TECHNICAL WHITE PAPER

An Introduction to Rubrik for IBM Db2

Rubrik Technical Marketing
September 2023
RWP-0612

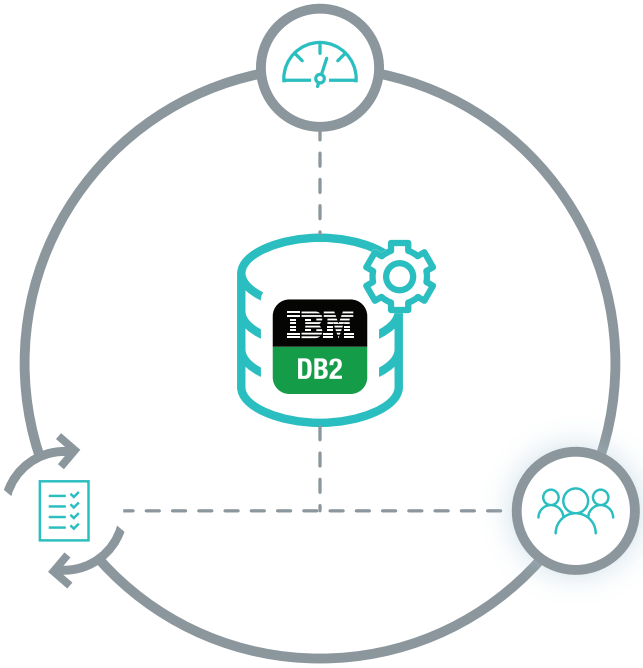
Table of Contents

RECENT HISTORY OF BACKUP & RECOVERY SOLUTIONS

Enterprises across many industries and verticals such as banking, retail, healthcare, telecom, insurance, manufacturing, and the public sector are going through digital transformation. They need to have real-time insights into the rapidly growing and existing data to continue to be successful. IT team relies on IBM Database protection (Db2) for their data for storage, analysis, and efficient retrieval. Typically, organizations have more than one database, such as Oracle, Cassandra, SAP HANA, and MongoDB, in their environment to meet all their application requirements. The next logical step for their IT team is to enforce data and application protection and have recovery options ready should they become necessary because of natural disasters, infrastructure outages or failures, user errors, or cyber-attacks. A comprehensive data backup and recovery strategy are essential to minimize any downtime and potential data loss.

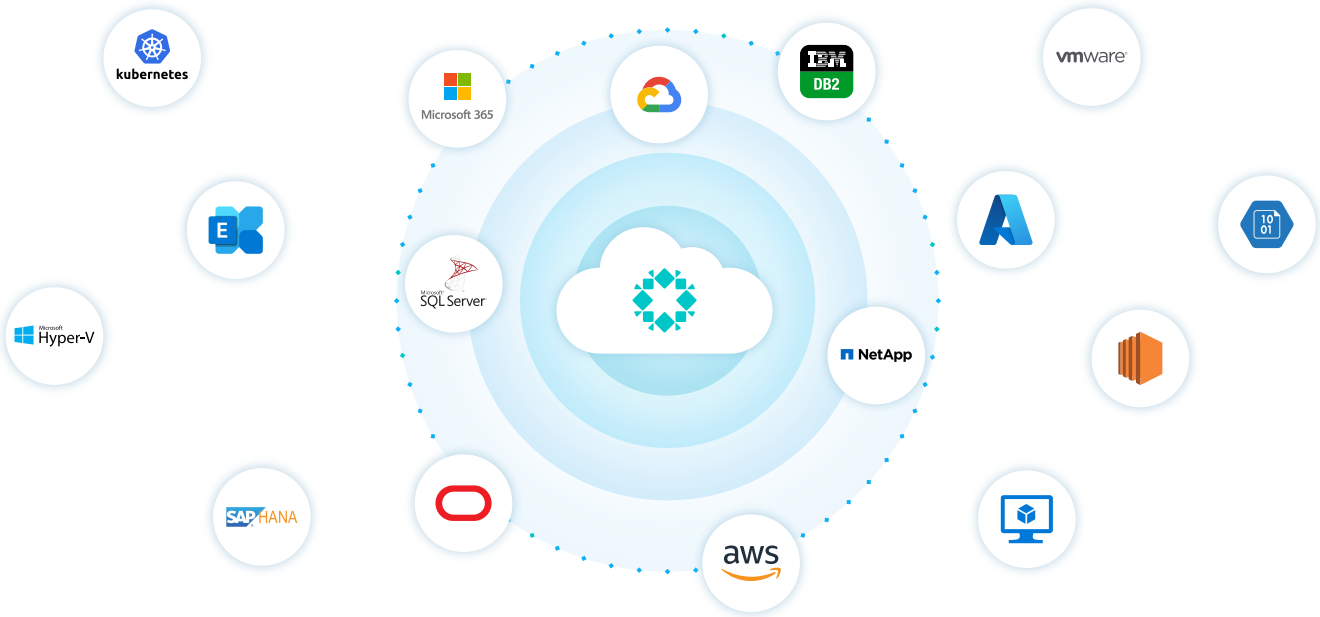
Db2 natively provides some backup options, but these native tools often lack comprehensive functionality and have some limitations. These tools:

- Do not protect against cyber/ransomware attacks
- Increase operational complexity because of silos of different databases
- Do not offer a single automated SaaS platform to create and manage data protection across on-premises, public cloud, and hybrid infrastructure
- Does not provide policy-based backup and relies on the tedious configuration and management to manage the entire data lifecycle



WHAT IS RUBRIK FOR NATIVE Db2 PROTECTION?

Rubrik has extended its support portfolio to protect Db2 by natively integrating Rubrik Backup Service to the Vendorlib client. This integration allows enterprises to auto-discover Db2 databases while consolidating data protection and data lifecycle management under one platform, Rubrik Security Cloud (RSC). RSC is a Software-as-a-Service (SaaS) platform used to centrally manage your Db2 and other workloads simply through your web browser. RSC offers a single pane of management capabilities for all workloads (on-premises, cloud-native as well as SaaS) throughout all deployments.



Rubrik provides native automated protection for the Db2 database with encryption at rest and in-flight and resilience against ransomware attacks. It provides out-of-the-box compliance reports and monitoring and writes backups directly to Rubrik's immutable file system. Rubrik has traditionally offered the support of Db2 protection via Managed Volumes that are dependent on backup scripts and don't provide automated discovery of databases. With the latest release, Rubrik's native Db2 protection offers similar ease of use and out-of-the-box experience to the native protection of VMware, Oracle, SQL, SAP HANA, and other such workloads.

Db2 historically provides an API integration point, known as Vendorlib, for third-party backup vendors such as Rubrik to perform the backup, restore and log archival operations. Rubrik provides the integration with Vendorlib APIs via a shared library on Db2 hosts. The required bits for VendorLib get deployed during RBS agent installation on the hosts. This integration enables Rubrik to automate the logarchmeth1 configuration parameters, which extends Rubrik's ability to perform backup and restores.

RUBRIK FOR Db2 KEY FEATURES

As discussed in earlier sections, Rubrik provides automated discovery of Db2 databases and manages the entire data lifecycle from a single console across on-premises and in the AWS, Azure, and GCP public clouds. The new Db2 solution comes with the following salient capabilities for data protection:

AUTOMATED DISCOVERY

- As the Db2 hosts are added to Rubrik, the Db2 instances and databases are automatically discovered instantly during day 0 operations
- Rubrik automates the configuration of LOGARCHMETH1 to Vendorlib path post SLA assignment

DECLARATIVE SLA POLICY ENGINE

- Streamline the protection of Db2 databases by assigning SLA policies that configure backup frequency, retention, archival, and replication using the same engine
- It supports full, incremental, and differential backups along with transaction log backup

POINT-IN-TIME GRANULARITY

- Leverage data and log backups to enable point-in-time recovery.
- Roll forward log backups on top of data backups for granular control over recovery points.

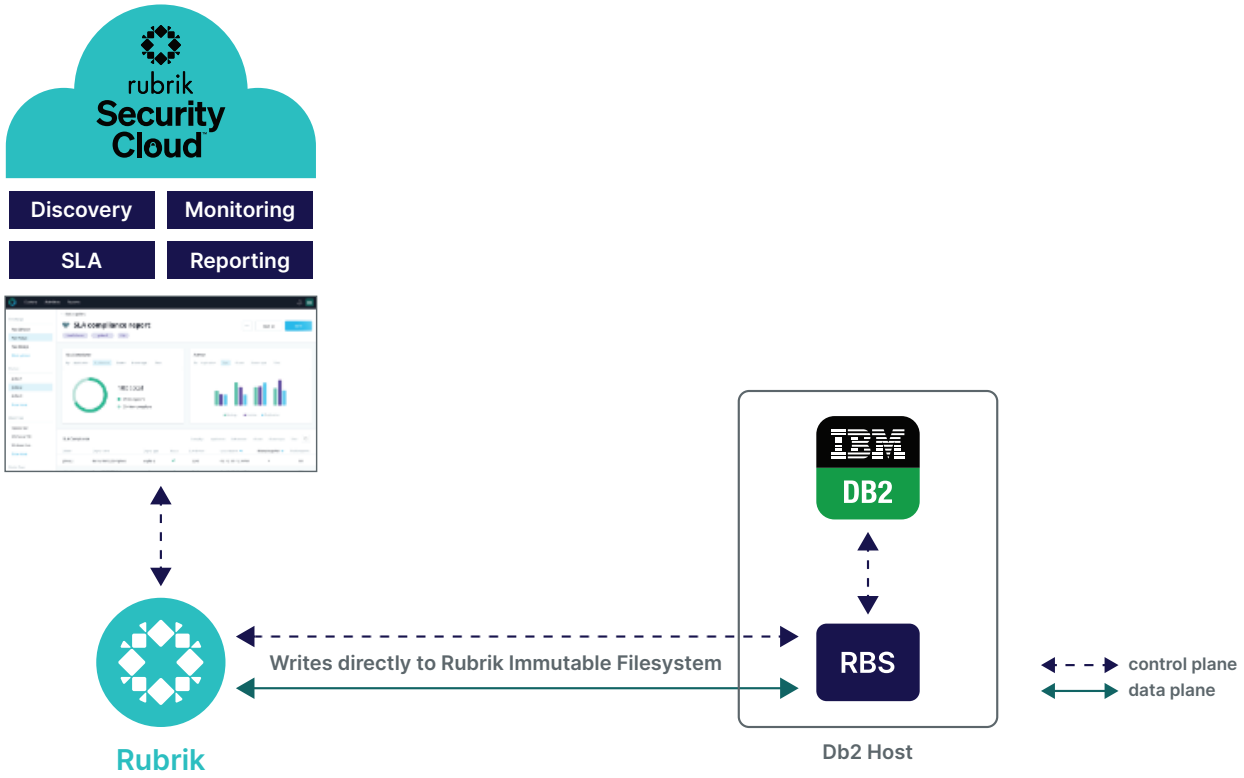
UNIFIED MANAGEMENT AND REPORTING PLATFORM

- Keep your Db2 and other databases along with other datacenter objects protected across on-premises and cloud with centralized visibility and control.
  - Active Monitoring: View the status of your Db2 data and log backups from a centralized activities pane.
  - Comprehensive SLA Compliance Reporting: View backup summary information and latest recovery points, and identify which backups have failed across your environment.

Rubrik for Db2 is supported for x_86 and IBM Power systems platform.

RUBRIK FOR Db2 ARCHITECTURE OVERVIEW

Rubrik integrates with Db2 through its native Vendorlib integration and delivers a powerful backup and recovery solution. The following diagram describes a high-level overview of how the RSC integrates with Db2 to provide backup functions:



- The Rubrik Backup Service (RBS) software is deployed on the host or cloud virtual machine running the Db2 database.
- Rubrik has implemented a Vendorlib client, which is automatically deployed once the RBS software is deployed and configured on the host.
- The Db2 hosts and instances are added to the RSC by the administrator, and then databases are automatically discovered by RSC. Rubrik uses the control plane flow to retrieve the metadata, then uses this metadata to add the Db2 host instance and discover the databases.
- Once discovered, customers can assign SLA Policies from RSC, which automates protection frequency, retention, replication, and archival for full, incremental, or differential backups.
- Rubrik's Vendorlib client then leverages the native APIs of Db2 for providing backup functionality.
- Rubrik uses the data plane to ingest the data to Rubrik's immutable file system and retrieve the backups for restores. The data path uses an internal data protocol (based on RPC standards) to write directly to an immutable file system to store the Db2 backups and logs.

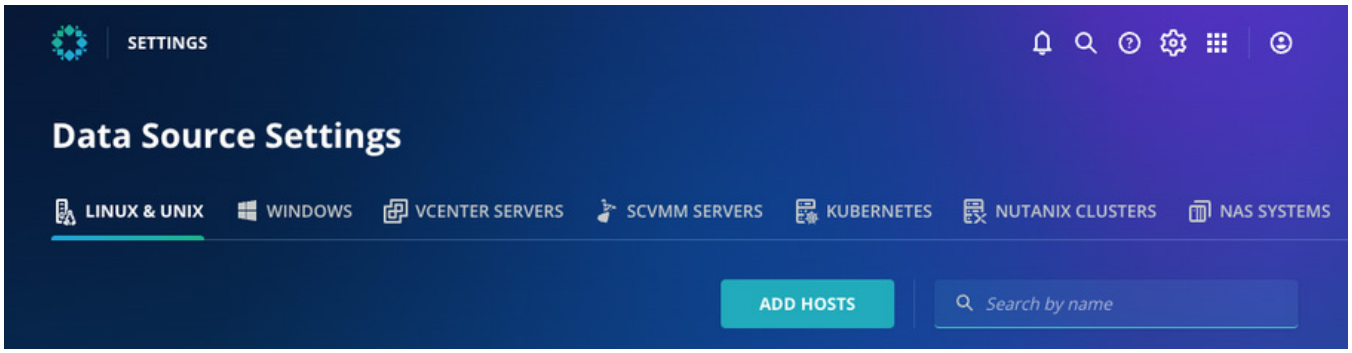
- The external and internal communications between protected objects, the Rubrik cluster, your cloud accounts, and the RSC is encrypted. The control path communication between the Rubrik cluster and RSC is always encrypted via TLS 1.2 protocol. The data path uses the Secure Thrift protocol for data transfer to ensure end-to-end secure communication.
- The restore operations can be performed using your existing Db2 tools and processes.
- The same architecture and functionalities are used across on-premises and supported public clouds.

CUSTOMER DAY 0 WORKFLOW

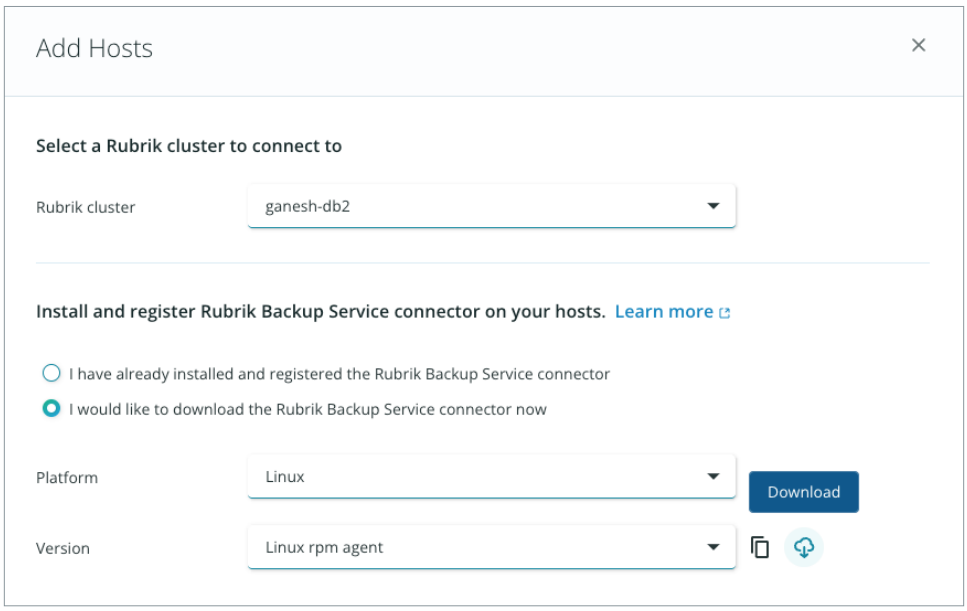
LOGIN TO RSC

ADD HOST(S) TO RSC

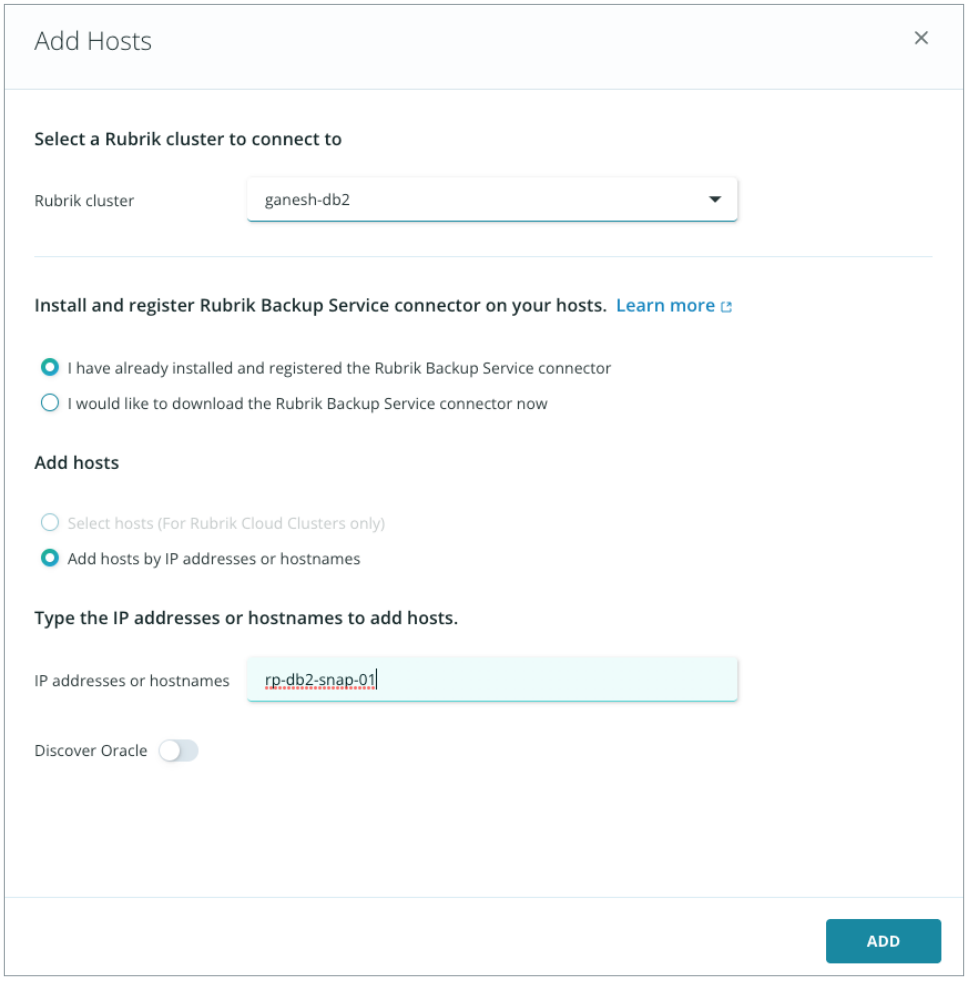
1. Navigate to Inventory > Add Workload > IBM Db2.



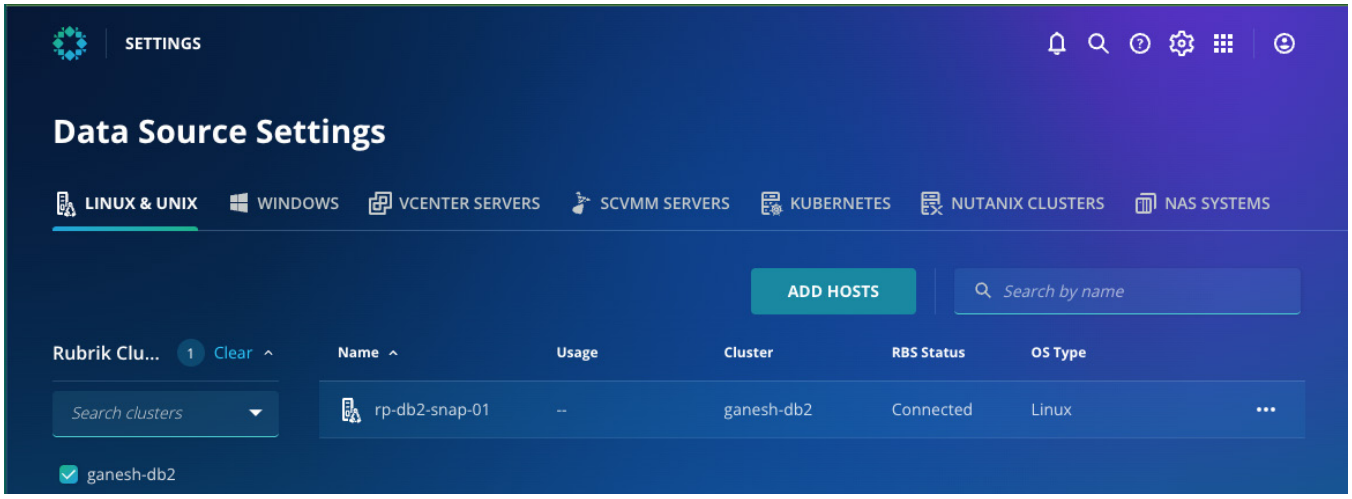
2. Follow the steps on the Add Host page to install the required RBA package on the host.



3. Now, add the Host to the Rubrik cluster by providing the required credentials.

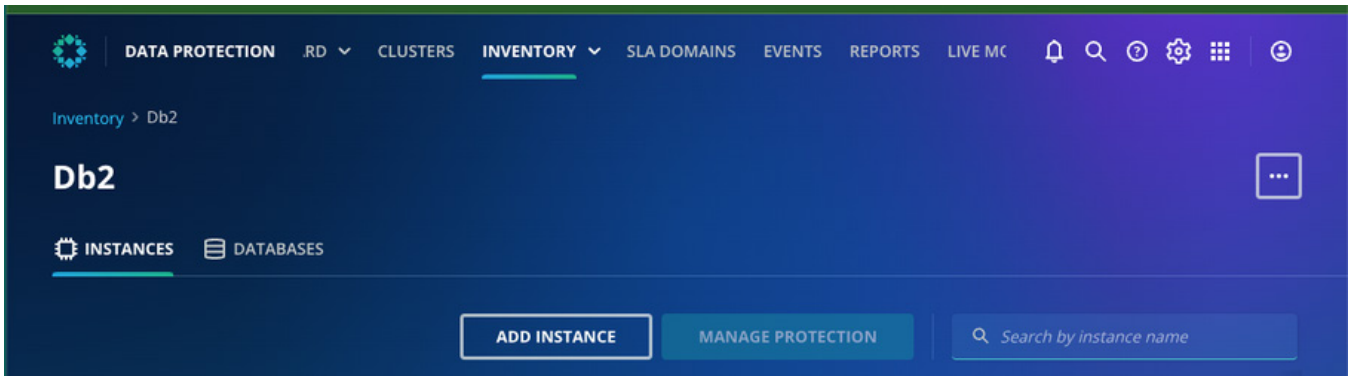


4. Repeat the above steps for all hosts that are part of the Db2 instance.

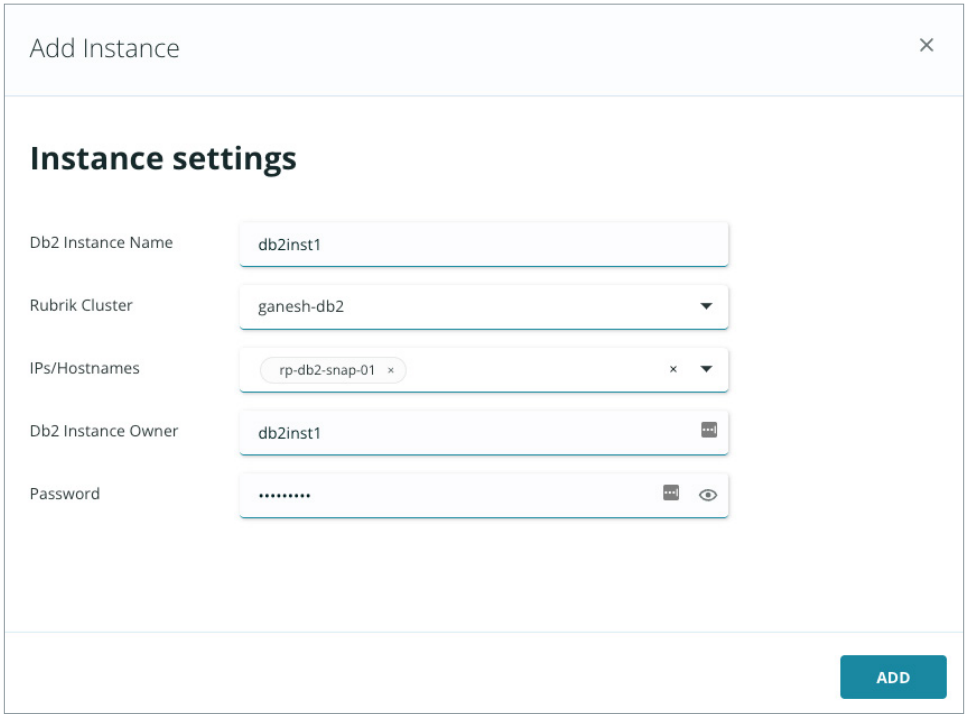


ADD Db2 INSTANCE

1. Click on the Db2 inventory page, you should select the option to Add Instance.



2. Add the Db2 Instance to Rubrik by providing the requested details, such as the required credentials.

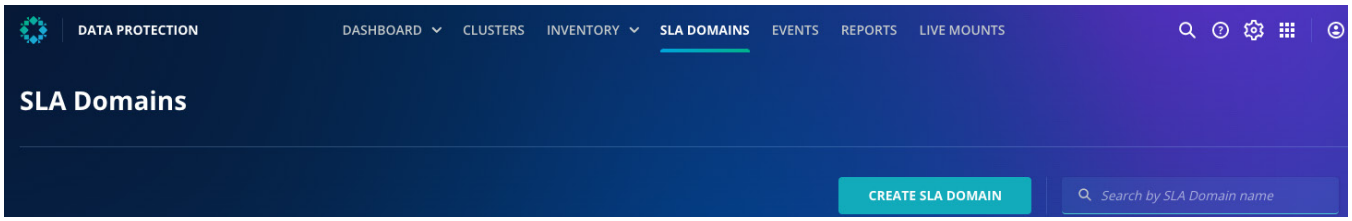


3. Once the required information is entered, the RBS agent discovers all the databases that are available as part of the instance.

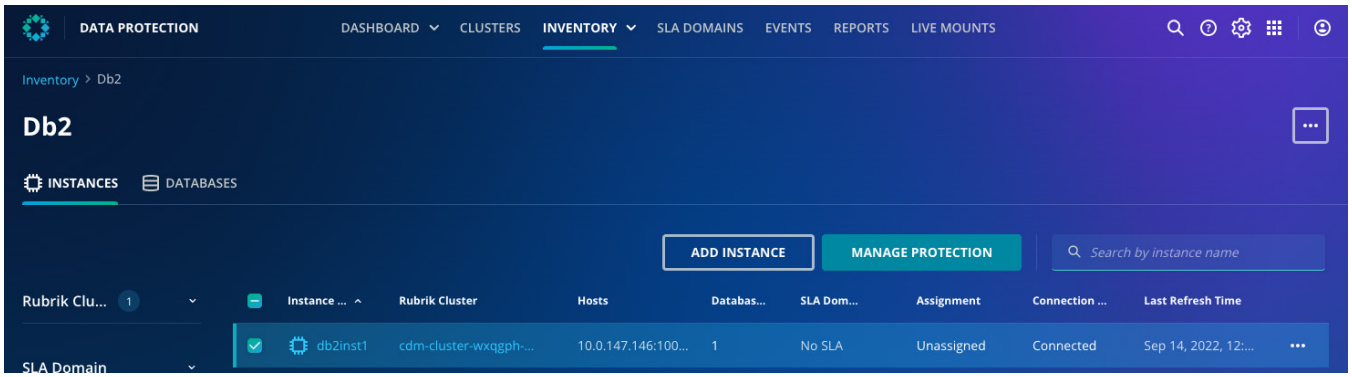
4. RSC takes a few minutes to display the databases.

CREATING AND ASSIGNING SLA

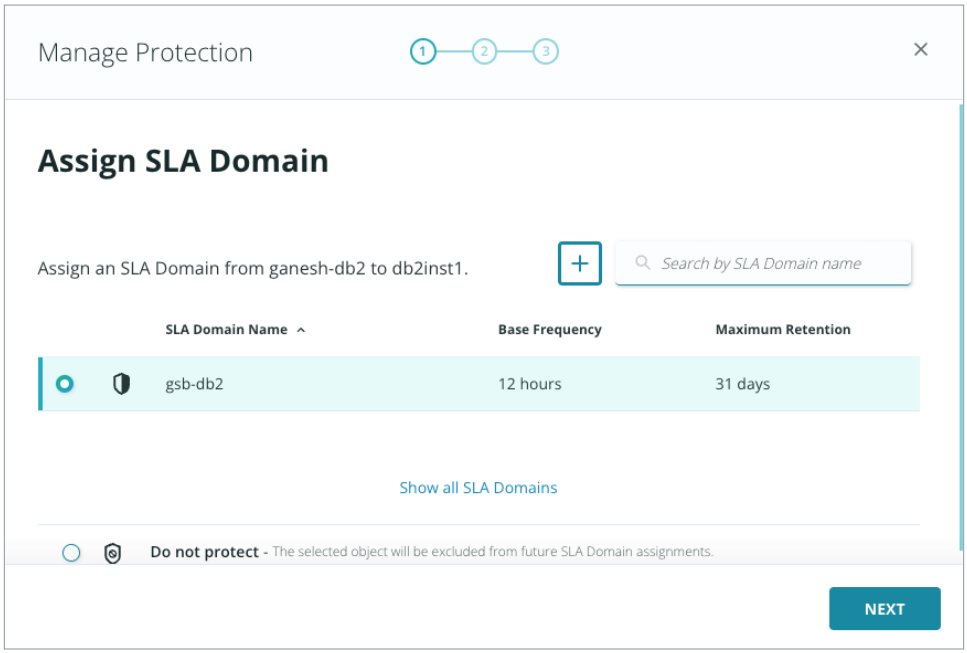
1. Create an SLA by clicking on the Manage Protection option and then selecting the “Create SLA” option.



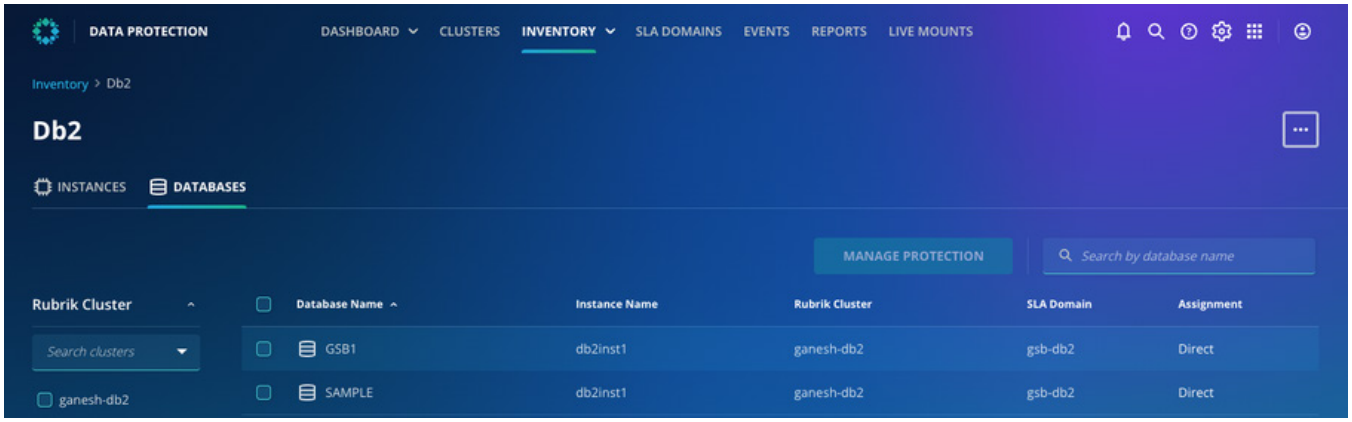
2. Select the Db2 object type. And specify the required details as directed by the wizard. You can also enable Archival/Replication by specifying the required SLA.



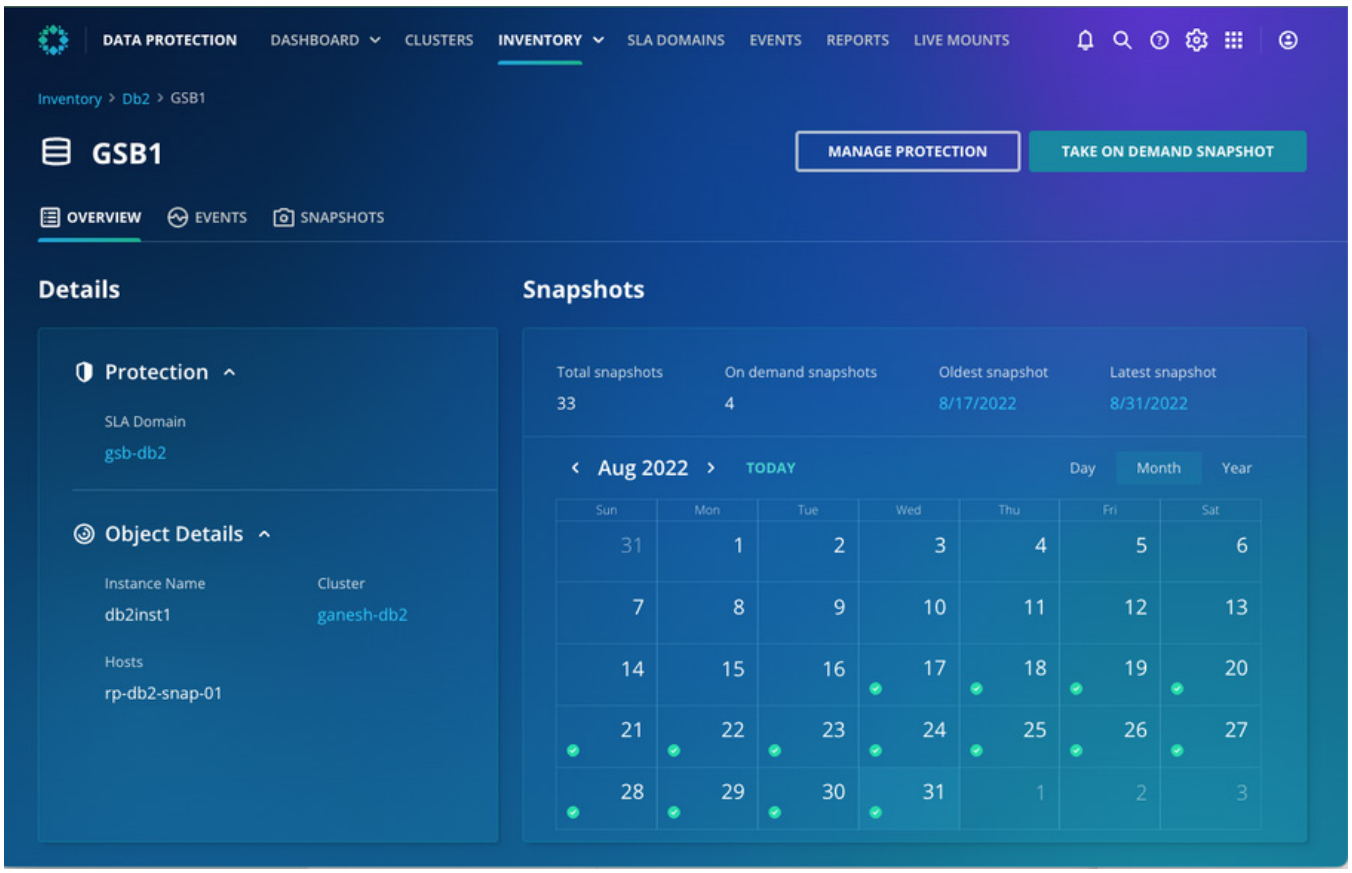
3. Assign the created SLA to the instance by going through the Manage Protection option on the inventory page.



4. Databases associated with the added instance have derived SLA assignments.



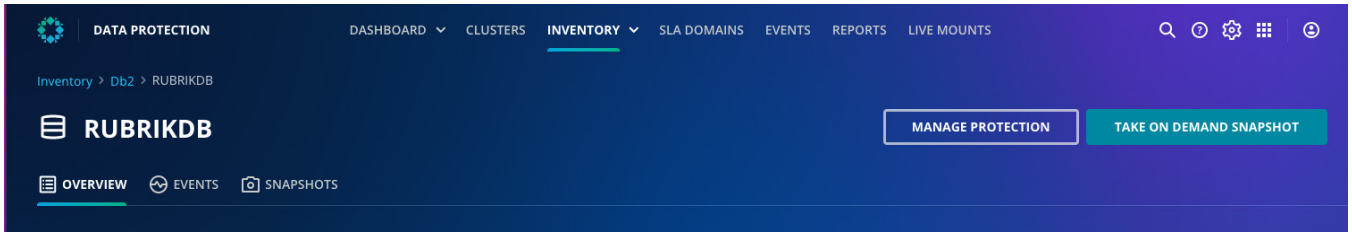
5. Backup will start automatically once the SLAs are assigned to the instance.



CUSTOMER DAY 1 WORKFLOW

TRIGGERING AN ON-DEMAND BACKUP

1. Trigger the on-demand backup via the Take On Demand Snapshot option in RSC.

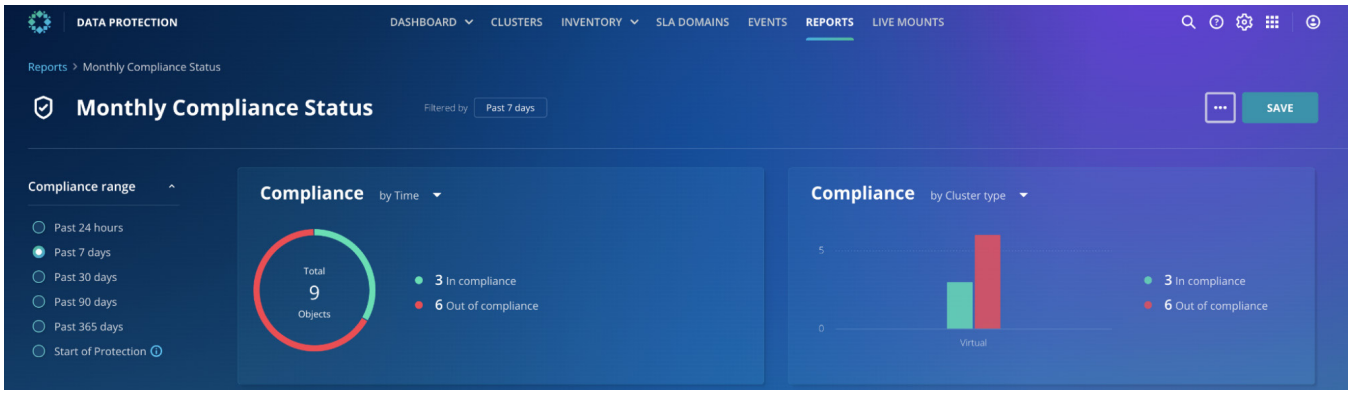


2. This can also be triggered via graphQL/REST API.
3. The DBAs can trigger the on-demand backup using the CLI on the host as well post the RBS agent install.

CUSTOMER DAY 2 WORKFLOW

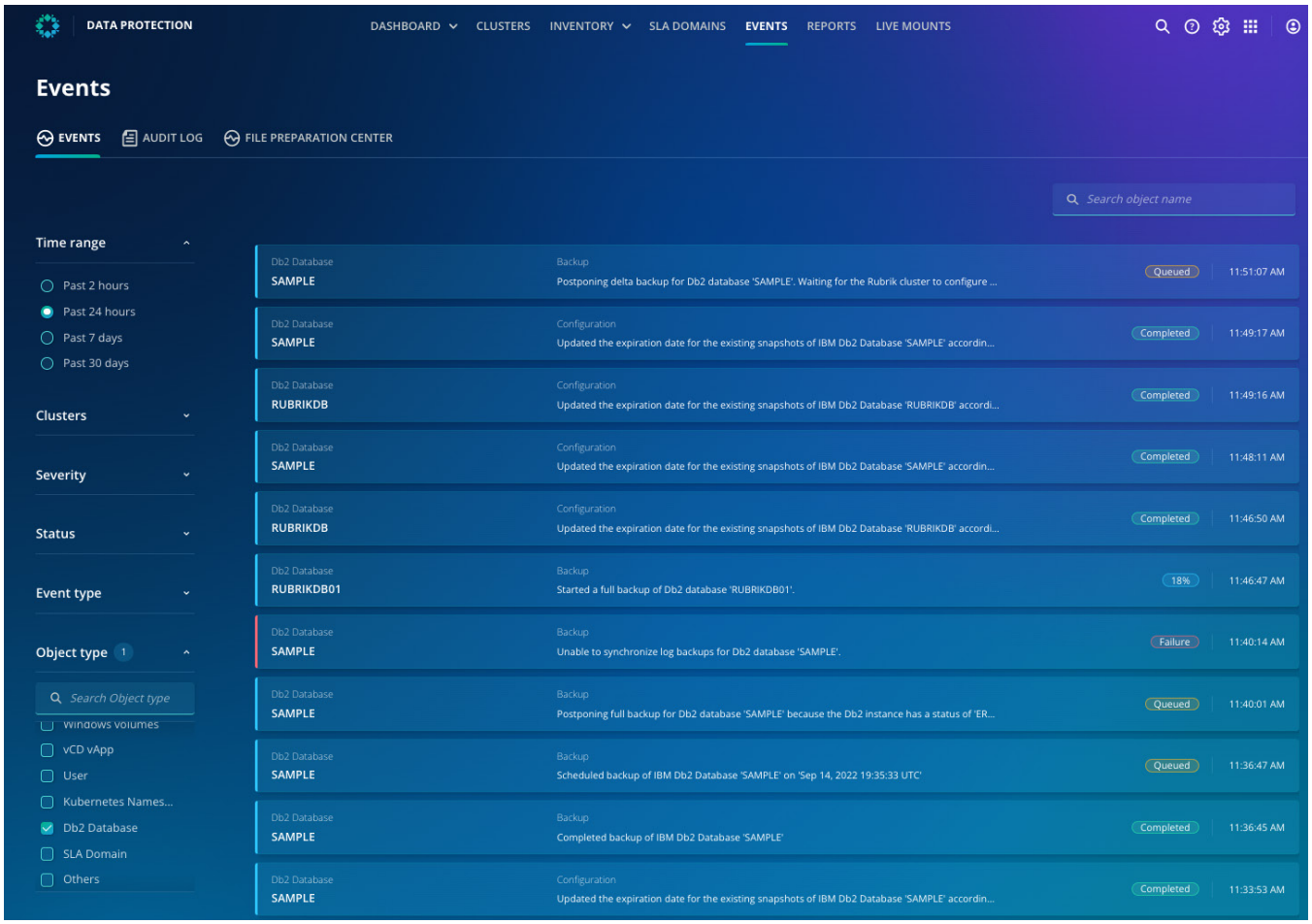
CUSTOMIZABLE REPORTS

1. RSC provides customizable reports about Db2 data protection and the underlying infrastructure. These reports contain data for Rubrik clusters with access to RSC.
2. The reporting feature enables the creation of views of the most commonly used system metrics. You can use the data gathered in the reports to perform compliance, audits, and data management planning.



EVENTS

1. RSC Events provides a unified view of global Rubrik events and identifies, isolates, and prioritizes events.
2. This feature provides easy-to-use filters such as for Db2 and options to perform a real-time search for point-in-time events.



RECOVERY OPTIONS

Rubrik supports any Db2 database using data and log backups made available via native Db2 tools. With the native Db2 tools, you can restore from the most recent or point-in-time recovery from immutable backups.

Rubrik offers multiple types of recovery to meet your restore requirements. Some of the supported configurations are as follows:

1. Restoring a standalone database in place
2. Restoring a standalone database across different instances
3. Restoring a Data Partitioning Feature (DPF) Database In Place
4. Restoring a DPF Database across different instances

CONCLUSION

Rubrik provides modern data protection for industry-leading databases. Leverage a single converged SaaS platform that unifies and automates the protection of your physical and virtualized databases across on-premises and the cloud. Rubrik delivers application-consistent backups and point-in-time recoveries.

VERSION HISTORY

Version	Date	Summary of Changes
1.0	October 2022	Initial Release
1.1	September 2023	Product naming and boilerplate updates

rubrik

Global HQ
3495 Deer Creek Road
Palo Alto, CA 94304
United States

1-844-4RUBRIK
inquiries@rubrik.com
www.rubrik.com

rwp-an-introduction-to-rubrik-for-ibm-db2 / 20230913