

Databases (DBaaS)

Questions	AWS	Azure		Google Cloud Platform	IBM Cloud	OTC Cloud
Which DB engines are offered?	<p>Relational DB</p> <ul style="list-style-type: none"> - MySQL - PostgreSQL - MariaDB - Oracle - Microsoft SQL Server - Amazon Aurora <p>Non-Relational DB</p> <ul style="list-style-type: none"> - Amazon DynamoDB - Amazon ElastiCache - Amazon Neptune - Redis - MemCached <p>Data Warehouse / Big Data</p> <ul style="list-style-type: none"> - Amazon Redshift - Amazon Athena - Amazon EMR (Hadoop, Spark, HBase, Presto, etc.) - Amazon Kinesis - Amazon Elasticsearch Service - Amazon Quicksight 	<p>Relational DB</p> <ul style="list-style-type: none"> - Azure SQL Database - Azure Database for MySQL - Azure Database for PostgreSQL - Azure Database for Maria DB - Microsoft SQL Server <p>Non-Relational DB</p> <ul style="list-style-type: none"> - Azure Cosmos DB - Azure Table Storage - Redis <p>Data Warehouse / Big Data</p> <ul style="list-style-type: none"> - SQL Data Warehouse - HDInsight (Hadoop, Spark, Hive, LLAP, Kafka, Storm, R.) - Azure Databricks (Spark) - Azure Data Factory - Azure Stream Analytics 		<p>Relational DB</p> <ul style="list-style-type: none"> - PostgreSQL - MySQL - Google Cloud Spanner <p>Non-Relational DB</p> <ul style="list-style-type: none"> - Google Cloud Datastore - Google Cloud BigTable <p>Data Warehouse / Big Data</p> <ul style="list-style-type: none"> - Google Cloud BigQuery - Google Cloud Dataflow - Google Cloud Dataproc (Hadoop / Spark) - Google Cloud Datalab - Google Cloud Dataprep 	<p>Relational DB</p> <ul style="list-style-type: none"> - Db2 on Cloud - PostgreSQL - MySQL <p>Non-Relational DB</p> <ul style="list-style-type: none"> - Cloudant - MongoDB - ScyllaDB - Redis - JanusGraph - etcd - Elasticsearch <p>Data Warehouse / Big Data</p> <ul style="list-style-type: none"> - Db2 Warehouse on Cloud 	<p>Relational DB</p> <ul style="list-style-type: none"> - PostgreSQL - MySQL - Microsoft SQL Server <p>Non-Relational DB</p> <ul style="list-style-type: none"> - MongoDB - Redis
Performance of MySQL (MySQL Sysbench, table-size (row data): 1000000, Threads: 16)						
- Read	- Transactions: 152620 (2543.15 / sec)	- Transactions: 148200 (2469.55 / sec)		- Transactions: 121381 (2021.95 / sec)	- Transactions: 119862 (1997.21 / sec)	- Transactions: 68635 (1143.57 / sec)
- Write	- Transactions: 106829 (1779.98 / sec)	- Transactions: 16826 (280.10 / sec)		- Transactions: 79013 (1316.43 / sec)	- Transactions: 92724 (1545.09 / sec)	- Transactions: 27822 (462.84 / sec)
- Read / Write	- Transactions: 7249 (121.26 / sec)	- Transactions: 5623 (93.43 / sec)		- Transactions: 5180 (86.08 / sec)	- Transactions: 7129 (118.53 / sec)	- Transactions: 3108 (51.59 / sec)
- Provisioning time for a MySQL instance	234 sec	132 sec		246 sec	151 sec	425 sec
Performance of PostgreSQL						
- Read	- Transactions: 152421 (2539.60 / sec)	- Transactions: 148643 (2476.84 / sec)		- Transactions: 145075 (2416.13 / sec)	- Transactions: 83520 (1391.68 / sec)	- Transactions: 61656 (1027.21 / sec)
- Write	- Transactions: 120829 (2013.22 / sec)	- Transactions: 14279 (231.53 / sec)		- Transactions: 110390 (1839.25 / sec)	- Transactions: 30842 (513.89 / sec)	- Transactions: 49329 (821.80 / sec)
- Read / Write	- Transactions: 7292 (121.26 / sec)	- Transactions: 5624 (93.59 / sec)		- Transactions: 6405 (106.51 / sec)	- Transactions: 4116 (68.27 / sec)	- Transactions: 3298 (54.69 / sec)
- Provisioning time for a PostgreSQL instance	183 sec	71 sec		234 sec	701 sec	427 sec
Supported DB Versions	<ul style="list-style-type: none"> - MySQL 8.0,5.7, 5.6, 5.5 - MariaDB 10.3,10.2,10.1,10.0 - Microsoft SQL Server 2017 RTM, 2016 SP1, 2014 SP2, 2012 SP4, 2008 R2 SP3 - Oracle 12c (12.1.0.2, 12.1.0.1), Oracle 11g (11.2.0.4, 11.2.0.3, 11.2.0.2) - PostgreSQL 11 Beta 1,10.6,10.5, 10.4, 10.3, 10.1, 9.6.x, 9.5.x, 9.4.x, 9.3.x,9.2.x - Amazon Aurora - compatible with MySQL 5.6.10a 	<ul style="list-style-type: none"> - MySQL 5.7, 5.6 - MariaDB 10.2 - Azure SQL Database: Microsoft SQL Server 2017 - Microsoft SQL Server 2017, 2016 SP1, 2014 SP2, 2012 SP4, 2008 R2 SP3 - PostgreSQL 10.3, 9.6.x, 9.5.x - Azure Cosmos DB 		<ul style="list-style-type: none"> - MySQL 5.7, 5.6 - PostgreSQL 9.6.x 	<ul style="list-style-type: none"> - Db2-ge - PostgreSQL 9.6.10,9.6.9,9.5.14,9.5.13,9.4.19,9.4.18 - MySQL 5.7.22 - Cloudant-h7 - MongoDB 3.4.10,3.2.18,3.2.11,3.2.10 - ScyllaDB 2.0.3 - Redis 4.0.10,3.2.12 - JanusGraph 0.1.1 beta - etcd 3.3.3,3.2.18 - Elasticsearch 6.2.2, 5.6.9 - Db2 Warehouse-ef 	<ul style="list-style-type: none"> - PostgreSQL 9.6.5, 9.6.3, 9.5.5 - MySQL 5.7.20, 5.7.17, 5.6.35, 5.6.34, 5.6.33, 5.6.30 - Microsoft SQL Server 2014 SP2 SE
Troubleshooting as a Service						
- Rollback	yes	yes		yes	yes	yes
- Support	yes	yes		yes	yes	yes
Total price for the database per month						
- MySQL						
- 2 vCores						
- 100 GB Storage						
- Frankfurt / Western Europe						
- 100% active per month						
- No dedicated backup						
	€ 11.08 / \$ 11.96	€ 65.41 / \$ 70.60		€ 27.42 / \$ 29.60	€ 39.93 / \$ 43.10	€ 95.87 / \$ 103.50
Total price for the database per month						
- PostgreSQL						
- 2 vCores						
- 100 GB Storage						
- Frankfurt / Western Europe						
- 100% active per month						
- No dedicated backup						
	€ 11.08 / \$ 11.96	€ 65.41 / \$ 70.60		€ 27.42 / \$ 29.60	€ 26.59 / \$ 28.70	€ 100.28 / \$ 108.27

Limitations: How many simultaneous requests to the DB? How much RAM? How many users?	MySQL: - max Connections: 2540 PostgreSQL: - max Connections: 5696	MySQL: - max Connections: 10000 PostgreSQL: - max Connections: 1900		MySQL: - max Connections: 4000 PostgreSQL: - max Connections: 1000	MySQL: - max Connections: 151 PostgreSQL: - max Connections: 1000	MySQL: - max Connections: 151 PostgreSQL: - max Connections: unlimited
How does backup/restore work?	Backups: - Automatic Backups. Restore: - Point-in-time restore	Backups: - Automatic Backups. Restore: - Point-in-time restore - Geo-restore		Backups: - Automatic Backups. Restore: - On-demand	Backups: - Automatic Backups. Restore: - On-demand	Backups: - Automatic Backups. Restore: - Point-in-time restore