Databases (DBaaS)

Questions	AWS	Azure		Google Cloud Platform	IBM Cloud	OTC Cloud	OVH
Which DB engines are offered?	Relational DB - MySQL - PostgreSQL - MariaDB - Oracle - Microsoft SQL Server - Amazon Aurora Non-Relational DB - Amazon DynamoDB - Amazon ElastiCache - Amazon Neptune - Redis - MemCached Data Warehouse / Big Data - Amazon Redshift - Amazon Athena - Amazon EMR (Hadoop, Spark, HBase, Presto, etc.) - Amazon Kinesis - Amazon Elasticsearch Service - Amazon Quicksight	Relational DB - Azure SQL Database - Azure Database for MySQL - Azure Database for PostgreSQL - Azure Database for Maria DB - Microsoft SQL Server Non-Relational DB - Azure Cosmos DB - Azure Table Storage - Redis Data Warehouse / Big Data - SQL Data Warehouse - HDInsight (Hadoop, Spark, Hive, LLAP, Kafka, Storm, R.) - Azure Databricks (Spark) - Azure Data Factory - Azure Stream Analytics		Relational DB - PostgreSQL - MySQL - Google Cloud Spanner Non-Relational DB - Google Cloud Datastore - Google Cloud BigTable Data Warehouse / Big Data - Google Cloud BigQuery - Google Cloud Dataflow - Google Cloud Dataproc (Hadoop/ Spark) - Google Cloud Datalab - Google Cloud Dataprep	Relational DB - Db2 on Cloud - PostgreSQL - MySQL Non-Relational DB - Cloudant - MongoDB - ScyllaDB - Redis - JanusGraph - etcd - Elasticsearch Data Warehouse / Big Data - Db2 Warehouse on Cloud	Relational DB - PostgreSQL - MySQL - Microsoft SQL Server Non-Relational DB - MongoDB - Redis	Relational DB - MariaDB - MySQL - PostgresSQL Non-Relational DB - Redis
Performance of MySQL (MySQL Sysbench, table-size (row data): 1000000, Threads: 16) - Read - Write - Read / Write	 – Transactions: 34340 (572.04 / sec.) – Transactions: 31356 (522.34 / sec.) – Transactions: 1670 (27.59 / sec.)	 – Transactions: 25861 (430.74 / sec.) – Transactions: 10501 (174.80 / sec.) – Transactions: 1218 (20.05 / sec.)		 – Transactions: 28467 (474.15 / sec.) – Transactions: 25500 (424.80 / sec.) – Transactions: 1414 (23.30 / sec.)	 – Transactions: 31096 (517.96 / sec) – Transactions: 28335 (471.99 / sec) – Transactions: 1545 (25.51 / sec)	 – Transactions: 25.937 (432.01 / sec) – Transactions: 18489 (307.85 / sec) – Transactions: 1269 (20.89 / sec)	 – Transactions: 31712 (512.32 / sec) – Transactions: 30507 (508.34 / sec) – Transactions: 1616 (26.69 / sec)
Provisioning time for a MySQL instance	226 sec	132 sec		334 sec	151 sec	425 sec	414 sec
Performance of PostgreSQL	– Transactions: 33683 (561.06 / sec.) – Transactions: 32468 (540.86 / sec.) – Transactions: 1691 (27.91 / sec.)	– Transactions: 23611 (393.22 / sec.) – Transactions: 5993 (99.86 / sec.) – Transactions: 1039 (16.92 / sec.)		– Transactions: 29246 (487.14 / sec.) – Transactions: 27353 (455.60 / sec.) – Transactions: 1444 (23.83 / sec.)	– Transactions: 29776 (495.87 / sec.) – Transactions: 17879 (297.77 / sec.) – Transactions: 1457 (24.02 / sec.)	– Transactions: 26584 (442.77 / sec) – Transactions: 22238 (370.34 / sec) – Transactions: 1266 (20.88 / sec)	– Transactions: 31712 (528.24 / sec) – Transactions: 30914 (515.05 /sec) – Transactions: 1600 (26.48 / sec)
Provisioning time for a PostgreSQL instance	196 sec	71 sec		267 sec	701 sec	427 sec	516 sec
Supported DB Versions	– MySQL 5.5, 5.6, 5.7, 8.0 – MariaDB 10.0, 10.1, 10.2, 10.3 – Microsoft SQL Server 2008 R2 SP3, 2012 SP4, 2014 SP2, 2016 SP1, 2017 RTM, 2019 – Oracle 11g (11.2.0.4), Oracle 12c (12.1.0.2), Oracle 18c (18.0.0.0), Oracle 19c (19.0.0.0) – PostgreSQL 9.4, 9.5, 9.6, 10, 11, 12 – Amazon Aurora - compatible with MySQL 5.6.10a"	– MySQL 5.6, 5.7, 8.0 – MariaDB 10.2, 10.3 – Azure SQL Database: Microsoft SQL Server 2017 – Microsoft SQL Server 2017, 2016 SP1, 2014 SP2, 2012 SP4, 2008 R2 SP3, 2012 SP4, 2014 SP2, 2016 SP1, 2017, 2019 – PostgreSQL 9.5, 9.6, 10, 11 – Azure Cosmos DB		– MySQL 5.6, 5.7 – PostgreSQL 9.6, 10, 11, 12	– Db2-ge – PostgreSQL 9.5, 9.6, 10, 11, 12 – MySQL 5.7.26, 5.7.29 – Cloudant-h7 – MongoDB 4.0.14, 4.2.6 – ScyllaDB 3.0.10, 3.1.4 – Redis 4, 5 – JanusGraph 0.3.1 – etcd 3.3, 3.4 – Elasticsearch 6.8 – Db2 Warehouse-ef	– PostgreSQL 9.5, 9.6, 10, 11 – MySQL 5.6, 5.7, 8.0 – Microsoft SQL Server 2016 EE/SE	– PostgreSQL 9.6, 10, 11, 12 – MySQL 5.7 – MariaDB 10.1, 10.2 – Redis 4.0
Troubleshooting as a Service - Rollback - Support	 yes yes	 yes yes		 yes yes	 yes 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	$ 14.64 / db.t2.micro	$ 70.01 / Gen 5, 2 vCore		$ 29.60 / db-f1-micro	$ 911.00 (this is a package price, more information at: https://cloud.ibm.com/catalog/services/compose-for-mysql)	$ 110,49	$ 32,97
Total price for the database per month - PorstgreSQL - 2 vCores - 100 GB Storage - Frankfurt / Western Europe - 100% active per month - No dedicated backup	$ 18.30 / db.t2.micro	$ 70.01 / Gen 5, 2 vCore		$ 29.60 / db-f1-micro	$ 103.81	$ 115,46	$ 32,97

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	MySQL: - max Connections: 200 PostgreSQL: - max Connections: 200
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	Backups: - Automatic Backups. Restore: - Point-in-time restore