuring the app creation process. Key elements include:

- Database ID:** A dropdown menu set to 'QuizApp' and a 'Table/Worksheet' dropdown set to 'services'.
- Is publish this App?:** A checkbox that is currently unchecked.
- Is MultiLingual?:** A checkbox that is currently unchecked.
- App Name: Title:** A text input field.
- Generic Web Template Options:** A section with 'Click for options' and 'Matching Cases Title' fields.
- Application Group:** A dropdown menu set to 'SystemInterface'.
- Variable Group:** A dropdown menu set to 'SystemInterface'.
- CBR ID: Logical Group:** A dropdown menu.
- App Create Options:** A section with 'Click for options' and 'Uncheck All' buttons, along with a 'No. of form entries' dropdown set to '1'.
- App Icon Image:** A text input field with icons for file selection and preview.
- Image Preview:** A placeholder for the app icon image.

At the bottom of the screen, there are several action buttons: 'Just Create/Update Simple App', 'Load App and Variable Group', 'Save App', 'Remove App', 'Apps', and 'Reload Templates'.

Figure 40: App Create Options Screen

2. Select ID from *Database ID* dropdown menu and the required table from *Table* dropdown menu; also specify name of application in *Application Name* field and title in *Title* field.

Figure 41: Specifying Details

3. Select the required options from *Generic Web Template Options* dropdown menu, as shown in the following figure:

Figure 42: Selecting Generic Web Template Options

4. Specify application group name in *Application Group* field and variable group name in *Variable Group* field.

Figure 43: Specifying App Group Name & Variable Group Name

5. Select required options from *App Create Options* dropdown menu .

Figure 44: Selecting App Create Options




6. To add an image to the application icon (*Refer document Developing Expert System based App from Rules Stored in Excel File*), click the button . After uploading, click refresh button  to populate image in *App Icon Image* dropdown menu and click the button  to insert the image file in *App Image* field.

Figure 45: Uploading Image File


2.2 Show Data Source Fields

After the required information is entered in *App Create Options*, *Show Data Source Fields* tab shows the list of field names and its features that needs to be displayed on screen.

1. Click *Show Data Source Fields* tab.

Check to create variable prefix with	Field expr for query access	Prefix_field_with	CBR Feature Type	Numeric feature	Symbo Numeric feature
<input checked="" type="checkbox"/> ID	ID	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QuizID	QuizID	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QsetID	QsetID	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> MaxQuestions	MaxQuestions	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> IsRandomQuestions	IsRandomQuestions	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QuestionNos	QuestionNos	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Duration	Duration	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> STATUS_FLAG	Click for options	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> LAST_UPDATED	Click for options	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Figure 46: Show Data Source Fields Screen

Note: If selected table fields from Cases in App Create Options is not populated then use  button to populate the fields.

Fields	Description
Check to create variable prefix with	This column contains the list of field names. By default, for all field names this option is checked. Also, the field names can be unchecked if it is not required.
Field expr for query access	This column contains the list of fields and corresponding to each field there are list of options.
Prefix_field_with	Check when field name is to be prefixed with entered prefix. By default these options are checked.

The following figures below shows the list of field names and their options. For example: For field name ID, check the required options (*Is DB key?* and *Is Input Variable?*)

Check to create variable prefix with	Field expr for query access	Prefix_field_with	CBR Feature Type	Numeric feature	Symbo Numeric feature
<input checked="" type="checkbox"/> ID	ID	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QuizID	QuizID	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QsetID	QsetID	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> MaxQuestions	MaxQuestions	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> IsRandomQuestions	IsRandomQuestions	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QuestionNos	QuestionNos	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> STATUS_FLAG	Click for options	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> LAST_UPDATED	Click for options	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Figure 47: Field Name and its Options

2. Check and uncheck the required options.

Check to create variable prefix with	Field expr for query access	Prefix_field_with	CBR Feature Type	Numeric feature	Symbo Numeric feature
<input checked="" type="checkbox"/> ID	ID	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QuizID	QuizID	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QsetID	QsetID	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> MaxQuestions	MaxQuestions	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> IsRandomQuestions	IsRandomQuestions	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QuestionNos	QuestionNos	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Duration	Duration	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> STATUS_FLAG	Click for options	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> LAST_UPDATED	Click for options	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Figure 48: Field Name and its Options

2.3 Populate Details From DB

After the field names and its features are defined, *Populate Details From DB* declares the variables, feature prompts and default value.

1. Click *Populate Details From DB* and the following screen is displayed.

Field Name	Feature Name	Data Type	Feature Weight(%)	Min Value	Max Value	Default Value	Input Control
ID	ID	Number	0	1	2	1	AutoSelect
QuizID	QuizID	Text	0			QZ1	AutoSelect
QsetID	QsetID	Text	0				AutoSelect
MaxQuestions	MaxQuestions	Number	0	3	5	3	AutoSelect
IsRandomQuestions	IsRandomQuestions	Text	0			No	AutoSelect
QuestionNos	QuestionNos	Text	0				AutoSelect
Duration	Duration	Number	0	5	5	5	AutoSelect
STATUS_FLAG	STATUS_FLAG	Text	0				AutoSelect
LAST_UPDATED	LAST_UPDATED	Text	0				AutoSelect

Figure 49: Populate Details from DB Interface

2. Edit *Min Value*, *Max Value* and *Default Value*.

Field Name	Feature Name	Data Type	Feature Weight(%)	Min Value	Max Value	Default Value	Input Control
ID	ID	Number	0	1	200	1	AutoSelect
QuizID	QuizID	Text	0			QZ1	AutoSelect
QsetID	QsetID	Text	0				AutoSelect
MaxQuestions	MaxQuestions	Number	0	3	5	3	AutoSelect
IsRandomQuestions	IsRandomQuestions	Text	0			No	AutoSelect
QuestionNos	QuestionNos	Text	0				AutoSelect
Duration	Duration	Number	0	5	5	5	AutoSelect
STATUS_FLAG	STATUS_FLAG	Text	0				AutoSelect
LAST_UPDATED	LAST_UPDATED	Text	0				AutoSelect

Figure 50: Editing Values

3. After all the required information is edited, to create an application click *Create All*.

Field Name	Feature Name	Data Type	Feature Weight(%)	Min Value	Max Value	Default Value	Input Control
ID	ID	Number	0	1	200	1	AutoSelect
QuizID	QuizID	Text	0			QZ1	AutoSelect
QsetID	QsetID	Text	0				AutoSelect
MaxQuestions	MaxQuestions	Number	0	3	5	3	AutoSelect
IsRandomQuestions	IsRandomQuestions	Text	0			No	AutoSelect
QuestionNos	QuestionNos	Text	0				AutoSelect
Duration	Duration	Number	0	5	5	5	AutoSelect
STATUS_FLAG	STATUS_FLAG	Text	0				AutoSelect
LAST_UPDATED	LAST_UPDATED	Text	0				AutoSelect

Figure 51: Creating an Application

4. After clicking *Create All*, an alert is shown on screen. Click *OK*.

Field Name	Feature Name	Data Type	Feature Weight(%)	Min Value	Max Value	Default Value	Input Control
ID	ID	Number	0	1	200	1	AutoSelect
QuizID	QuizID	Text	0			QZ1	AutoSelect
QsetID	QsetID	Text	0				AutoSelect
MaxQuestions	MaxQuestions	Number	0	3	5	3	AutoSelect
IsRandomQuestions	IsRandomQuestions	Text	0			No	AutoSelect
QuestionNos	QuestionNos	Text	0				AutoSelect
Duration	Duration	Number	0	5	5	5	AutoSelect
STATUS_FLAG	STATUS_FLAG	Text	0				AutoSelect

Are you sure you have verified/configured all required parameters to create all objects for selected app

Figure 52: Showing an Alert

5. Click *OK* to continue and all objects (variables, rules, menus etc.) required for this application is created and also it displays the message on screen. The figure shows the application create status and *Failed Status* as *None* indicates that there is no error.

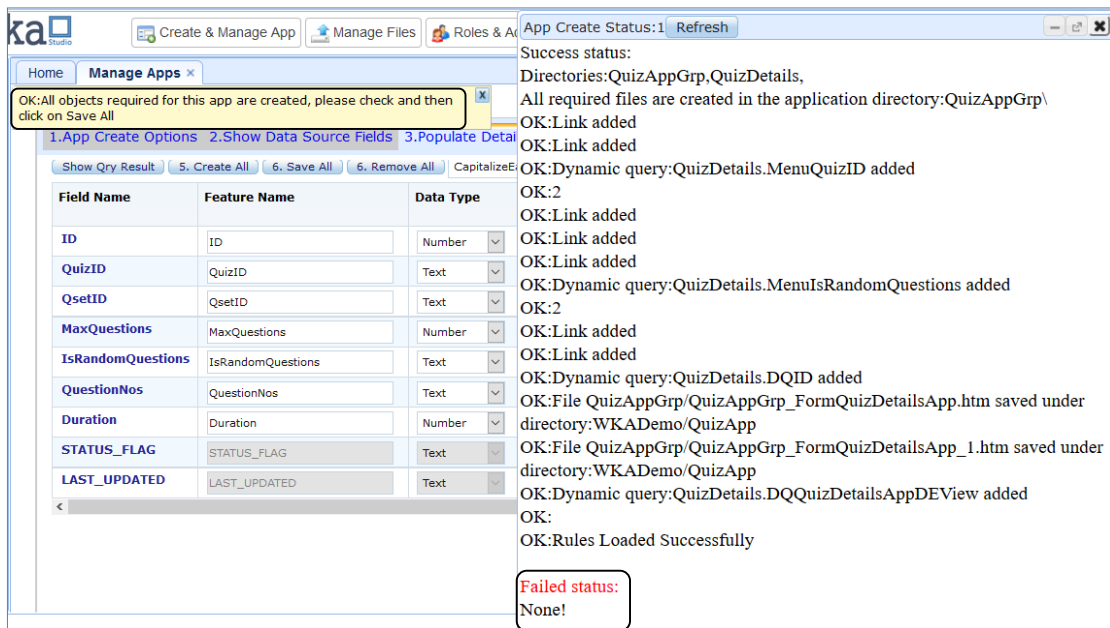


Figure 53: Objects Created

Note: As soon as the user clicks Create All, the application, its variables and menus are created and Save all button is populated on screen.

- To check the application is created, go to *Main Menu -> Apps, API's and Docs -> Apps* and *Quiz Details App* is shown in *Published Apps* list.



Figure 54: Quiz Details App

- Click *Save All* and the following message is displayed.

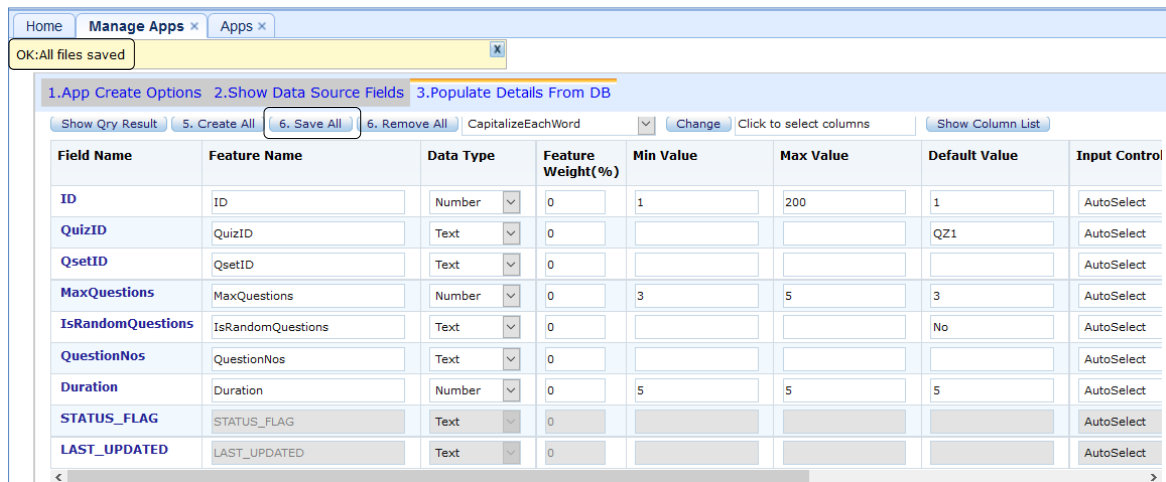


Figure 55: Saving Application

Similarly, *Quiz Lists App* is created in same application group (Example: *QuizAppGrp*).

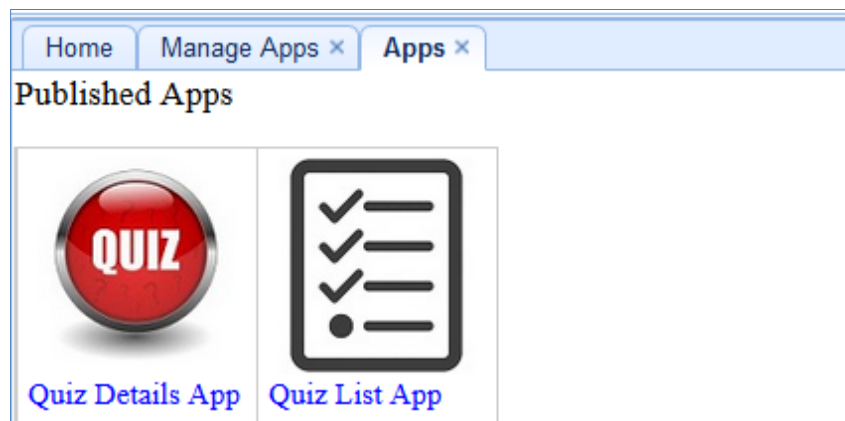



Figure 56: Quiz List App

1. For creating Quiz Application select *Database ID* and *QuizDetails Table* from which rules for different question sets are created. Click the button  to insert it into *Rules Table/Worksheet* field.

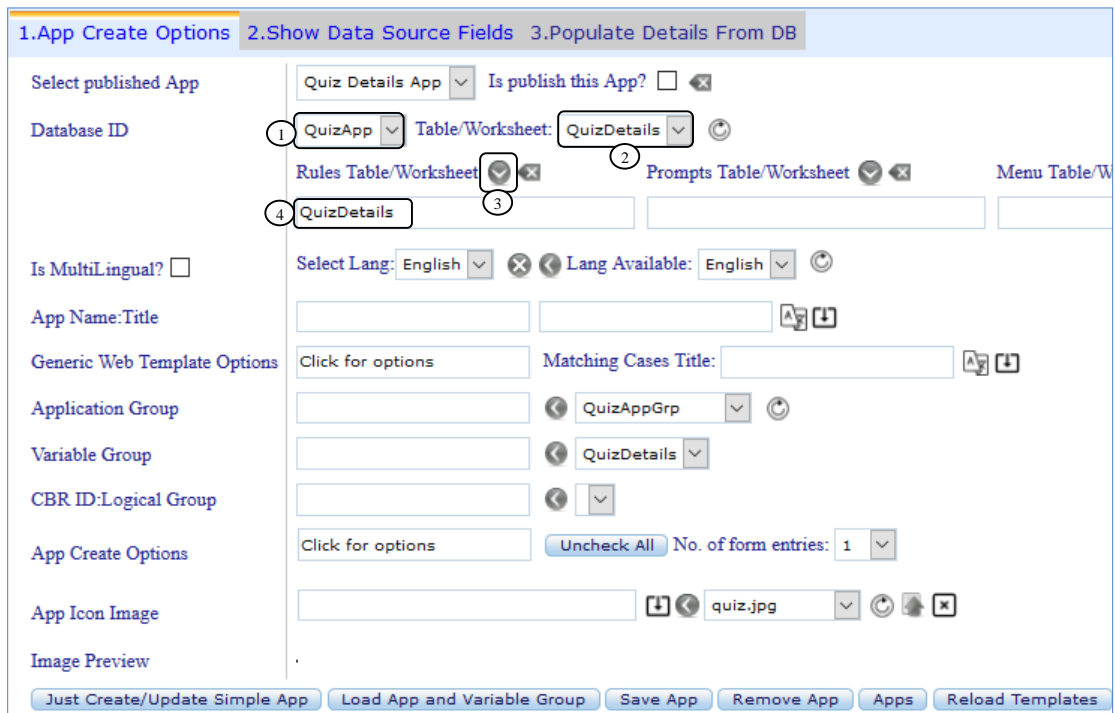


Figure 57: Selecting Database ID & Table

2. Select table *Questions* from dropdown menu.

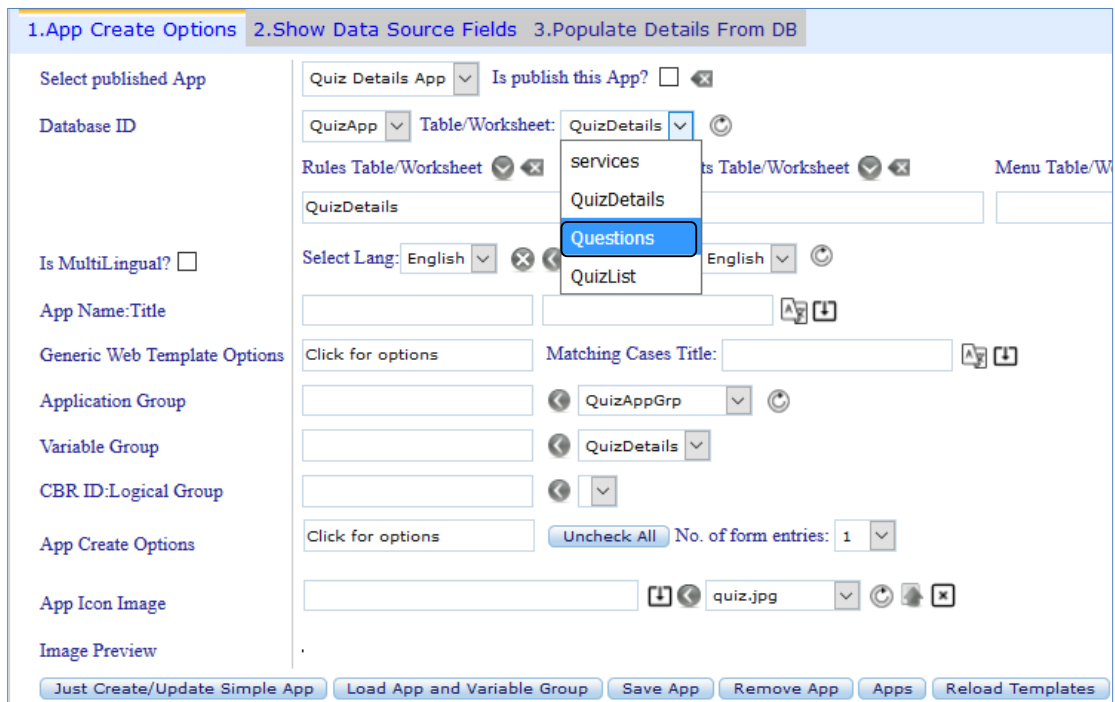


Figure 58: Selecting Table

3. Enter required application name and title.

Figure 59: Specifying App Name & Title

4. Select required *Generic Web Template Options*.

Figure 60: Selecting Generic Web Template Options





5. Specify *application group* name and *variable group* name. *Application Group* must be same for all the three applications. Select *application group* from dropdown menu and insert it using the button  into field.

Figure 61: Specifying Application Group & Variable Group Name

6. Select *Is create quiz app?* option from *App Create Options* list. This option ignores all other checked options.

Figure 62: Selecting App Create Options

7. Click the button  to upload image file for application. After uploading image, click the button  and insert into field using the button .

1.App Create Options 2.Show Data Source Fields 3.Populate Details From DB

Select published App: Quiz Details App Is publish this App?

Database ID: QuizApp Table/Worksheet: Questions

Rules Table/Worksheet: QuizDetails Prompts Table/Worksheet: Menu 1

Is MultiLingual? Select Lang: English Lang Available: English

App Name:Title: QuizApp Quiz Application

Generic Web Template Options: Click for options Matching Cases Title:

Application Group: QuizAppGrp QuizAppGrp

Variable Group: Questions QuizDetails

CBR ID:Logical Group:

App Create Options: Click for options Uncheck All No. of form entries: 1

App Icon Image: Questions.jpg Questions.jpg

Figure 63: Uploading Image File

8. Click *Show Data Source Fields* tab and the following screen is displayed.

1.App Create Options 2.Show Data Source Fields 3.Populate Details From DB

Fields of table: questions

Check to create variable prefix with	Field expr for query access	Prefix_field_with	CBR Feature Type	Numeric feature	Symbolic Numeric feature
<input checked="" type="checkbox"/> SrNo	SrNo	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QSetID	QSetID	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QID	QID	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Description	Description	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Prompt	Prompt	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> NumberingPattern	NumberingPattern	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option1	Option1	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option2	Option2	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option3	Option3	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option4	Option4	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option5	Option5	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option6	Option6	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option7	Option7	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Figure 64: Show Data Source Fields Interface

1.App Create Options 2.Show Data Source Fields 3.Populate Details From DB					
<input checked="" type="checkbox"/> Option1	Option1	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option2	Option2	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option3	Option3	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option4	Option4	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option5	Option5	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option6	Option6	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Option7	Option7	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> MaxOptionsToBeSelected	MaxOptionsToBeSelected	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> IsMandatory	IsMandatory	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> DifficultyLevel	DifficultyLevel	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> ImageURL	ImageURL	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> AnswerKey	AnswerKey	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Marks	Marks	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> NegativeMarks	NegativeMarks	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> KeyExplanation	KeyExplanation	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Figure 65: Show Data Source Fields Interface

9. Uncheck fields which are not necessary like *Description, Prompt, Option1, Option2.... ImageURL.*

1.App Create Options 2.Show Data Source Fields 3.Populate Details From DB					
Fields of table:questions					
Check to create variable prefix with	Field expr for query access	Prefix_field_with	CBR Feature Type	Numeric feature	Symbo Numeric feature
<input checked="" type="checkbox"/> SrNo	SrNo	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QSetID	QSetID	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> QID	QID	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Description	Description	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Prompt	Prompt	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> NumberingPattern	NumberingPattern	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option1	Option1	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option2	Option2	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option3	Option3	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option4	Option4	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option5	Option5	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option6	Option6	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option7	Option7	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Figure 66: Show Data Source Fields

1.App Create Options 2.Show Data Source Fields 3.Populate Details From DB					
<input type="checkbox"/> Option1	Option1	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option2	Option2	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option3	Option3	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option4	Option4	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option5	Option5	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option6	Option6	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Option7	Option7	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> MaxOptionsToBeSelected	MaxOptionsToBeSelected	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> IsMandatory	IsMandatory	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> DifficultyLevel	DifficultyLevel	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ImageURL	ImageURL	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> AnswerKey	AnswerKey	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Marks	Marks	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> NegativeMarks	NegativeMarks	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> KeyExplanation	KeyExplanation	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Figure 67: Show Data Source Fields

10. Click *Populate Details From DB* and the following screen is displayed.

1.App Create Options 2.Show Data Source Fields 3.Populate Details From DB							
Show Qry Result		5. Create All CapitalizeEachWord		Change Click to select columns		Show Column List	
Field Name	Feature Name	Data Type	Feature Weight(%)	Min Value	Max Value	Default Value	Input Control
SrNo	SrNo	Number	0	1	64	1	AutoSelect
QSetID	QSetID	Text	0			Reasoning	AutoSelect
QID	QID	Number	0	1	13	1	AutoSelect
Description	Description	Text	0				AutoSelect
Prompt	Prompt	Text	0				AutoSelect
NumberingPattern	NumberingPattern	Text	0			ABCD	AutoSelect
Option1	Option1	Text	0				AutoSelect
Option2	Option2	Text	0				AutoSelect
Option3	Option3	Text	0				AutoSelect
Option4	Option4	Text	0				AutoSelect
Option5	Option5	Text	0				AutoSelect
Option6	Option6	Text	0				AutoSelect
Option7	Option7	Text	0				AutoSelect

Figure 68: Populate Details From DB Interface

11. Edit *maximum, minimum or default value* and click *Create All*.

Field Name	Feature Name	Data Type	Feature Weight(%)	Min Value	Max Value	Default Value
SrNo	SrNo	Number	0	1	100	1
QSetID	QSetID	Text	0			Reasoning
QID	QID	Number	0	1	13	1
Description	Description	Text	0			
Prompt	Prompt	Text	0			
NumberingPattern	NumberingPattern	Text	0			ABCD
Option1	Option1	Text	0			
Option2	Option2	Text	0			
Option3	Option3	Text	0			
Option4	Option4	Text	0			
Option5	Option5	Text	0			
Option6	Option6	Text	0			
Option7	Option7	Text	0			

Figure 69: Creating an Application

12. After clicking *Create All*, an alert is displayed. Click *OK* to create application.

Field Name	Feature Name	Data Type	Feature Weight(%)	Min Value	Max Value	Default Value
SrNo	SrNo					1
QSetID	QSetID					Reasoning
QID	QID					1
Description	Description	Text	0			
Prompt	Prompt	Text	0			
NumberingPattern	NumberingPattern	Text	0			ABCD
Option1	Option1	Text	0			
Option2	Option2	Text	0			
Option3	Option3	Text	0			

Are you sure you have verified/configured all required parameters to create all objects for selected app

Figure 70: Showing an Alert

13. After clicking *OK*, *App Create Status* is shown where all objects are created successfully with following message displayed and Failed status as None indicates that there is no error.

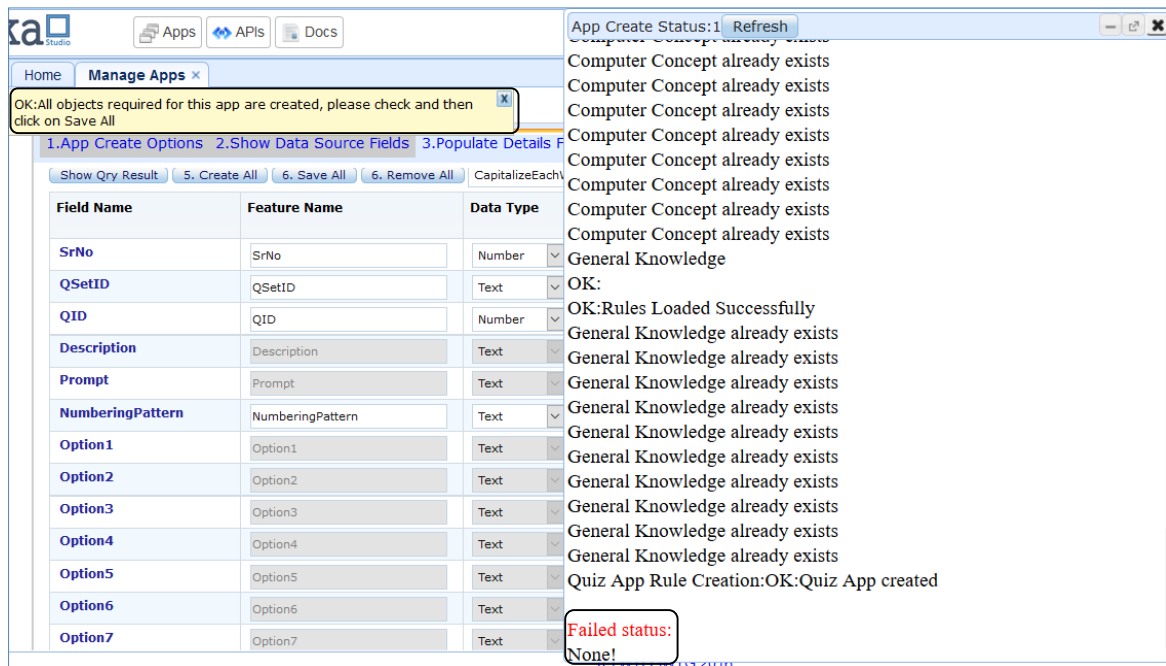


Figure 71: App Creation Status

14. Before saving application, check rules from *Rules/Expert Systems* interface.

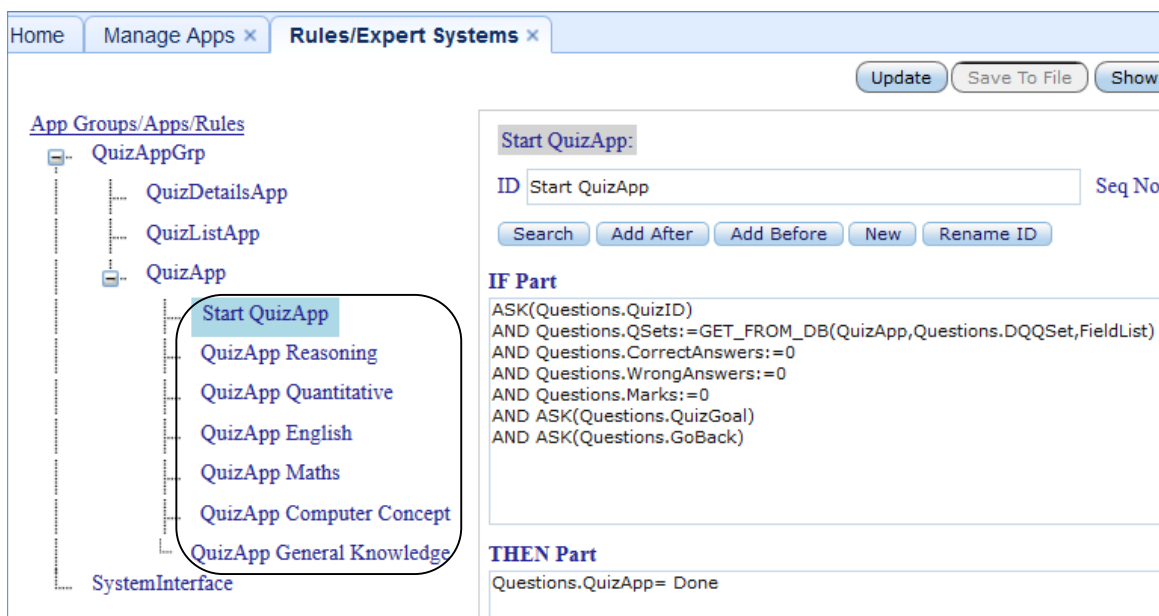


Figure 72: Rules Created

15. Application wizard creates one UDF. To check UDF, click *Main Menu -> Core Engine Configs -> UDFs*.

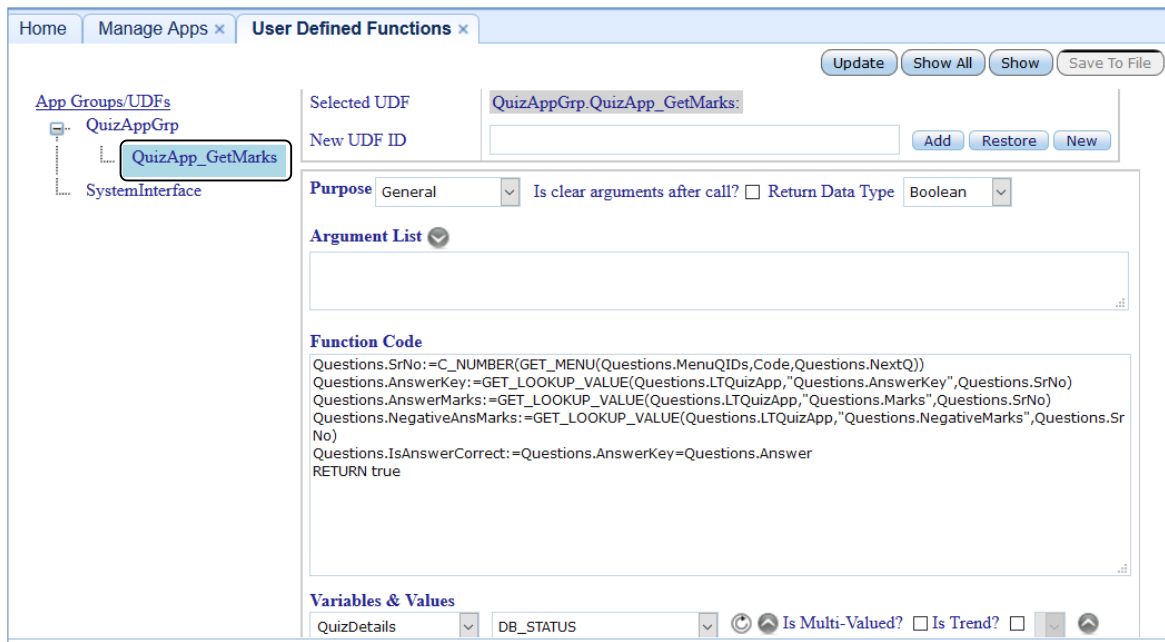


Figure 73: User Defined Functions (UDF) Interface

16. To check dynamic queries, click *Main Menu -> Database Interfaces -> Dynamic Queries*.

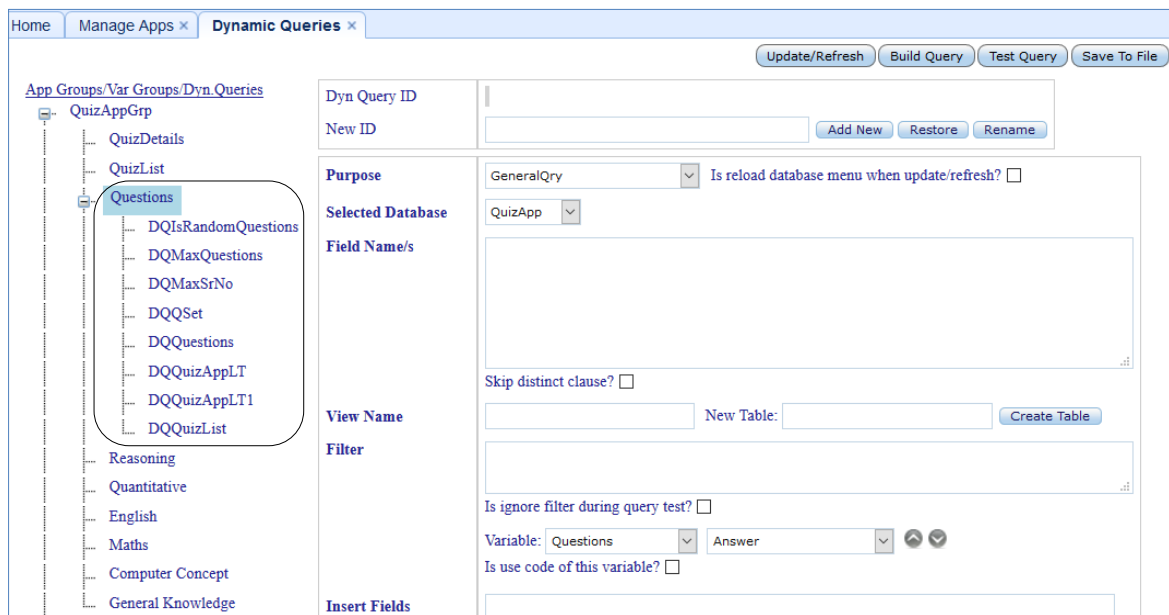


Figure 74: Dynamic Query Interface

17. Application wizard creates lookup table for fetching data at run time. To check lookup table, click *Main Menu -> Domain Vocabulary -> Lookup Table*.

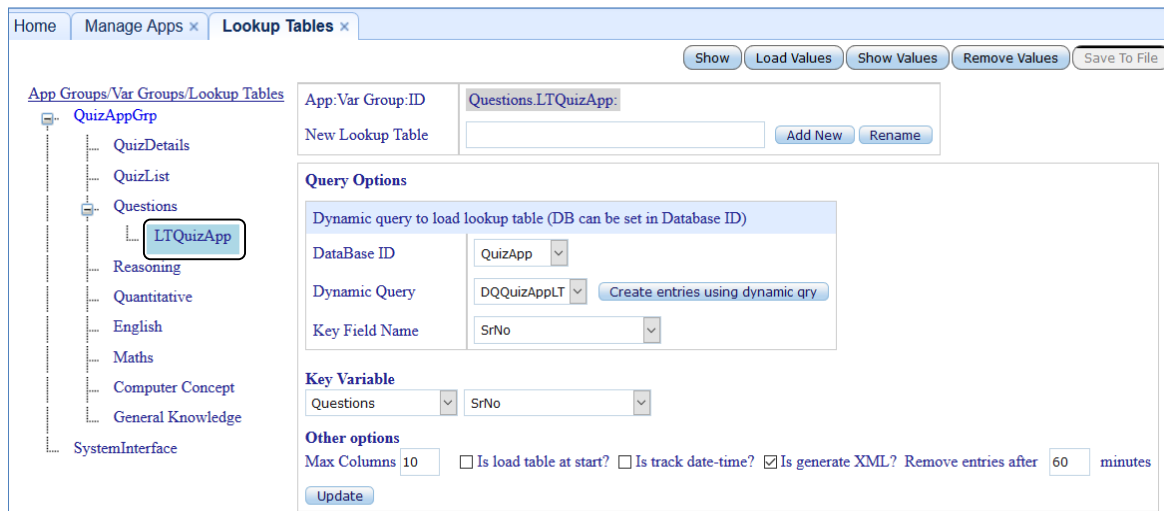


Figure 75: Lookup Table Interface

18. Lookup table can be loaded using dynamic query (Example: *DQQuizAppLT*). All fields in the query should be mapped to column variables.

To load values into lookup, select lookup table and check the option *IS load table at start?* which loads the lookup table at the start of WKA studio and click *Update*.

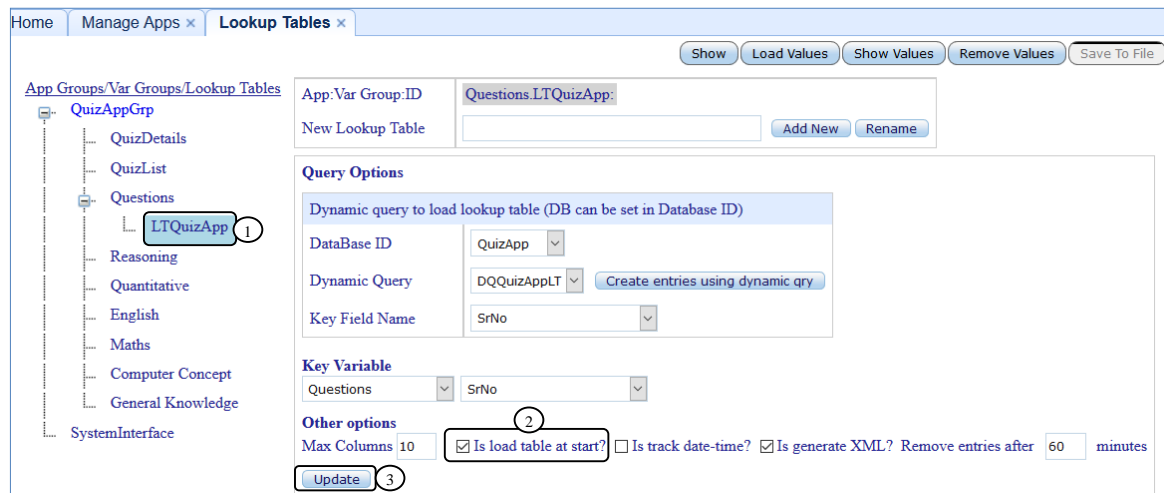


Figure 76: Updating Lookup Table

19. After clicking *Update* it shows an alert message. Click *OK*.

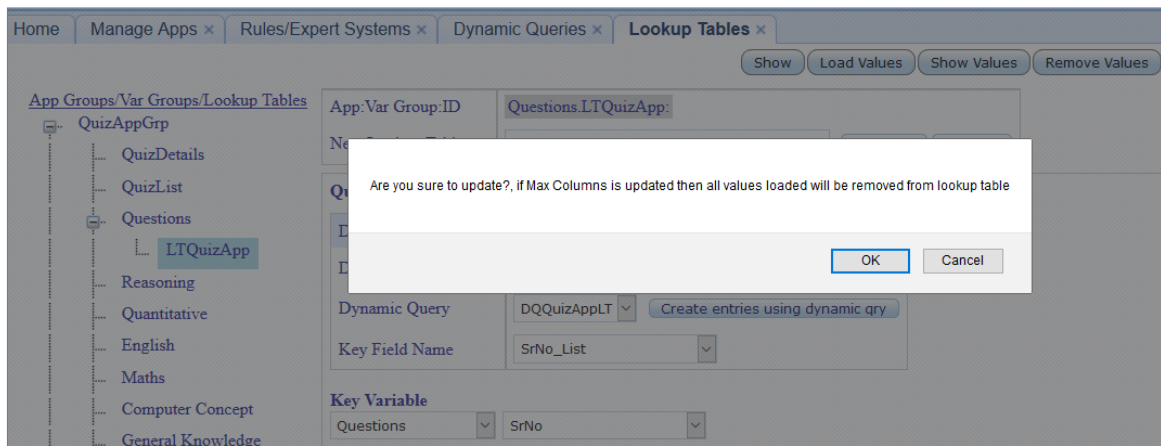


Figure 77: Lookup Table Updated

20. After clicking *OK*, lookup table is updated.

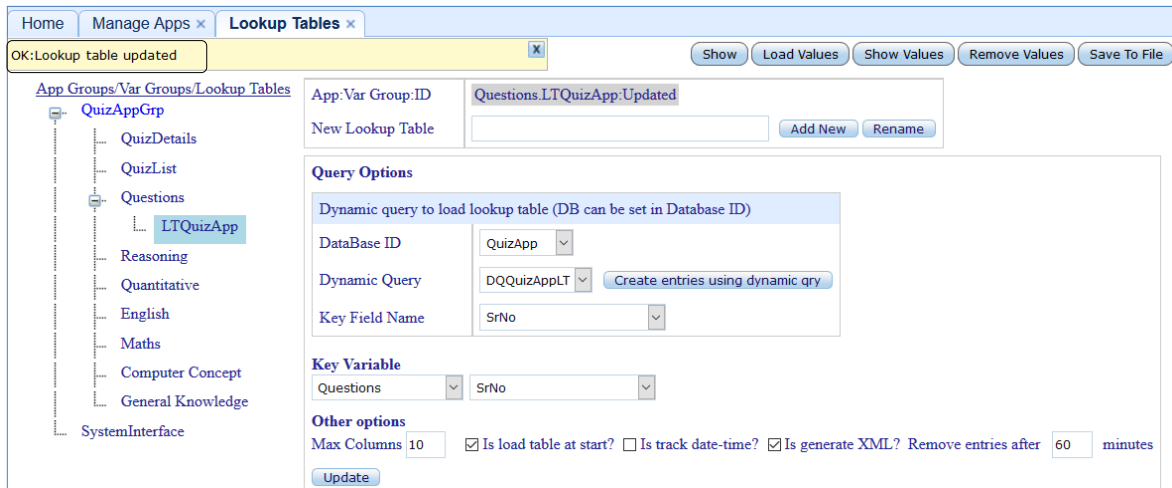


Figure 78: Updating Lookup Table

21. To load the records into lookup table, click *Load Values*.

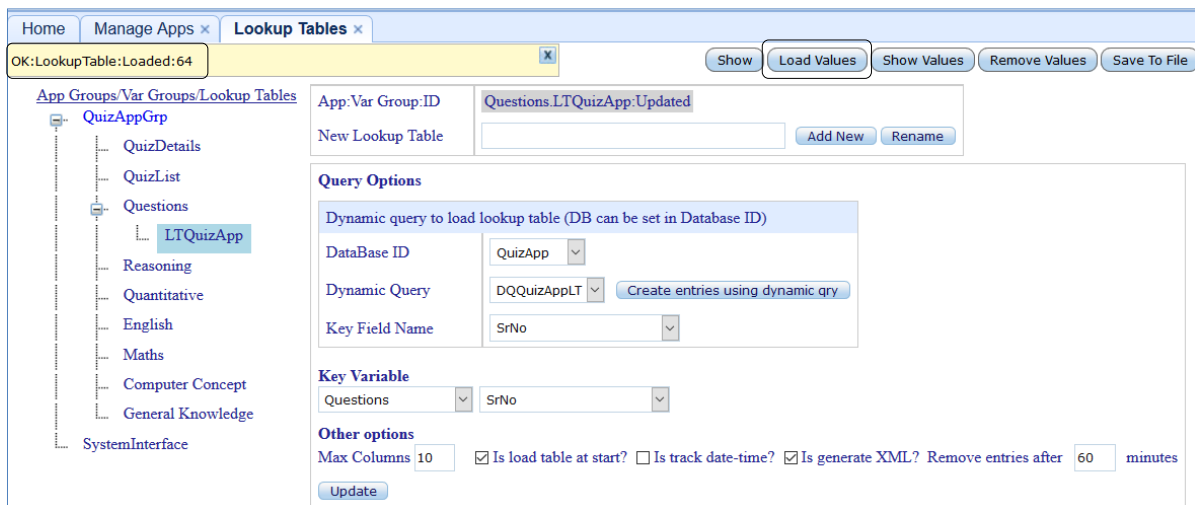


Figure 79: Loading Lookup Table

22. To view records, click *Show Values*.

S.No.	SrNo.	QSetID	QID	NumberingPattern	MaxOptionsToBeSelected	IsMandatory	DifficultyLevel	AnswerKey	Marks	NegativeMarks	KeyExplanation
1	1	Reasoning	1	ABCD		1 NO	1 D	1	1	0	Parsley, basil, and dill are types of herbs. Mayonnaise is not an herb.
2	2	Reasoning	2	ABCD		1 NO	1 C	1	1	0	Tyre, steering wheel, and engine are all parts of a car.
3	3	Reasoning	3	ABCD		1 NO	1 E	1	1	0	Cheryl cannot be the secretary, since she's the CEO, nor can En because she drives a green car, and the secretary drives a yellow car. David's, the purple car, is in the last space. Alice is the secretary, because her car is parked next to David's, which is where the secretary's car is parked.
4	4	Reasoning	4	ABCD		1 NO	1 C	1	1	0	The CEO drives a red car and parks in the first space. Enid drive a green car, Bert's car is not in the first space; David's is not in the first space, but the last. Alice's car is parked next to David's, so Cheryl is the CEO.
5	5	Reasoning	5	ABCD		1 NO	1 A	1	1	0	The vice president's car cannot be red, because that is the CEO's car, which is in the first space. Nor can it be purple, because that is the treasurer's car, which is in the last space, or yellow, because that is the secretary's. The president's car must be blue because it is parked between a red car (in the first space) and a green car, which must be the vice president's.
6	6	Reasoning	6	1234		1 NO	1 B	1	1	0	
7	7	Reasoning	7	abcd		1 NO	1 d	1	1	0	
8	8	Reasoning	8	abcd		1 NO	1 d	1	1	0	
9	9	Reasoning	9	ABCD		1 NO	1 D	1	1	0	
10	10	Reasoning	10	1234		1 NO	1 3	1	1	0	

Figure 80: Questions Stored in Lookup Tables

23. To check variables, click *Main Menu ->Domain Vocabulary ->Global Variables*.

Figure 81: Global Variables Interface

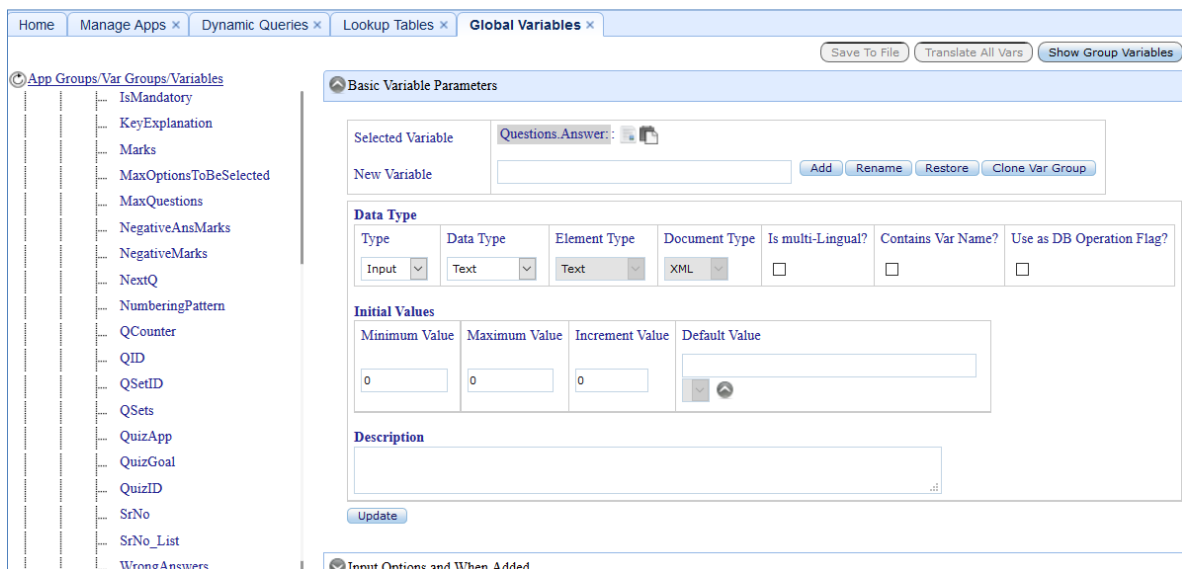


Figure 82: Global Variables Interface

24. *Global Variables* creates variables for each question set as shown in below screen. Variables from Q1....Q10 are the questions from question set.

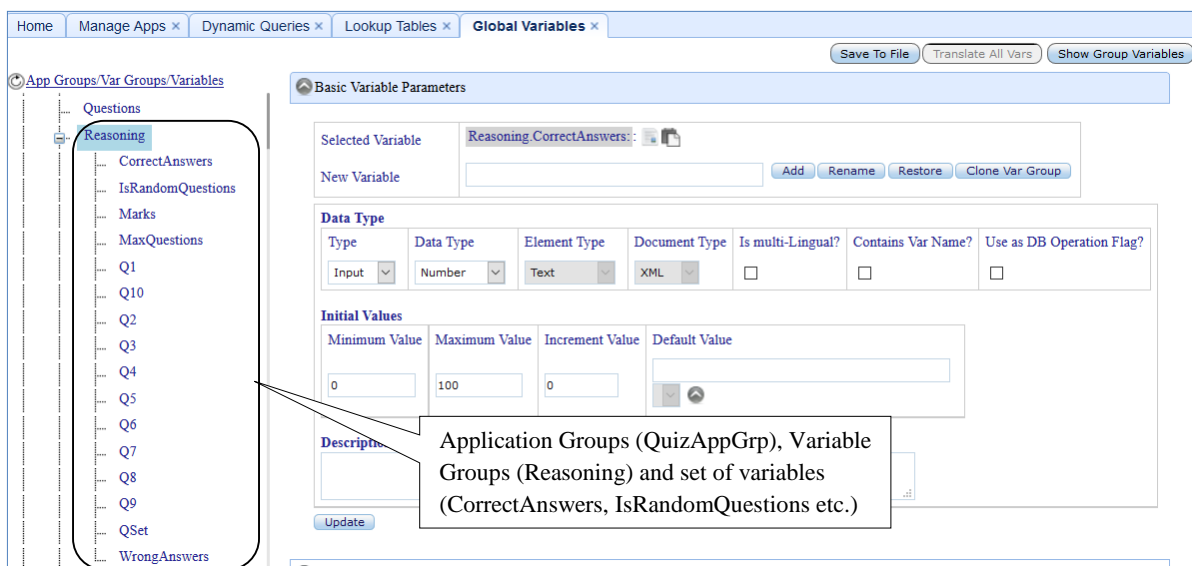


Figure 83: Global Variables Interface

25. To check menus, click *Main Menu ->Domain Vocabulary ->Menus & Lists*.

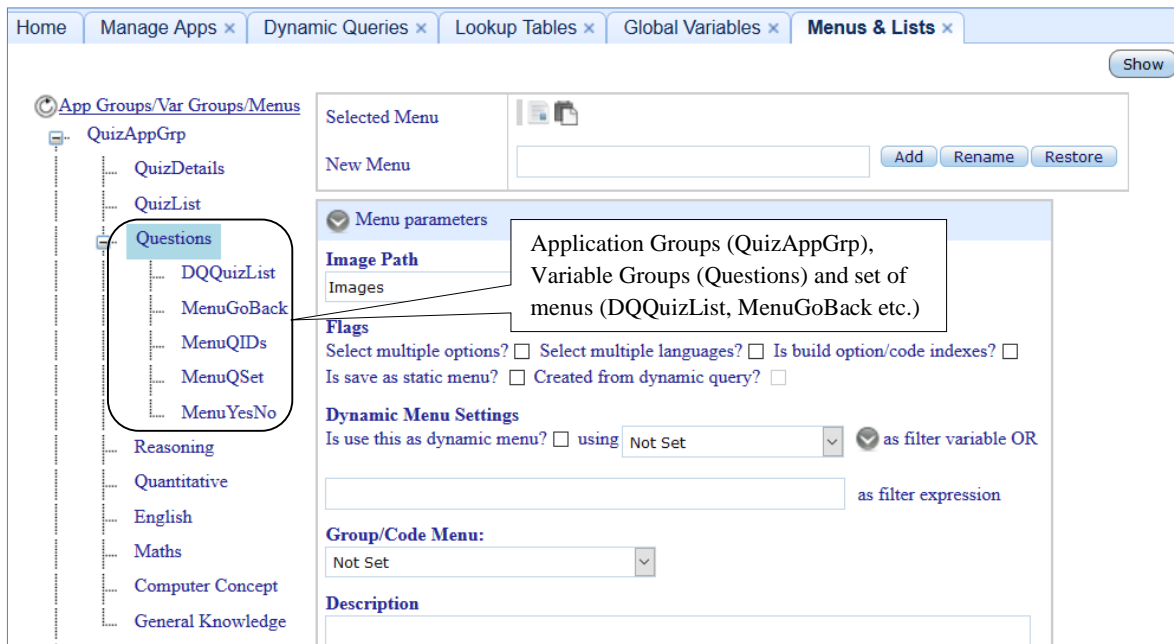


Figure 84: Menus & Lists Interface

26. Like variables, menus for each question sets are created. These menus are options for each question.

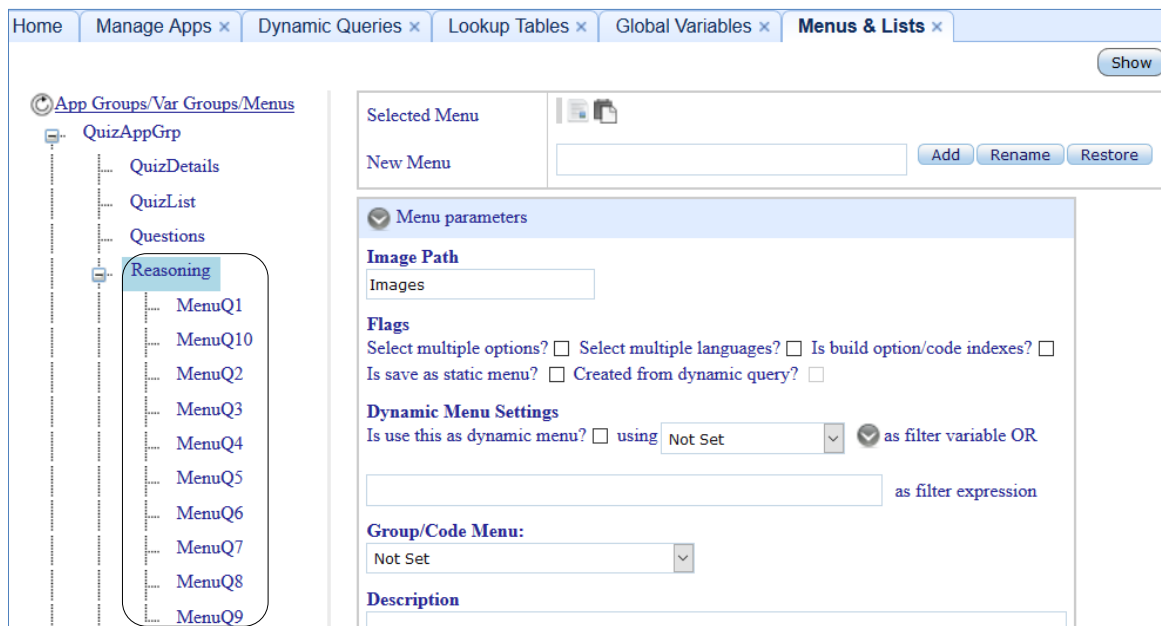


Figure 85: Menus & Lists Interface

3. Running the Application

After the Global Variables, Menus & Lists and Rules/Expert Systems are checked, now run the application to check if the application is working properly before saving the changes. First run the *Quiz Details App* application.

1. To run the application, go to *Main Menu -> Apps, API's and Docs -> Apps* and click *Quiz Details App*.

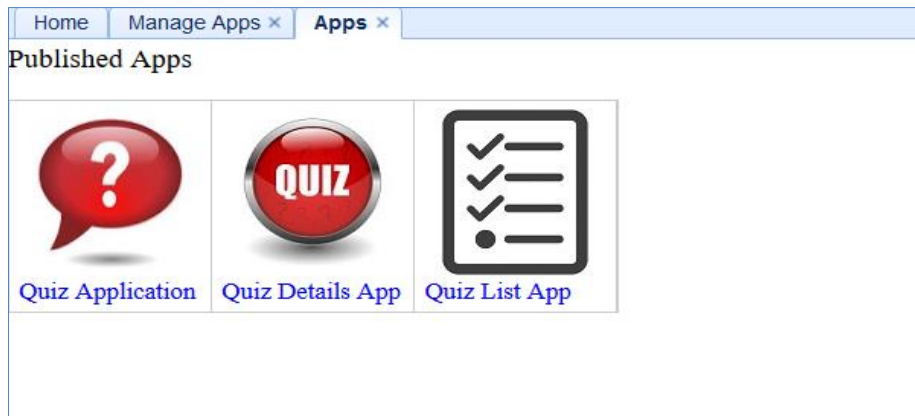


Figure 86: Apps Interface

2. Select *View* option from *Select DB Operation* dropdown menu.

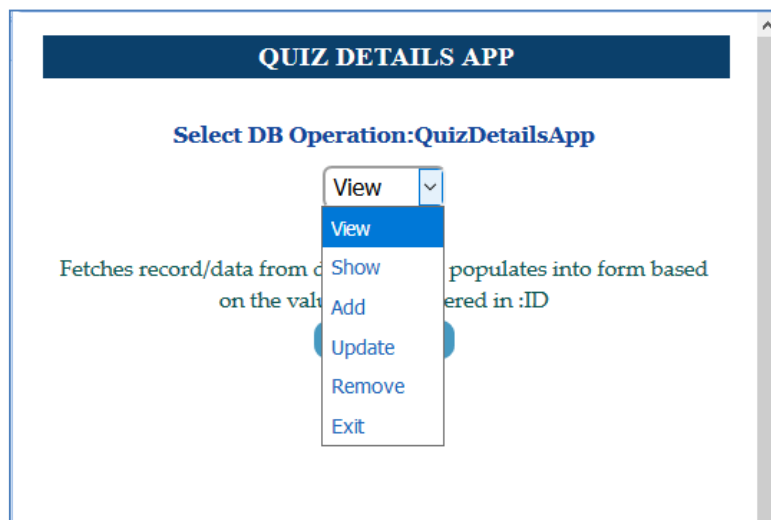


Figure 87: Selecting View Operation

3. Enter the required quiz *ID* and click *Next*.

Figure 88: Entering Quiz ID

4. For reasoning question, set 1...5 questions are asked. Click *Next*.

Figure 89: Details for Quiz ID 1

5. Click *Back* button to go back to the *DB Operation* list.

Figure 90: DB Operation Status

5. To update the sequence of questions, select *Update* operation from list. Click *Next*.

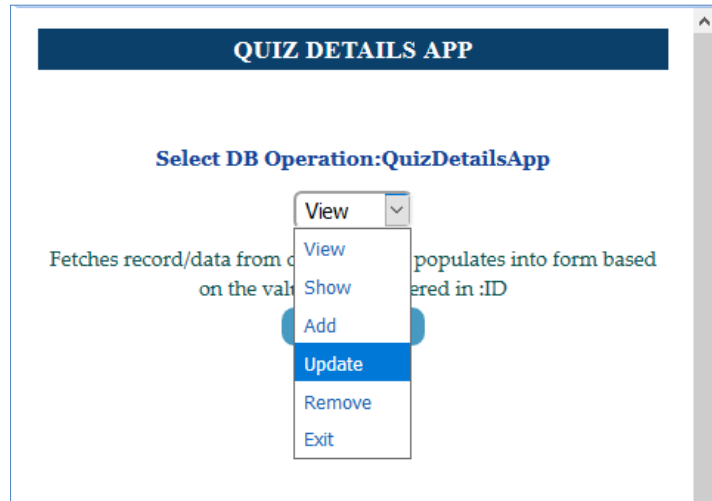


Figure 91: Selecting DB Operation

6. Enter *ID* and click *Next*.

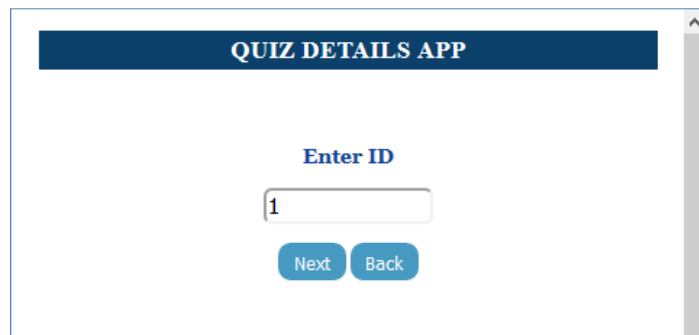


Figure 92: Entering Quiz ID

7. Update question numbers in *Enter Question Nos* text box and click *Next*.

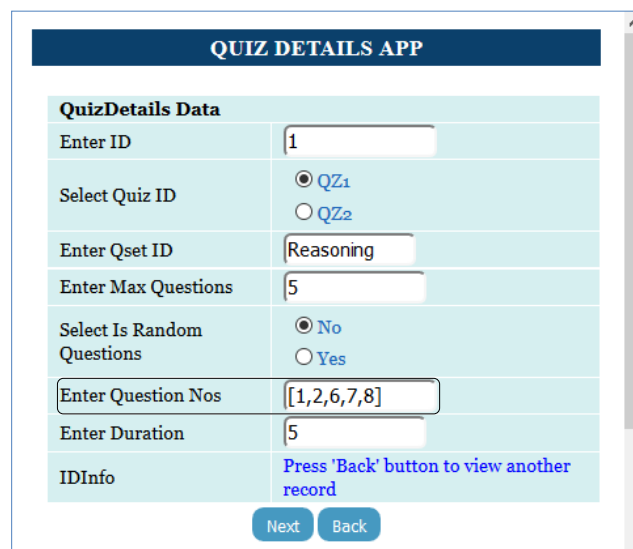


Figure 93: Updating Question Numbers

8. Record is updated with message shown as *OK:1*. Now click *Next*.

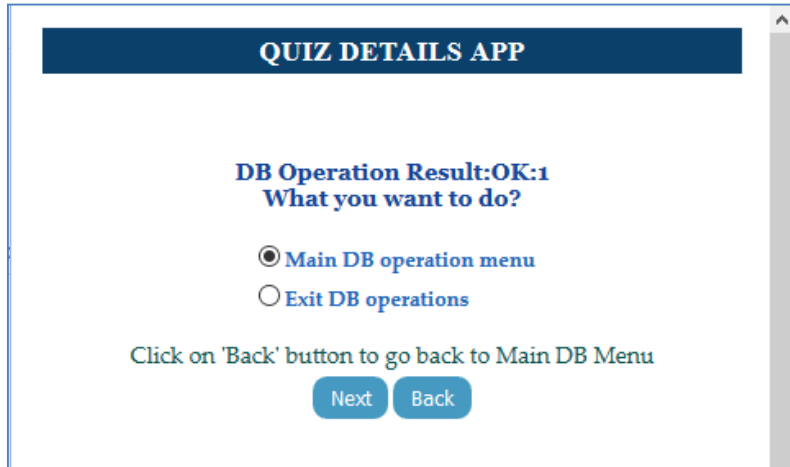


Figure 94: DB Operation Status

9. After clicking *Next*, it shows *Session Report* and the following details corresponding to question nos, question set id etc. are displayed.



Figure 95: Session Report for Quiz Details App

QUIZ DETAILS APP	
ID	1
QuizDetails DB Result	OK:1
IDFromDB	1
QuizID	QZ1
QsetID	Reasoning
MaxQuestions	5
IsRandomQuestions	No
QuestionNos	[1,2,6,7,8]
Duration	5
IDInfo	Press 'Next' button to update changes made to current record to database
QuizDetailsAppFormVar	Complete
QuizDetails DB Operation Goal:QuizDetailsApp	Update
GoBack	QuizDetails.QuizDetailsAppDBOperation
QuizDetailsApp	Done

Figure 96: Session Report for Quiz Details App

10. Now run the *QuizApplication* in *Apps* interface. Select quiz (*QZ1*) from list, it contains questions from reasoning question set.

QUIZ APPLICATION	
<p>Select quiz/test</p> <p> <input checked="" type="radio"/> QZ1 <input type="radio"/> QZ2 </p> <p style="text-align: center;"> <input type="button" value="Next"/> <input type="button" value="Back"/> </p>	

Figure 97: Selecting Quiz

11. Click *Next*. It asks five questions for reasoning because value for *MaxQuestions* is set to five.

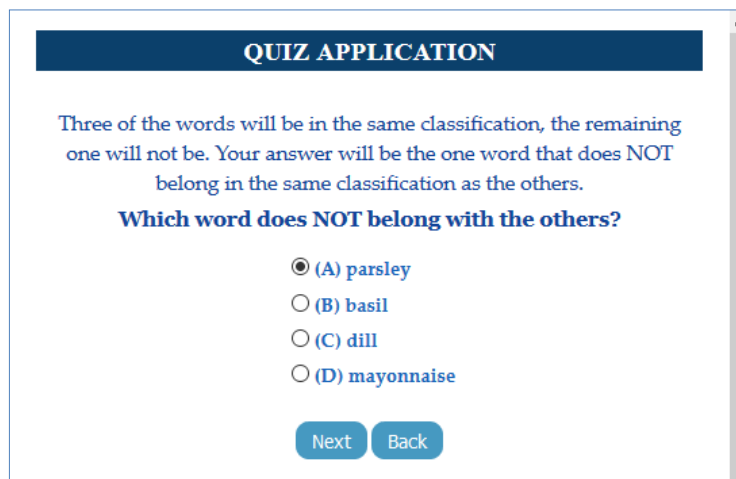


Figure 98: First Question for Reasoning

12. Check the desired answer and click *Next*.

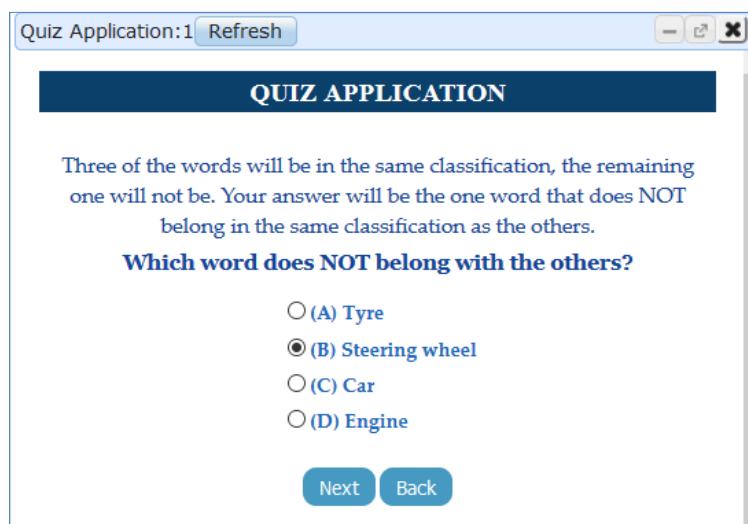


Figure 99: Second Question for Reasoning

13. Check the desired answer and click *Next*.

QUIZ APPLICATION

Which of the following expressions will be true if the given expression ' $A > B \geq C < D < E$ ' is definitely true ?

(1) $A \geq C$
 (2) $E < C$
 (3) $D \geq B$
 (4) $A > D$
 (5) None of these is true.


Figure 100: Third Question for Reasoning


14. Check the desired answer and click *Next*.


QUIZ APPLICATION


In each of the following problems, a square transparent sheet (X) with a pattern is given. Figure out from amongst the four alternatives as to how the patter would appear when the transparent sheet is folded at the dotted line.


Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.











(a) 1
 (b) 2
 (c) 3
 (d) 4

Figure 101: Fourth Question for Reasoning

15. Check the desired answer and click *Next*.

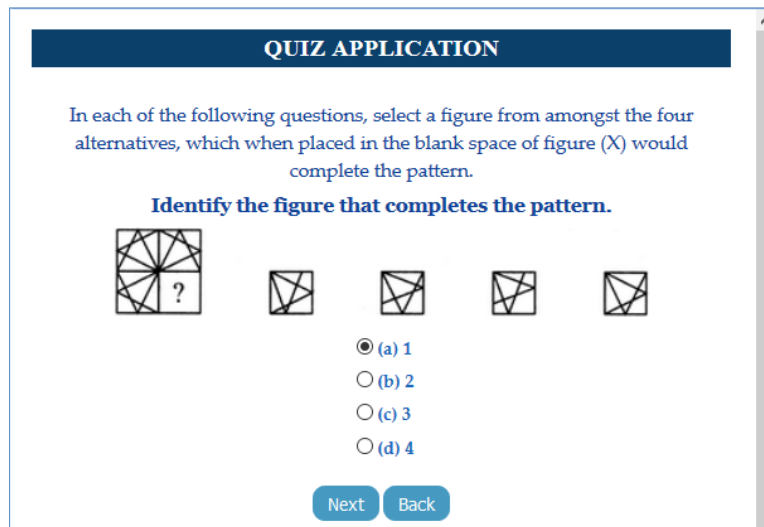


Figure 102: Fifth Question for Reasoning

16. After clicking *Next*, the following screen is displayed. Check the option *First question*, Click 'Back' and click Back it redirects to first question.

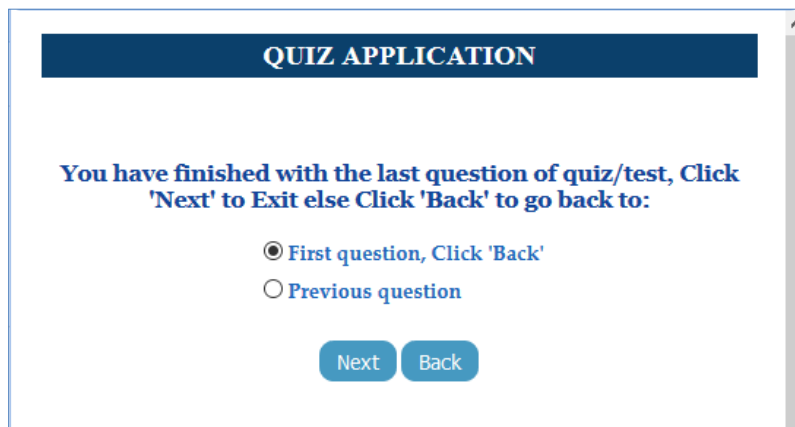


Figure 103: Clicking Back button

17. After clicking *Back* quiz starts from first question, check the desired answer and click *Next*.

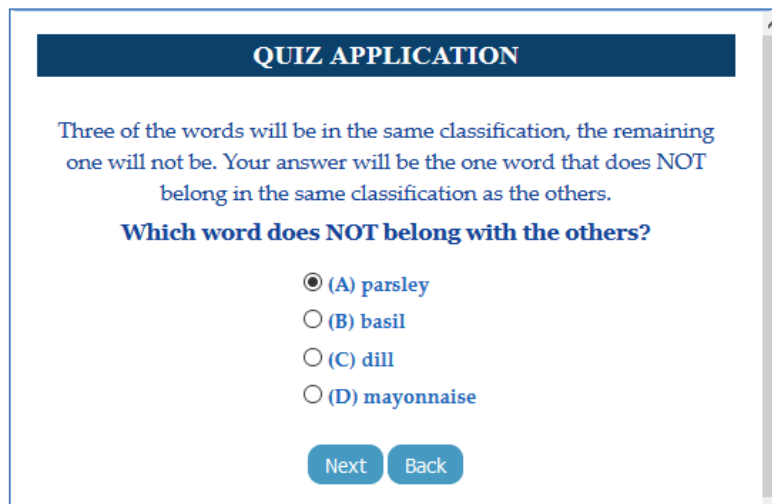


Figure 104: Starts from First Question

18. After clicking *Next*, check option *Previous question* and click *Back* button it redirects to the last question.

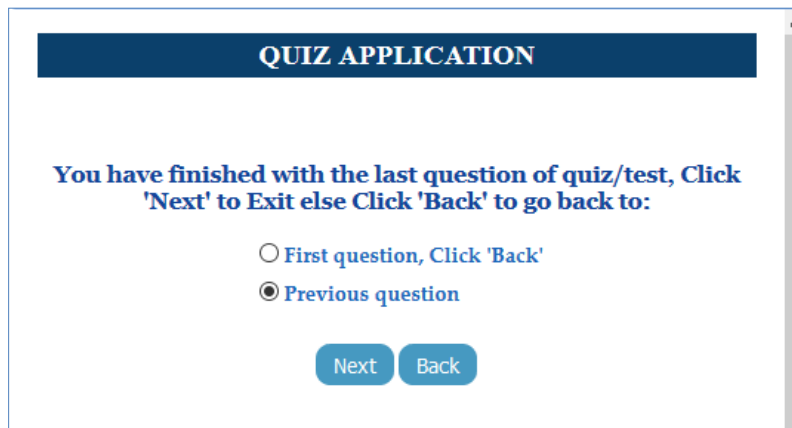


Figure 105: Checking Required Option

19. After clicking *Back*, it redirects to last question.

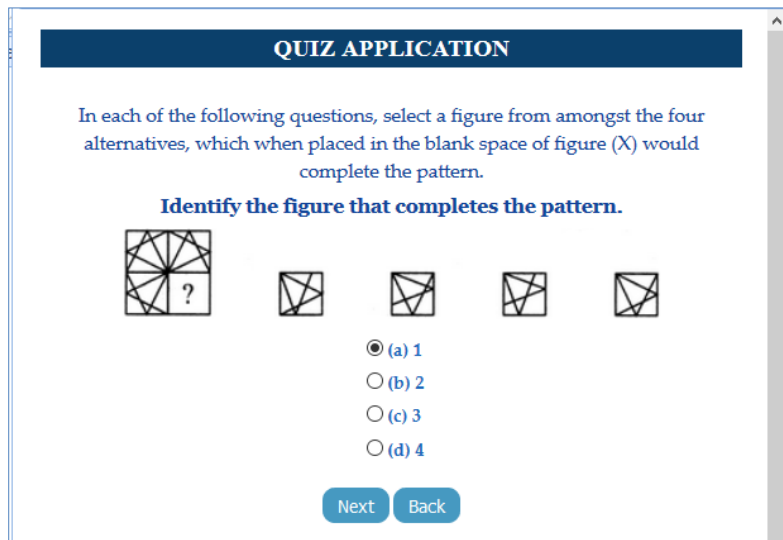


Figure 106: Last Question from Quiz

20. Click *Next*, after selecting *Previous question* or *First question*, click *Back* option and session report is displayed which shows the details such as correct answer, wrong answer etc. corresponding to the options selected.



Figure 107: Session Report

QUIZ APPLICATION	
MaxQuestions	5
NextQ	Reasoning.Q8
Q1	A
Answer	a
SrNo	8
AnswerKey	d
AnswerMarks	1.0000
NegativeAnsMarks	0.0000
IsAnswerCorrect	False
Q2	B
Q6	2
Q7	c
Q8	a
QuizGoal	[Reasoning]
GoBack	Questions.QuizGoal
QuizApp	Done

Figure 108: Session Report

21. Click *Restart* and select QZ2 quiz id which asks questions from Maths question set. Click *Next* to proceed further.

QUIZ APPLICATION	
<p>Select quiz/test</p> <p> <input type="radio"/> QZ1 <input checked="" type="radio"/> QZ2 </p> <p> <input type="button" value="Next"/> <input type="button" value="Back"/> </p>	

Figure 109: Select Quiz ID

22. Since, value for *MaxQuestions* is set to three and *IsRandomQuestions* is set to *Yes* therefore it asks only three questions in random sequence as shown in following screen shots. Check the desired answer on each screen and click *Next* to proceed further.

QUIZ APPLICATION

The following statement $(p \rightarrow q) \rightarrow [(\sim p \rightarrow q) \rightarrow q]$ is :

- (A) equivalent to $\sim p \rightarrow q$
- (B) equivalent to $p \rightarrow \sim q$
- (C) a fallacy
- (D) a tautology

Figure 110: First Question For Maths

QUIZ APPLICATION

The normal to the curve $y(x-2)(x-3)=x+6$ at the point where the curve intersects the y-axis passes through the point :

- (A) $(1/2, 1/2)$
- (B) $(1/2, 1/3)$
- (C) $(1/2, 1/3)$
- (D) $(-1/2, -1/2)$

Figure 111: Second Question For Maths

QUIZ APPLICATION

If the mean deviation about the median of the numbers $a, 2a, \dots, 50a$ is 50, then $|a|$ equals:-

- (A) 4
- (B) 5
- (C) 2
- (D) 3

Figure 112: Third Question For Maths

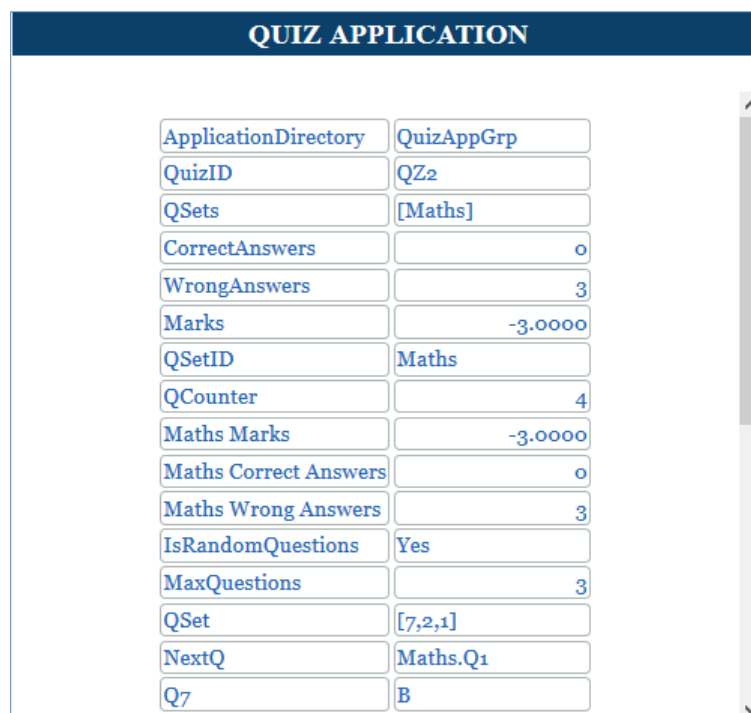
24. After checking the desired answer, click *Next*.



The screenshot shows a window titled "QUIZ APPLICATION". The main text reads: "You have finished with the last question of quiz/test, Click 'Next' to Exit else Click 'Back' to go back to:". Below this text are two radio button options: "First question, Click 'Back'" (which is selected) and "Previous question". At the bottom, there are two buttons: "Next" and "Back".

Figure 113: Quiz Application

23. After clicking *Next*, the following session report is displayed which shows the details corresponding to the options checked.



The screenshot shows a window titled "QUIZ APPLICATION" displaying a session report table. The table has two columns: the left column lists various metrics and the right column shows their corresponding values.

ApplicationDirectory	QuizAppGrp
QuizID	QZ2
QSets	[Maths]
CorrectAnswers	0
WrongAnswers	3
Marks	-3.0000
QSetID	Maths
QCounter	4
Maths Marks	-3.0000
Maths Correct Answers	0
Maths Wrong Answers	3
IsRandomQuestions	Yes
MaxQuestions	3
QSet	[7,2,1]
NextQ	Maths.Q1
Q7	B

Figure 114: Session Report

QUIZ APPLICATION	
MaxQuestions	3
QSet	[7,2,1]
NextQ	Maths.Q1
Q7	B
Answer	A
SrNo	34
AnswerKey	D
AnswerMarks	4.0000
NegativeAnsMarks	-1.0000
IsAnswerCorrect	False
Q2	C
Q1	A
QuizGoal	[Maths]
GoBack	Questions.QuizGoal
QuizApp	Done

Figure 115: Session Report

Note: In session report there is no need to show the value of variables like IsRandomQuestions, MaxQuestions etc.

24. To remove the variables *IsRandomQuestions*, *MaxQuestions* etc. from session report, go to *Global Variables* interface and click *Formatting Options*. Select the variable from the list of variables which is to be removed. Uncheck the option *Is show Value?* and click *Update* to update the variable.

The screenshot shows the 'Global Variables' interface. On the left, a tree view shows 'Maths' expanded with 'IsRandomQuestions' selected. The main panel shows the 'Formatting Options' section for 'IsRandomQuestions'. The 'Is show value?' checkbox is unchecked, and the 'Update' button is highlighted with a circled '2'. A circled '1' is also present near the 'Is show value?' checkbox.

Figure 116: Updating Variable

Note: To remove other required variables, follow the same process as explained above.

25. Run the application again, select QZ2 quiz and it asks three random questions. The following screen shot shows the session report with following details.

QUIZ APPLICATION	
ApplicationDirectory	QuizAppGrp
QuizID	QZ2
QSets	[Maths]
CorrectAnswers	1
WrongAnswers	2
Marks	2.0000
QSetID	Maths
Maths Correct Answers	1
Maths Wrong Answers	2
MaxQuestions	3
QuizApp	Done

Figure 117: Session Report

26. To ask question from *English* question set immediately after Reasoning questions, add English question set. Run *Quiz Details App* in *Apps* interface and select *Add* operation from *Select DB Operation* list.

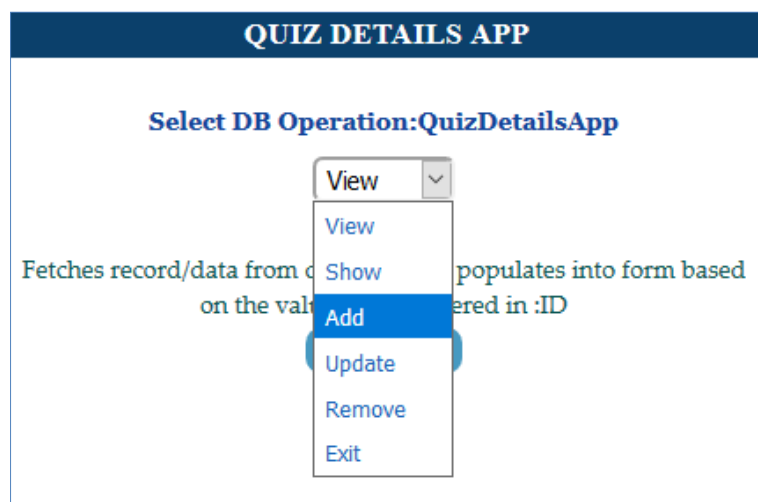


Figure 118: Selecting DB Operation

27. Enter the required quiz *ID* and click *Next*.

QUIZ DETAILS APP

Enter ID

3

Next Back

Figure 119: Entering Quiz ID

28. Enter the required details and click *Next*.

QUIZ DETAILS APP

QuizDetails Data

Enter ID	3
Select Quiz ID	<input checked="" type="radio"/> QZ1 <input type="radio"/> QZ2
Enter Qset ID	English
Enter Max Questions	3
Select Is Random Questions	<input checked="" type="radio"/> No <input type="radio"/> Yes
Enter Question Nos	[1,2,3]
Enter Duration	5
IDInfo	Press 'Next' button to add current record to database

Next Back

Figure 120: Entering Details

29. After clicking *Next*, record is added successfully with message displayed as *OK:1*.

QUIZ DETAILS APP

DB Operation Result:OK:1
What you want to do?

Main DB operation menu
 Exit DB operations

Click on 'Back' button to go back to Main DB Menu

Next Back

Figure 121: DB Operation Status

30. After clicking *Next*, session report is displayed which shows the following details.

The screenshot shows a form titled "QUIZ DETAILS APP" with various input fields and buttons. The fields are arranged in a grid-like structure. At the bottom, there are three buttons: "Result?", "Restart", and "Continue".

QUIZ DETAILS APP	
ApplicationDirectory	QuizAppGrp
QuizDetails DB Operation	Add
ID	3
QuizDetails DB Result	OK:1
IDFromDB	ERR:No Data
IDInfo	Press 'Next' button to add current record to database
QuizID	QZ1
QsetID	English
MaxQuestions	3
IsRandomQuestions	No
QuestionNos	[1,2,3]
Duration	5
QuizDetailsAppFormVar	Complete
QuizDetails DB Operation Goal:QuizDetailsApp	Add
GoBack	QuizDetails.QuizDetailsAppDBOperation

Buttons: Result? Restart Continue

Figure 122: Session Report

31. Now run the *Quiz Application* in *Apps* interface and select QZ1 quiz.

The screenshot shows a screen titled "QUIZ APPLICATION" with the instruction "Select quiz/test". There are two radio button options: "QZ1" (selected) and "QZ2". At the bottom, there are two buttons: "Next" and "Back".

QUIZ APPLICATION

Select quiz/test

QZ1

QZ2

Next Back

Figure 123: Selecting Quiz

32. Click *Next* and it asks five questions for Reasoning. Check the desired answer on each screen and click *Next* to proceed further.

QUIZ APPLICATION

Three of the words will be in the same classification, the remaining one will not be. Your answer will be the one word that does NOT belong in the same classification as the others.

Which word does NOT belong with the others?

- (A) parsley
- (B) basil
- (C) dill
- (D) mayonnaise

Next Back

Figure 124: First Question for Reasoning

QUIZ APPLICATION

Three of the words will be in the same classification, the remaining one will not be. Your answer will be the one word that does NOT belong in the same classification as the others.

Which word does NOT belong with the others?

- (A) Tyre
- (B) Steering wheel
- (C) Car
- (D) Engine

Next Back

Figure 125: Second Question for Reasoning

QUIZ APPLICATION

Which of the following expressions will be true if the given expression ' $A > B \geq C < D < E$ ' is definitely true ?

- (1) $A \geq C$
- (2) $E > C$
- (3) $D \geq B$
- (4) $A > D$
- (5) None of these is true.

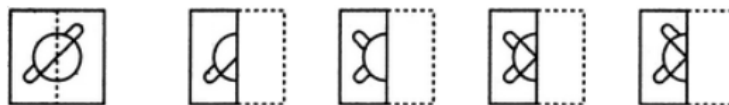
Next Back

Figure 126: Third Question for Reasoning

QUIZ APPLICATION

In each of the following problems, a square transparent sheet (X) with a pattern is given. Figure out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.

Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.



- (a) 1
- (b) 2
- (c) 3
- (d) 4





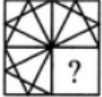
Next Back

Figure 127: Fourth Question for Reasoning

QUIZ APPLICATION

In each of the following questions, select a figure from amongst the four alternatives, which when placed in the blank space of figure (X) would complete the pattern.

Identify the figure that completes the pattern.



(a) 1
 (b) 2
 (c) 3
 (d) 4

[Next](#) [Back](#)

Figure 128: Fifth Question for Reasoning

33. After asking questions from Reasoning question set, it asks three questions from English question set. Check the desired answer on each screen and click *Next*.

QUIZ APPLICATION

Read each sentence to find out whether there is any grammatical error in it. The error, if any will be in one part of the sentence. The letter of that part is the answer. If there is no error, the answer is 'D'. (Ignore the errors of punctuation, if any).

(solve as per the direction given above)

(A) We discussed about the problem so thoroughly

(B) on the eve of the examination

(C) that I found it very easy to work it out.

(D) No error.

[Next](#) [Back](#)

Figure 129: First Question for English

QUIZ APPLICATION

Read each sentence to find out whether there is any grammatical error in it. The error, if any will be in one part of the sentence. The letter of that part is the answer. If there is no error, the answer is 'D'. (Ignore the errors of punctuation, if any).

(solve as per the direction given above)

- (A) An Indian ship.
- (B) laden with merchandise
- (C) got drowned in the Pacific Ocean.
- (D) No error.

Figure 130: Second Question for English

QUIZ APPLICATION

Read each sentence to find out whether there is any grammatical error in it. The error, if any will be in one part of the sentence. The letter of that part is the answer. If there is no error, the answer is 'D'. (Ignore the errors of punctuation, if any).

(solve as per the direction given above)

- (A) I could not put up in a hotel
- (B) because the boarding and lodging charges
- (C) were exorbitant.
- (D) No error.

Figure 131: Third Question for English

34. Click *Next* and the following screen is displayed.

QUIZ APPLICATION

**You have finished with the last question of quiz/test,
Click 'Next' to Exit else Click 'Back' to go back to:**

- First question, Click 'Back'
- Previous question

Figure 132: Quiz Application

35. After clicking *Next*, session report is displayed which shows the following details.

QUIZ APPLICATION	
ApplicationDirectory	QuizAppGrp
QuizID	QZ1
QSets	[Reasoning,English]
CorrectAnswers	1
WrongAnswers	7
Marks	1.0000
QSetID	English
Reasoning Correct Answers	0
Reasoning Wrong Answers	5
English Correct Answers	1
English Wrong Answers	2
QuizApp	Done

Figure 133: Session Report

4. Saving the Application

After the application is created, all the required parameters are checked and application is tested, the application needs to be saved. To save the changes, go to *Main Menu -> System and App Setup -> Populate Details from DB* and click *Save All*.

Field Name	Feature Name	Data Type	Feature Weight(%)	Min Value	Max Value	Default Value	Input Control
SrNo	SrNo	Number	0	1	64	1	AutoSelect
QSetID	QSetID	Text	0			Reasoning	AutoSelect
QID	QID	Number	0	1	13	1	AutoSelect
Description	Description	Text	0				AutoSelect
Prompt	Prompt	Text	0				AutoSelect
NumberingPattern	NumberingPattern	Text	0			ABCD	AutoSelect
Option1	Option1	Text	0				AutoSelect
Option2	Option2	Text	0				AutoSelect
Option3	Option3	Text	0				AutoSelect
Option4	Option4	Text	0				AutoSelect
Option5	Option5	Text	0				AutoSelect
Option6	Option6	Text	0				AutoSelect
Option7	Option7	Text	0				AutoSelect

Figure 134: Saving the Application Screen