

# SQL Server 2017 Editions—What's New

SQL Server 2017 is the biggest leap forward in Microsoft's data platform history with real-time operational analytics, rich visualizations on mobile devices, built-in advanced analytics, new advanced security technology, and new hybrid cloud scenarios.

**EXPRESS** SQL Server Express is a free edition of SQL Server ideal for development and production for desktop, web, and small server applications.

**STANDARD** SQL Server Standard provides core data management and business intelligence capabilities for non-critical workloads with minimal IT resources.

**ENTERPRISE** SQL Server Enterprise delivers comprehensive datacenter capabilities for mission-critical database, business intelligence, and advanced analytics workloads.<sup>1</sup>

**DEVELOPER** SQL Server Developer is now a free edition providing the full feature set of SQL Server Enterprise. For development and test only, and not for production environments or use with production data.

|                              | EXPRESS   | STANDARD<br><i>Contains all Express features in addition to those listed below.</i>  | ENTERPRISE<br><i>Contains all Express and Standard features in addition to those listed below.</i>   |
|------------------------------|---|--|--|
| Mission Critical Performance | <ul style="list-style-type: none"> <li>• Max: 4 core, 10GB DB size, 1410 MB buffer pool</li> <li>• In-memory OLTP, operational analytics</li> </ul>   | <ul style="list-style-type: none"> <li>• Max: 24 cores, 524 PB DB size, 128 GB buffer pool</li> <li>• 2-node single database failover</li> </ul> | <ul style="list-style-type: none"> <li>• Max: OS max cores and buffer pool, 524 DB size</li> <li>• Always On Availability Groups</li> <li>• Multi-database failover, readable secondaries</li> </ul> |
| Security                     | <ul style="list-style-type: none"> <li>• Policy-based management, management studio</li> <li>• Always encrypted row-level security</li> <li>• Data masking</li> <li>• Compliance reporting with SQL Server audit</li> </ul> |  | <ul style="list-style-type: none"> <li>• Transparent data encryption</li> </ul>  |
| Data Warehousing             | <ul style="list-style-type: none"> <li>• Partitioning, data compression, change data capture, data snapshot</li> <li>• In-memory columnstore</li> <li>• PolyBase</li> </ul>   |  | <ul style="list-style-type: none"> <li>• Fuzzy grouping and loop ups</li> <li>• Adaptive Query Processing</li> <li>• Master Data Services, Data Quality Services</li> </ul>                          |

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|-----------------------|---|--|--|
| Business Intelligence | <ul style="list-style-type: none"> <li>• Basic reporting and analytics</li> </ul>   | <ul style="list-style-type: none"> <li>• SSIS, built-in connectors</li> <li>• Basic tabular model</li> <li>• Basic multi-dimensional models</li> <li>• In-memory storage mode</li> </ul> | <ul style="list-style-type: none"> <li>• Mobile reports and KPIs</li> <li>• Advanced multi-dimensional models</li> <li>• Advanced tabular model</li> <li>• DirectQuery storage mode</li> <li>• Advanced data mining</li> <li>• Access to Power BI Report Server</li> </ul> |
| Advanced Analytics    | <ul style="list-style-type: none"> <li>• Connectivity to open source Python and R</li> <li>• Limited parallelism</li> </ul> |  | <ul style="list-style-type: none"> <li>• Full parallelism of R and Python analytics and ability to run on GPUs</li> <li>• Machine learning for Hadoop/Spark</li> <li>• Machine learning for Linux</li> </ul>   |
| Hybrid Cloud          | <ul style="list-style-type: none"> <li>• Stretch Database</li> </ul>  |  |  |

# SQL Server 2017 Features by Edition

|   |   | EXPRESS | STANDARD | ENTERPRISE |
|---|---|---------|----------|------------|
| Mission Critical Performance  | Maximum number of cores   | 4 cores | 24 cores | Unlimited  |
|   | Maximum memory utilized per instance  | 1410 MB | 128GB    | OS Max     |
|   | Maximum size  | 10GB    | 524 PB   | 524 PB     |
|   | Advanced OLTP (in-memory OLTP, Operational analytics)   |         |          |            |
|   | Manageability (Management Studio, Policy-Based Management)  |         |          |            |
|   | Basic high availability (2-node single database failover, non-readable secondary)   |         |          |            |
|   | Enterprise data management (Master Data Services, Data Quality Services)  |         |          |            |
|   | Advanced HA (Always On - multi-node, multi-db failover, readable secondaries)   |         |          |            |
|   | Basic Adaptive Query Processing (Interleaved execution)   | New     |          |            |
| Advanced Adaptive Query Processing (Batch mode memory grant feedback, Batch mode adaptive joins), Automatic Plan Correction | New   |         |          |            |
| Security  | Basic security (Row-level security, data masking, basic auditing, separation of duties, Always Encrypted)   |         |          |            |
|   | Advanced security (Transparent Data Encryption)   |         |          |            |
| Data Warehousing  | Advanced data integration (Fuzzy grouping and look ups, change data capture)  |         |          |            |
|   | Data warehousing (In-Memory ColumnStore, Partitioning)  |         |          |            |
|   | T-SQL query across relational and Hadoop data with PolyBase   |         |          |            |
| Business Intelligence   | Programmability & Developer Tools (T-SQL, CLR, Data Types, FileTable, JSON, <a href="#">graph data support</a> )  | New     |          |            |
|   | Basic reporting & analytics   |         |          |            |
|   | Basic data integration (SSIS, built-in connectors)  |         |          |            |
|   | Basic Corporate Business Intelligence (Multi-dimensional models, basic, tabular model, <a href="#">enhanced connectors</a> , <a href="#">new transformations</a> , <a href="#">object-level security</a> , <a href="#">ragged hierarchies</a> ) | New     |          |            |
|   | Mobile BI   |         |          |            |
|   | Advanced Corporate Business Intelligence (Advanced tabular model, direct query, in-memory analytics, advanced data mining)  |         |          |            |
| Advanced Analytics  | Basic R and <a href="#">Python integration</a> (Connectivity to R Open and Python, Limited parallelism)   | New     |          |            |
|   | Advanced R and <a href="#">Python integration</a> (Ability to run on PGUs and full parallelism through Machine Learning Services)   | New     |          |            |
| Hybrid Cloud  | Stretch Database  |         |          |            |