

IBM DB2 on Cloud

This Service Description describes the Cloud Service IBM provides to Client. Client means the company and its authorized users and recipients of the Cloud Service. The applicable Quotation and Proof of Entitlement (PoE) are provided as separate Transaction Documents.

IBM Bluemix, IBM's open standards cloud platform for building, running, and managing apps and services, is a technical pre-requisite for the Cloud Service. New users can register for access via the online registration form: <https://console.ng.bluemix.net/registration>.

1. Cloud Service

IBM DB2 on Cloud is offered based on the configuration that best meets the Client's needs. The available configurations of the nodes are described below.

1.1 IBM DB2 on Cloud Standard Small

Virtual private server with 2 x 2.0 GHz Xeon Cores, 8 GB RAM, First Disk 100 GB (SAN), Second Disk 500 GB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 500 IOPS, Workgroup Server Edition (Native Encryption included).

1.2 IBM DB2 on Cloud Standard Medium

Virtual private server 4 x 2.0 GHz Xeon Cores, 16 GB RAM, First Disk 100 GB (SAN), Second Disk 1 TB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 1,200 IOPS, Workgroup Server Edition (Native Encryption included).

1.3 IBM DB2 on Cloud Standard Large

Virtual private server 8 x 2.0 GHz Xeon Cores, 32 GB RAM, First Disk 100 GB (SAN), Second Disk 2 TB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 1,600 IOPS, Workgroup Server Edition (Native Encryption included).

1.4 IBM DB2 on Cloud Standard XLarge

Bare metal server 12 x 2.4 GHz Xeon Cores, 128 GB RAM, Disk Controller – 2 x 800 GB SSD – Configured with RAID (800 GB), 6 x 1.2TB SSD – Configured with RAID 10 (3.5TB), 10 Gbps Redundant Public and Private Network Uplinks, DB2 Workgroup Server Edition (Native Encryption included).

1.5 IBM DB2 on Cloud Advanced Small

Virtual private server with 2 x 2.0 GHz Xeon Cores, 8 GB RAM, First Disk 100 GB (SAN), Second Disk 500 GB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 500 IOPS, DB2 Advanced Enterprise Server Edition.

1.6 IBM DB2 on Cloud Advanced Medium

Virtual private server 4 x 2.0 GHz Xeon Cores, 16 GB RAM, First Disk 100 GB (SAN), Second Disk 1 TB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 1,200 IOPS, DB2 Advanced Enterprise Server Edition.

1.7 IBM DB2 on Cloud Advanced Large

Virtual private server 8 x 2.0 GHz Xeon Cores, 32 GB RAM, First Disk 100 GB (SAN), Second Disk 2 TB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 1,600 IOPS, DB2 Advanced Enterprise Server Edition.

1.8 IBM DB2 on Cloud Advanced XLarge

Bare metal server 12 x 2.4 GHz Xeon Cores, 128 GB RAM, Disk Controller - 2 x 800 GB SSD - Configured with RAID 1 (800 GB), 6 x 1.2TB SSD – Configured with RAID 10 (3.5TB), 10 Gbps Redundant Public and Private Network Uplinks, DB2 Advanced Enterprise Server Edition.

1.9 IBM DB2 on Cloud Advanced 2XLarge

Bare metal server with 32 x 2.0 GHz Xeon Cores, 1TB RAM, Disk Controller - RAID, 16 x 1.2TB SSD with RAID 10 (10TB), 2 x 800 GB SSD - Configured with RAID 1 (800 GB), 10 Gbps Redundant Public and Private Network Uplinks, DB2 Advanced Enterprise Server Edition.

1.10 IBM DB2 on Cloud Standard Small for AWS

M4.large dedicated, EBS-optimized server with 2 x 2.4GHz Xeon Cores, 8GB RAM, 600GB General Purpose EBS Volume Storage with 450Mbps Dedicated Throughput, Workgroup Server Edition (Native Encryption included).

1.11 IBM DB2 on Cloud Standard Medium for AWS

M4.xlarge dedicated, EBS-optimized server with 4 x 2.4GHz Xeon Cores, 16GB RAM, 1100GB General Purpose EBS Volume Storage with 750Mbps Dedicated Throughput, Workgroup Server Edition (Native Encryption included).

1.12 IBM DB2 on Cloud Standard Large for AWS

M4.2xlarge dedicated, EBS-optimized server with 8 x 2.4GHz Xeon Cores, 32GB RAM, 2100GB General Purpose EBS Volume Storage with 1000Mbps Dedicated Throughput, Workgroup Server Edition (Native Encryption included).

1.13 IBM DB2 on Cloud Standard XLarge for AWS

R3.4xlarge dedicated, EBS-optimized server with 16 x Xeon E5-2670 v2 Cores, 122GB RAM, 5TB General Purpose EBS Volume Storage at 15000 IOPS, DB2 Workgroup Server Edition (Native Encryption included).

1.14 IBM DB2 on Cloud Advanced Small for AWS

M4.large dedicated, EBS-optimized server with 2 x 2.4GHz Xeon Cores, 8GB RAM, 600GB General Purpose EBS Volume Storage with 450Mbps Dedicated Throughput, DB2 Advanced Enterprise Server Edition.

1.15 IBM DB2 on Cloud Advanced Medium for AWS

M4.xlarge dedicated, EBS-optimized server with 4 x 2.4GHz Xeon Cores, 16GB RAM, 1100GB General Purpose EBS Volume Storage with 750Mbps Dedicated Throughput, DB2 Advanced Enterprise Server Edition.

1.16 IBM DB2 on Cloud Advanced Large for AWS

M4.2xlarge dedicated, EBS-optimized server with 8 x 2.4GHz Xeon Cores, 32GB RAM, 2100GB General Purpose EBS Volume Storage with 1000Mbps Dedicated Throughput, DB2 Advanced Enterprise Server Edition.

1.17 IBM DB2 on Cloud Advanced XLarge for AWS

R3.4xlarge dedicated, EBS-optimized server with 16 x Xeon E5-2670 v2 Cores, 122GB RAM, 5TB General Purpose EBS Volume Storage at 15000 IOPS, DB2 Advanced Enterprise Server Edition.

1.18 IBM DB2 on Cloud Advanced 2XLarge for AWS

R3.8xlarge dedicated, server with 32 x Xeon E5-2670 v2 Cores, 244GB RAM, 10TB General Purpose EBS Volume Storage at 30000 IOPS, DB2 Advanced Enterprise Server Edition.

1.19 IBM DB2 on Cloud Standard Small BYOL

Virtual private server with 2 x 2.0 GHz Xeon Cores, 8 GB RAM, First Disk 100 GB (SAN), Second Disk 500 GB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 500 IOPS, Workgroup Server Edition (Native Encryption included).

1.20 IBM DB2 on Cloud Standard Medium BYOL

Virtual private server 4 x 2.0 GHz Xeon Cores, 16 GB RAM, First Disk 100 GB (SAN), Second Disk 1 TB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 1,200 IOPS, Workgroup Server Edition (Native Encryption included).

1.21 IBM DB2 on Cloud Standard Large BYOL

Virtual private server 8 x 2.0 GHz Xeon Cores, 32 GB RAM, First Disk 100 GB (SAN), Second Disk 2 TB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 1,600 IOPS, Workgroup Server Edition (Native Encryption included).

1.22 IBM DB2 on Cloud Standard XLarge BYOL

Bare metal server 12 x 2.4 GHz Xeon Cores, 128 GB RAM, Disk Controller – 2 x 800 GB SSD – Configured with RAID (800 GB), 6 x 1.2TB SSD – Configured with RAID 10 (3.5TB), 10 Gbps Redundant Public and Private Network Uplinks, DB2 Workgroup Server Edition (Native Encryption included).

1.23 IBM DB2 on Cloud Advanced Small BYOL

Virtual private server with 2 x 2.0 GHz Xeon Cores, 8 GB RAM, First Disk 100 GB (SAN), Second Disk 500 GB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 500 IOPS, DB2 Advanced Enterprise Server Edition.

1.24 IBM DB2 on Cloud Advanced Medium BYOL

Virtual private server 4 x 2.0 GHz Xeon Cores, 16 GB RAM, First Disk 100 GB (SAN), Second Disk 1 TB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 1,200 IOPS, DB2 Advanced Enterprise Server Edition.

1.25 IBM DB2 on Cloud Advanced Large BYOL

Virtual private server 8 x 2.0 GHz Xeon Cores, 32 GB RAM, First Disk 100 GB (SAN), Second Disk 2 TB (SAN), 1 Gbps Public and Private Network Uplinks, Performance Storage 100 GB at 1,600 IOPS, DB2 Advanced Enterprise Server Edition.

1.26 IBM DB2 on Cloud Advanced XLarge BYOL

Bare metal server 12 x 2.4 GHz Xeon Cores, 128 GB RAM, Disk Controller - 2 x 800 GB SSD - Configured with RAID 1 (800 GB), 6 x 1.2TB SSD – Configured with RAID 10 (3.5TB), 10 Gbps Redundant Public and Private Network Uplinks, DB2 Advanced Enterprise Server Edition.

1.27 IBM DB2 on Cloud Advanced 2XLarge BYOL

Bare metal server with 32 x 2.0 GHz Xeon Cores, 1TB RAM, Disk Controller - RAID, 16 x 1.2TB SSD with RAID 10 (10TB), 2 x 800 GB SSD - Configured with RAID 1 (800 GB), 10 Gbps Redundant Public and Private Network Uplinks, DB2 Advanced Enterprise Server Edition.

1.28 Setup Services

1.28.1 IBM DB2 on Cloud Jump Start Remotely Delivered Set-up

This set-up service provides up to 50 hours of remote consulting time for startup activities including (1) assistance with use cases, (2) coaching on best practices for reports, dashboards and other systems tooling, (3) guided assistance and advice on preparation, execution and validation for initial data loading, and (4) other administrative and configuration topics of interest (collectively, "Startup Activities"). Services are purchased per Engagement, and expire 90 days from the date of purchase of entitlement for this offering or from the date Client is notified by IBM that access to the Cloud Service is available, whichever is later, regardless of whether all hours have been used.

1.28.2 IBM DB2 on Cloud Accelerator Remotely Delivered Set-up

This set-up service provides up to 50 hours of remote consulting time to be used for performing Activities including (1) assistance with use cases, including data movement use cases in support of a one-time, point in time, data movement (2) coaching on best practices for reports, dashboards and other systems tooling, (3) guided assistance and advice on preparation, execution and validation for initial data loading (including setup of source and target environments and data movement as defined in data movement use case) and (4) other administrative and configuration topics of interest (collectively, "Activities"). This remotely delivered set-up service is purchased per Engagement and expires 12 months from the date of purchase of entitlement or on the last day of the initial Cloud Service subscription term, whichever is earliest, regardless of whether all hours have been used.

2. Security Description

2.1 Security Policies

The Cloud Service is controlled by the Client and must be maintained to the Client's security standards.

2.2 Personal Information and Regulated Data

This Cloud Service is not designed to any specific security requirements for regulated content, such as personal information or sensitive personal information. Client is responsible to determine if this Cloud Service meets Clients needs with regard to the type of content Client uses in connection with the Cloud Service.

2.3 Service Integrity and Availability

The data center is monitored 24x7.

Client will be notified of hardware failures. Monitoring and responding to OS or software failures is the responsibility of the Client, engaging IBM support as required.

2.4 Activity Logging

Client is responsible for activity logging, as needed.

2.5 Encryption

DB2 native encryption is included for all configurations of the DB2 on Cloud service. DB2 native encryption encrypts Client's DB2 database and provides secure local key management based on Public Key Cryptography Standard #12 (PKCS#12). Client is responsible for the implementation of encryption, including set-up and maintenance.

3. Technical Support

Technical support for the Cloud Service is provided via online forums and an online problem reporting system which is available on the Client portal at <https://support.ibmcloud.com>. IBM will make available the IBM Software as a Service Support Handbook which provides technical support contact information and other information and processes. Technical support is offered with the Cloud Service and is not available as a separate offering.

Severity	Severity Definition	Response Time Objectives During Support Hours	Response Time Coverage
1	<p>Critical business impact/service down: Business critical functionality is inoperable or critical interface has failed. This usually applies to a production environment and indicates an inability to access services resulting in a critical impact on operations. This condition requires an immediate solution.</p> <p>Severity 1 issues require that Client is available to help IBM diagnose issues during the 24X7 period otherwise the issue is downgraded to Severity 2.</p>	Within 1 hour	24x7
2	Significant business impact: A service feature or function is severely restricted in its use or Client is in jeopardy of missing business deadlines.	Within 2 business hours	M-F business hours
3	Minor business impact: Indicates the service or functionality is usable and it is not presenting a critical impact on operations.	Within 4 business hours	M-F business hours
4	Minimal business impact: An inquiry or non-technical request.	Within 1 business day	M-F business hours

4. Entitlement and Billing Information

4.1 Charge Metrics

The Cloud Service is available under the charge metric specified in the Transaction Document:

- a. Instance is a unit of measure by which the Cloud Service can be obtained. An Instance is access to a specific configuration of the Cloud Service. Sufficient entitlements must be obtained for each Instance of the Cloud Service made available to access and use during the measurement period specified in Client's PoE or Transaction Document.
- b. Engagement is a unit of measure by which the services can be obtained. An Engagement consists of professional and/or training services related to the Cloud Service. Sufficient entitlements must be obtained to cover each Engagement.

4.2 Partial Month Charges

A partial month charge as specified in the Transaction Document may be assessed on a pro-rated basis.

4.3 Setup Service Charges

Setup Services are purchased on a per Engagement basis and will be billed at the rate specified in the Transaction Document.

5. Term and Renewal Options

The term of the Cloud Service begins on the date IBM notifies Client of their access to the Cloud Service, as documented in the PoE. The PoE will specify whether the Cloud Service renews automatically, proceeds on a continuous use basis, or terminates at the end of the term.

For automatic renewal, unless Client provides written notice not to renew at least 90 days prior to the term expiration date, the Cloud Service will automatically renew for the term specified in the PoE.

For continuous use, the Cloud Service will continue to be available on a month to month basis until Client provides 90 days written notice of termination. The Cloud Service will remain available to the end of the calendar month after such 90 day period.

6. Additional Terms

6.1 Client's Obligations

Client is obligated to install patches for DB2, operating system, and other software in a timely manner to avoid defects, avoid security issues, and maintain currency with new functionality.

Client may:

- Only install and run software on the Cloud Service that is directly related to performing or supporting use of data through the pre-installed DB2 software. Client is prohibited from installing or using any other software of any kind on the Cloud Service.
- Install additional open source packages for use with the Cloud Service on the nodes. IBM is not obligated to support these packages and is not responsible for impacts to the performance of the Cloud Service (i.e. DB2, the operating system, or the hardware platform as a whole) due to these additional packages.

6.2 Prohibited Components for IBM DB2 on Cloud Standard configurations

If Client's entitlement for the Cloud Service offering is designated as "Standard", Client is not authorized to use any of the following components or functions:

- column-organized tables
- pureScale clustering technology
- Database Partitioning
- Row Compression
- Adaptive Compression
- Materialized Query Tables
- Multi-Dimensional Clustering
- Query Parallelism
- Connection Concentrator
- Access Plan Reuse
- Scan Sharing
- Workload Management
- Governor
- Continuous Data Ingest
- Multi-temperature Storage
- Intelligent Mining
- Unstructured Text Analysis
- Cubing Services

- Accessing federated data in DB2 for i or DB2 for z data servers
- Accessing federated data in non-IBM data servers
- SQL Replication with DB2 for i or DB2 for z data servers
- SQL Replication with non-IBM data servers
- Q Replication
- Change Data Capture (CDC)
- DB2 Connect components

6.3 Terms Applicable to DB2 on Cloud for AWS

If Client's Cloud Service entitlement is specified as "for AWS", the following terms apply:

The Cloud Service application layer and Client's data and content are hosted on a third party cloud services infrastructure and platform not managed by IBM. The Cloud Service infrastructure, certain aspects of the Cloud Service platform, and related services, including: data center, servers, storage and network; application and data backup; firewall and threat detection; and APIs for application deployment, monitoring and operation (collectively, the "Third Party Cloud Platform Services") are hosted and managed by the third party provider. Accordingly, notwithstanding anything in this Service Description or the base services agreement under which this Cloud Service is provided (e.g. the IBM Cloud Services Agreement) (the "Base Agreement"):

- obligations of IBM relating to data security and data protection in the Base Agreement, in the description of the Cloud Service's security practices in Section 2 above (Security Description), and in the referenced IBM Data Security and Privacy Principles, do not apply to the Third Party Cloud Platform Services or to the Cloud Service to the extent dependent on the Third Party Cloud Platform Services. The Cloud Service may not be used for the transmission, storage or processing of any Protected Health Information.
- If the provider of the Third Party Cloud Platform Services notifies IBM that it has withdrawn or terminated its services or IBM's or Client's access to such services, IBM may terminate the Cloud Service immediately upon the effective date of such termination by the third party provider by providing notice of termination to Client.
- IBM makes no warranties or conditions, express or implied, and IBM will have no liability to Client, regarding the Third Party Cloud Platform Services or to the Cloud Service to the extent dependent on the Third Party Cloud Platform Services.
- Client agrees to indemnify, defend and hold IBM harmless from and against any claims, damages, losses, liabilities, costs, and expenses (including reasonable attorneys' fees) arising out of or relating to claims against IBM by the Third Party Cloud Platform Services provider) concerning: (a) Client's use of the Cloud Services; (b) breach of this Service Description, the Base Agreement or violation of applicable law by Client; (c) Client's content or the combination of Client's content with other applications, content or processes, including any claim involving alleged infringement or misappropriation of third-party rights by Client's content or by the use, development, design, production, advertising or marketing of Client's content; or (d) a dispute between IBM and Client.

6.4 Terms applicable to DB2 on Cloud BYOL Parts:

Bring your own licenses (BYOL) offerings require the Client to have previously acquired appropriate license entitlements to the associated IBM program identified in the table below. Client's entitlements to the BYOL SaaS cannot exceed Client's entitlements to the associated IBM program, in the ratios specified below.

The BYOL offering does not include Subscription and Support for the associated IBM program. Client represents they have acquired the applicable (1) license entitlements and (2) Subscription and Support for the associated IBM program. During the Subscription Period of the BYOL offering, Client must maintain current Subscription and Support for the IBM program entitlements used in conjunction with the BYOL offering entitlements. In the event either Client's license to use the associated IBM program or Client's Subscription and Support for the associated IBM program is terminated, Client's right to use the BYOL offering will terminate.

The table below outlines the ratio of entitlements for the associated IBM program required for usage of the BYOL offering under the stated corresponding entitlement. Once Client has obtained the BYOL offering and for the duration of Client's use of the BYOL offering, Client's entitlements to the associated

IBM program applied to usage of the BYOL offering are suspended and Client may no longer use those entitlements to deploy the associated IBM program (subject to any stated exceptions).

Associated IBM Program	BYOL Offering	Ratio n/m*
IBM DB2 Workgroup Server Edition	a. IBM DB2 on Cloud Standard Small BYOL b. IBM DB2 on Cloud Standard Medium BYOL c. IBM DB2 on Cloud Standard Large BYOL d. IBM DB2 on Cloud Standard XLarge BYOL	a. Ratio: 140 PVU / 1 Instance b. Ratio: 280 PVU / 1 Instance c. Ratio: 560 PVU / 1 Instance d. Ratio: 840 PVU / 1 Instance
IBM DB2 Advanced Enterprise Server Edition IBM DB2 Advanced Workgroup Server Edition	a. IBM DB2 on Cloud Advanced Small BYOL b. IBM DB2 on Cloud Advanced Medium BYOL c. IBM DB2 on Cloud Advanced Large BYOL d. IBM DB2 on Cloud Advanced XLarge BYOL e. IBM DB2 on Cloud Advanced 2XLarge BYOL	a. Ratio: 140 PVU / 1 Instance b. Ratio: 280 PVU / 1 Instance c. Ratio: 560 PVU / 1 Instance d. Ratio: 840 PVU / 1 Instance e. Ratio: 2240 PVU / 1 Instance
IBM DB2 Advanced CEO IBM DB2 Developer Edition	a. IBM DB2 on Cloud Standard Small BYOL b. IBM DB2 on Cloud Standard Medium BYOL c. IBM DB2 on Cloud Standard Large BYOL d. IBM DB2 on Cloud Standard XLarge BYOL e. IBM DB2 on Cloud Advanced Small BYOL f. IBM DB2 on Cloud Advanced Medium BYOL g. IBM DB2 on Cloud Advanced Large BYOL h. IBM DB2 on Cloud Advanced XLarge BYOL i. IBM DB2 on Cloud Standard 2XLarge BYOL	Ratio: 1 to N Authorized Users/ 1 Instance **/**

* "Ratio n/m" means that for every ('n') entitlements of the indicated metric for the associated IBM program, Client may apply those entitlements into the specified number ('m') entitlements of the indicated metric for the BYOL offering.

** Exception for DB2 Advanced CEO Offering and DB2 Developer Edition: Notwithstanding the above terms, where Client applies Authorized User entitlements for either DB2 Advanced CEO Offering or DB2 Developer Edition to the BYOL offering, the sum of Client's Authorized User entitlements, irrespective of quantity, may be applied to 1 (total) Instance entitlement to the BYOL offering, on the following additional terms: (1) Client may continue to use all Authorized User entitlements to Client's deployment of the associated IBM program concurrently with Client's use of the BYOL offering; provided that (2) the BYOL offering may be accessed and used only by those Authorized Users for which Client has entitlements for the associated IBM program.

*** Exception for DB2 Developer Edition: In addition to the above restrictions, where Client applies entitlements for DB2 Developer Edition to the BYOL offering, Client's use of the BYOL offering is limited to Non-Production use only. "Non-Production" means the BYOL offering can only be used as part of Client's internal development and test environment for internal non-production activities, including but not limited to testing, performance tuning, fault diagnosis, internal benchmarking, staging, quality assurance activity and/or developing internally used additions or extensions to the BYOL offering using published application programming interfaces. Client is not authorized to use any part of the Cloud Service for any other purposes without acquiring the appropriate production entitlements.

6.5 Use of Compiled Data

IBM may monitor Client's use of the Cloud Service, for the purpose of IBM's internal research, testing and development of improvements or enhancements to the Cloud Service or for the development of new services or to provide Client additional services that provide a more tailored and meaningful experience for users. In doing so, IBM may compile and analyze, in aggregated and anonymized format, summary information reflecting the use of the Cloud Service by Client's authorized users, and may prepare reports, studies, analysis and other work product resulting from this compilation and analysis (collectively the "Compiled Data"). IBM retains ownership rights in and to the Compiled Data.