

This course covers the following topics (any items marked with a * will be covered if time allows):

<p>Stored procedures</p> <ul style="list-style-type: none"> • Creating stored procedures • Executing stored procedures • System stored procedures <p>Variables</p> <ul style="list-style-type: none"> • Declaring variables • SET versus SELECT • Tricks with variables • So-called global variables <p>Parameters and return values</p> <ul style="list-style-type: none"> • Passing parameters • Default values / WHERE clauses • Output parameters • Using RETURN <p>Scalar functions</p> <ul style="list-style-type: none"> • What they are • Writing user-defined functions • Worked examples • Pros and cons of scalar functions <p>Testing conditions</p> <ul style="list-style-type: none"> • IF / ELSE statement • Using CASE where possible <p>Looping</p> <ul style="list-style-type: none"> • Syntax of WHILE • Breaking out of a loop <p>Error-handling</p> <ul style="list-style-type: none"> • Using TRY / CATCH • System error functions • Custom error messages 	<p>Deleting using SQL</p> <ul style="list-style-type: none"> • Ways to drop tables • DELETE versus TRUNCATE <p>Updating data in SQL</p> <ul style="list-style-type: none"> • The UPDATE statement • Updating using joins <p>Inserting data</p> <ul style="list-style-type: none"> • Making tables (SELECT INTO) • Appending data (INSERT INTO) • Inserting individual rows <p>Creating tables</p> <ul style="list-style-type: none"> • Creating tables in SQL • Primary keys and indexes • Adding relationships <p>Transactions</p> <ul style="list-style-type: none"> • Beginning a transaction • Committing / rolling back <p>Temporary tables and table variables</p> <ul style="list-style-type: none"> • Scope (local versus global) • Using temporary tables • Creating table variables • Pros and cons of each approach <p>Table-valued functions (*)</p> <ul style="list-style-type: none"> • In-line table-valued functions • Mult-statement table-valued functions 	<p>Derived tables and CTEs</p> <ul style="list-style-type: none"> • Using derived tables • Common Table Expressions (CTEs) • Multiple CTEs in a single query <p>Debugging (*)</p> <ul style="list-style-type: none"> • Debugging queries and procedures • Setting breakpoints <p>Dynamic SQL (*)</p> <ul style="list-style-type: none"> • Building up dynamic SQL • Executing dynamic SQL • Disadvantages of dynamic SQL <p>Pivots (*)</p> <ul style="list-style-type: none"> • Assembling data for pivoting • Using PIVOT • Dynamic column headers <p>Triggers (*)</p> <ul style="list-style-type: none"> • Insert, update and delete triggers • Using generated tables (eg INSERTED) • Using INSTEAD OF
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There will be no more than 6 people on the course. We strongly recommend the use of a second monitor for this training. For more information, see www.wiseowl.co.uk/sql/online/advanced-sql-training/.