



# Using SQL with SQL Developer

## 4.2 Part I

Section	Title	Page	
<b>One</b>	<b>Introduction to SQL</b>	<b>2</b>	
	- Definition	3	
	- Usage of SQL	4	
	- What is SQL used for ?	5	
	- Who uses SQL ?	6	
	- Definition of a Database	7	
	- What is SQL Developer ?	8	
	<b>Two</b>	<b>The SQL Developer Interface</b>	<b>9</b>
- Introduction		10	
- SQL Developer Connections		12	
- Connections		14	
- Worksheet		15	
<b>Three</b>	<b>Connections</b>	<b>16</b>	
	- Toolbar and Menus	16	
	- Viewing Objects	17	
	- Viewing Object Structure	18	
	- Table Structure	19	
	- Column Structure	20	
	- Data Default	22	
	- The Number Datatype	27	
	- The Varchar2 Datatype	28	
	- The Date Datatype	29	
	- Large Objects	30	
	- The BLOB Datatype	31	
	- The CLOB Datatype	32	
	- Object Details Dialog	33	
	<b>Four</b>	<b>Object Details Dialog</b>	<b>34</b>
		- Introduction	35
		- Columns Tab	36
- Columns Tab (Resizing columns)		37	
- Columns Tab (Moving columns)		38	
- Columns Tab (Sorting columns)		39	
- Columns Tab (Filter)		40	
- Columns Tab (Icons)		41	
- Columns Tab (Right Click)		42	
- Data Tab		43	
- Data Tab (Single Record View)		44	
- Data Tab (Count Rows)		45	
- Data Tab (Viewing Blobs and Clobs)		46	
- Data Tab (Viewing Blobs)		47	
- Model Tab		48	
- Constraints Tab		49	
- Grants Tab		50	
- Statistics Tab		51	
- Triggers Tab		52	
- Flashback Tab	53		
- Dependencies Tab	54		



# Using SQL with SQL Developer

## 4.2 Part I

Section	Title	Page
	- Details Tab	60
	- Partitions Tab	61
	- Indexes Tab	62
	- SQL Tab	63
	- <i>Exercise One</i>	65
<b>Five</b>	<b>Limiting Records in the Data Tab</b>	<b>76</b>
	- Introduction	77
	- Usage	78
	- Using Varchar2 and Dates	79
	- Case Sensitivity	80
	- Limiting Dates	81
	- Invalid Identifier	82
	- Invalid Number	83
	- Direct Comparison	84
	- Value Comparison	86
	- Column Comparison	88
	- Range Comparison	89
	- List Comparison	92
	- Wildcard Comparison	95
	- Null Values	99
	- Combining Filters	100
	- AND Filters	101
	- OR Filters	102
	- Complex Filters	103
	- <i>Exercise Two</i>	104
<b>Six</b>	<b>Ordering Records in the Data Tab</b>	<b>114</b>
	- Ordering Records in the Data Tab – Introduction	115
	- Ordering Records in the Data Tab – Examples	116
<b>Seven</b>	<b>SQL Worksheet</b>	<b>117</b>
	- Introduction	118
	- Opening in SQL Developer	119
	- Creating an SQL Statement	120
	- Executing an SQL Statement	122
	- Formatting the SQL Statement	123
	- SQL Syntax	124
	- Labelling Selected Columns (Column Aliases)	126
	- Using Literals	130
	- Database Variables and Sys.DUAL	131
	- Saving the SQL to a File	133
	- Opening and Executing a File	135
	- Commenting Out Lines	136
	- Identifying Amended Files	138
	- SQL History	139
	- Miscellaneous Commands	140
	- Query Result Buttons	141
	- Find / Highlight	146
	- Searching the Output	147



## Using SQL with SQL Developer 4.2 Part I

Section	Title	Page
	- Searching the Output	148
	- <i>Exercise Three</i>	149
<b>Eight</b>	<b>Manipulating SQL Output</b>	<b>155</b>
	- Introduction	156
	- Functions	157
	- Upper and Lower	160
	- Round	161
	- Ceil and Floor	163
	- Count	164
	- Using '*' in Selections	165
	- Sum	166
	- To_Char	167
	- To_Char (Number Examples)	168
	- To_Char (Date Examples)	170
	- Substr	172
	- Substr Examples	173
	- Decode	174
	- Combining Functions	176
	- Concatenating Columns	177
	- Performing Mathematics	179
	- Performing Mathematics	180
<b>Nine</b>	<b>Snippets</b>	<b>181</b>
	- Introduction	182
	- Topography	183
	- Using Snippets with the SQL Worksheet	184
	- Adding User Defined Snippets	187
	- Editing User Defined Snippets	191
	- <i>Exercise Four</i>	192
<b>Ten</b>	<b>Limiting Data in the SQL Worksheet</b>	<b>201</b>
	- The Where Clause	202
	- Using Functions within the Where Clause	204
	- Using Lower with a Where Clause	205
	- Using Substr with a Where Clause	206
	- Using NVL with a Where Clause	207
	- Using To_Date with a Where Clause	208
	- Using Trunc with a Where Clause	211
	- Using Trunc with a Number	212
	- Using Trunc with a Date	213
	- Sub-Queries with a Where Clause	214
	- Exists with a Where Clause	216
	- Correlated Sub-Queries	218
	- Table Aliases	219
	- Advanced IN Sub-Queries	220
<b>Eleven</b>	<b>Ordering Data in the SQL Worksheet</b>	<b>222</b>
	- Introduction	223
	- Advanced Techniques	224
	- Advanced Techniques	225



## Using SQL with SQL Developer 4.2 Part I

Section	Title	Page
	- Using Decode in Order By	226
	- <i>Exercise Five</i>	228
<b>Twelve</b>	<b>Aggregating Values in SQL Worksheet</b>	<b>233</b>
	- Introduction	234
	- Using Group By	236
	- Using Where with Group By	238
	- Using Having with Group By	240
	- Using Rollup to Total Grouping	242
	- <i>Exercise Six</i>	247
<b>Thirteen</b>	<b>Joining Tables in an SQL Statement</b>	<b>250</b>
	- Introduction	251
	- Linking Tables in an SQL Statement	253
	- Linking Tables using ANSI SQL/86	257
	- Linking Tables in an SQL Statement	258
	- Cartesian Products in an SQL Statement	259
	- Problems with Joining Tables in SQL	261
	- Linking Tables using ANSI SQL/99	264
	- Natural Join using ANSI SQL/99	265
	- Cross Join using ANSI SQL/99	267
	- Join using ANSI SQL/99	268
	- Join On using ANSI SQL/99	269
	- Outer Joins using ANSI SQL/99	270
	- Left Outer Join using ANSI SQL/99	271
	- Right Outer Join using ANSI SQL/99	272
	- Full Outer Join using ANSI SQL/99	273
	- Multiple Joins using ANSI SQL/99	274
	- <i>Exercise Seven</i>	275
<b>Fourteen</b>	<b>Query Builder in the SQL Worksheet</b>	<b>278</b>
	- Introduction	279
	- Invoking Query Builder	280
	- Query Builder Topography	282
	- Selecting Tables	286
	- Checking Links	287
<b>Fifteen</b>	<b>Using Views</b>	<b>288</b>
	- Using Views – Database Views	289
	- Using Views – Materialized Views	290
<b>Sixteen</b>	<b>Merging Tables in an SQL Statement</b>	<b>291</b>
	- Merging Tables in SQL	292
	- Using Union to Merge Tables in SQL	293
	- Using Union All to Merge Tables in SQL	294
	- Using Intersect to Merge Tables in SQL	295
	- Using Minus to Merge Tables in SQL	296
	- Knowledge Check	297
	- Knowledge Check - Union	298
	- Knowledge Check - Union All	299
	- Knowledge Check - Intersect	300
	- Knowledge Check - Minus	301



## Using SQL with SQL Developer 4.2 Part I

Section	Title	Page
Seventeen	- Using the Merge Syntax in SQL	302
	<b>Regular Expressions in Oracle SQL</b>	<b>304</b>
	- Introduction	305
	- Using REGEXP_LIKE in Where Clauses	308
	- Case Sensitivity	310
	- Line Anchors	312
	- Using the Dot (Any Character)	314
	- Counting Characters {Intervals}	318
	- Character Lists	322
	- Excluding Character Lists	328
	- Alternatives to Character Lists	329
	- Class Shorthands	332
	- Or Patterns (Alternatives)	333
	- Or Patterns with Character Lists	334
	- Using the Question Mark (Optional)	335
	- Using the Plus sign (Mandatory)	338
	- Using the Star sign (Optional)	341
	- Backreferencing	342
	- POSIX	344
	- Using POSIX in Oracle - [:upper] example	346
	- Using POSIX in Oracle - [:digit] example	347
	- Using POSIX in Oracle – Character equivalents	348
	- Using Regexp_count in SQL	349
- Using Regexp_replace in SQL	353	
- Using Regexp_instr in SQL	355	
- Using Regexp_substr in SQL	357	
- Using Regular Expressions in Oracle	359	
Eighteen	<b>Exporting Data in SQL Developer</b>	<b>360</b>
	- Introduction	361
	- File Types	363
	- Exporting to CSV	364
	- Exporting to Delimited	366
	- Exporting to Excel	367
	- Exporting to Excel.xml	369
	- Exporting to Fixed	371
	- Exporting to HTML	373
	- Insert	376
	- Json	378
	- Insert	379
	- Loader	380
	- Loader (ldr)	381
	- Loader (ctl)	382
	- PDF	383
	- Text	385
- XML	387	



## Using SQL with SQL Developer 4.2 Part I

<b>Section</b>	<b>Title</b>	<b>Page</b>
<b>Nineteen</b>	<b>SQL Developer Help Facility</b>	<b>389</b>
	- Introduction	390
	- Search and Table of Contents	391
	- Start Page	392
	- Data Miner	393
	- Check for Updates	394
	- About	395
	- <i>Exercise Eight</i>	396
<b>Appendices</b>		
	<b>Appendix S1 – SQL Functions</b>	
	<b>Appendix S2 – SQL Number Formats</b>	
	<b>Appendix S3 – SQL Date Formats</b>	
<b>Delegate Questionnaire</b>		