



IRIS Plugin

Bacula Systems Documentation

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Note

You can download this article as a [PDF](#)

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This document describes the **Bacula Enterprise IRIS Plugin**, a dedicated extension to Bacula Enterprise designed to provide consistent and reliable backup and restore capabilities for systems using InterSystems IRIS.

InterSystems IRIS® Data Platform is a unified, high-performance data management and application development platform designed for modern enterprise workloads. It integrates database management, real-time analytics, interoperability, and application services into a single product, enabling organizations to build, deploy, and scale data-intensive solutions with predictable performance and reliability. IRIS supports traditional relational models alongside NoSQL and multi-model access (tables, objects, documents, key-value, multidimensional arrays) on the same data without replication or mapping overhead. This design enables high throughput for both transactional and analytical workloads concurrently.

InterSystems provides comprehensive and authoritative documentation on the product, including platform architecture, APIs, tools, and operational guidance for all supported versions of InterSystems IRIS. You can access this documentation at <https://docs.intersystems.com/irislatest.html>

InterSystems IRIS has been adopted across a wide range of industries and environments where robust data management, integration, and performance are critical. Common use cases include:

- Enterprise Data Fabrics: unify diverse data sources and support real-time processes and analytics without middleware layers.
- High Throughput Data Ingestion: IoT, manufacturing, utilities, and financial services applications that require processing large volumes of real-time data.
- Concurrent Transactions and Analytics: workloads requiring simultaneous OLTP and analytical query processing with predictable performance.
- Edge and Distributed Deployments: lightweight deployment footprints for edge computing and fog architectures.
- Interoperability and Integration: embedded integration frameworks, API management, and stream processing for connecting distributed systems and services.

InterSystems IRIS is also the database used in Epic Systems software, especially in the healthcare industry. While this document does not cover the details required for a full Epic deployment, related components can be protected by other modules of Bacula Enterprise using image-level or filesystem-level backups.

InterSystems IRIS supports deployment in on-premises environments, public clouds, hybrid configurations, and containerized infrastructures, enabling flexibility for operational and development teams.

Because IRIS is a complex database and application platform with in-memory structures, multi-model data storage, and mission-critical workloads, traditional file-system-only backups are insufficient to ensure data consistency and recovery objectives. The **Bacula Enterprise IRIS Plugin** addresses that gap by integrating with Bacula Enterprise to orchestrate and coordinate application-aware backups and restores for IRIS environments.

1 Why Bacula + IRIS

Bacula Enterprise complements IRIS with long-term retention, multi-target storage (disk, tape, object), and strict compliance controls without constraining deployment models among many other benefits. The IRIS Plugin provides application-aware backups and restores while Bacula supplies centralized policy management, cataloging, and offline or air-gapped protection for regulated environments.

The next sections provide architectural descriptions, best practices, and operational guidance for installation, configuration, monitoring, and troubleshooting.

2 Scope

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Bacula Enterprise IRIS Plugin is available for Linux platforms and supports all officially supported InterSystems IRIS versions. At the time of writing, this covers:

- From 2023.1 to 2025.1

Updated information about supported versions can be found at <https://docs.intersystems.com/iris.html>

This plugin is available starting with **Bacula Enterprise 18.2.5**.

Windows compatibility will be addressed in future versions.

2.1 Use-Case Callouts

- Healthcare and Epic environments needing long-term, compliant retention of IRIS data.
- Financial services with strict audit trails and offline storage requirements (tape or air-gapped).
- Manufacturing and IoT platforms with high-throughput data ingestion requiring consistent online backups.
- Hybrid deployments that must copy IRIS backups to multiple storage targets (disk, tape, and object).

3 Features

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InterSystems IRIS natively supports several backup strategies, each designed to address different operational constraints, recovery objectives, and infrastructure capabilities. The **Bacula Enterprise IRIS Plugin** leverages these native mechanisms where appropriate and integrates them into Bacula's enterprise-grade backup, catalog, and restore framework.

This section describes the backup modes supported by InterSystems IRIS and clarifies how Bacula Enterprise can be used to implement each strategy with the IRIS Plugin.

3.1 External Backup

An External Backup consists of backing up the live contents of the InterSystems IRIS installation while the database instance remains online. Database write activity is temporarily frozen to ensure consistency, allowing an external copy to be taken safely.

This method is commonly used with enterprise storage systems capable of fast snapshots and is frequently adopted by backup solutions that integrate with storage snapshots. The IRIS Plugin focuses on coordinating the IRIS backup commands and transferring the resulting files to Bacula.

Procedure

1. Freeze database writes using IRIS tooling if required by the external copy method
2. Create the external copy of IRIS data files
3. Resume database writes
4. Register the backup in IRIS backup history
5. Transfer the resulting files to Bacula Backup Storage

Note

The IRIS Plugin exposes `freeze` and `thaw` commands via `.query` for external snapshot workflows. These are not automatically invoked during backups.

Advantages

- Zero-downtime backups for most production environments
- Minimal impact on users and applications
- Well suited for environments with enterprise snapshot-capable storage

Disadvantages

- If writes must remain frozen for longer than 10 minutes, special considerations are required to avoid application impact
- Strong dependency on storage infrastructure capabilities

Bacula Enterprise IRIS Plugin Support

- Supported for IRIS external backups
- Bacula coordinates the IRIS commands and captures the resulting files

3.2 Online Backup

An Online Backup uses InterSystems IRIS native mechanisms to back up all database blocks into one or more backup files (.cbk) while the database remains online. Data blocks are written in an interleaved fashion, ensuring consistency without pausing write activity.

For restore operations, it is strongly recommended to have a separate InterSystems IRIS instance available in order to validate and test restores without impacting production.

Procedure

1. Initiated through native InterSystems IRIS commands
2. Produces native IRIS backup files containing all database blocks
3. The generated files are sent to Bacula Backup Storage

Advantages

- Zero-downtime backups for most systems
- Native support for cumulative and incremental backups (similar to differential and incremental concepts in Bacula)
- Does not require enterprise-class snapshot-capable storage

Disadvantages

- Backup and restore operations are relatively slow
- Restoring a single database requires processing the entire backup file
- Requires a running InterSystems IRIS instance to perform restores
- Restore workflows could become cumbersome with large data volumes
- Backups of encrypted databases are written in unencrypted form, but they can be encrypted with Bacula encryption capabilities

Bacula Enterprise IRIS Plugin Support

✓ Fully supported ✓ Bacula handles scheduling, retention, cataloging, and off-host storage of IRIS-generated backup files

3.3 Cold Backup

Cold Backup is performed while the InterSystems IRIS instance is completely shut down. All files are copied in a fully consistent state, without requiring any database coordination mechanisms.

Procedure

1. Shut down the InterSystems IRIS instance (or the entire host)
2. Copy all relevant files
3. Restart the database after completion

Advantages

- Simple and reliable consistency model
- Can be implemented using generic file-level or hypervisor-level backups with other Bacula Enterprise Plugins
- No IRIS-specific backup operations required, even if IRIS Plugin can be helpful to invoke the stop/start functions

Disadvantages

- Requires database or host downtime
- Not suitable for environments with strict availability requirements

Bacula Enterprise Support

- Supported without the IRIS Plugin
- Can be performed using:
 - Bacula Hypervisor Plugins (VMware, Hyper-V, etc.)
 - The standard Bacula File Daemon for file-level backups

The IRIS Plugin is not strictly required for Cold Backups, as no application-level coordination is needed.

3.4 Concurrent External Backup

Concurrent External Backup allows database write activity to continue uninterrupted while database files are copied externally. Because writes occur during the copy, the resulting database files are expected to be dirty (inconsistent). Consistency is restored by following the copy with an Incremental Online Backup, which captures all modified blocks.

During restore, the base copy is restored first, followed by the incremental backup.

Procedure

1. Clear the incremental change list
2. Copy database files
3. Copy IRIS.DAT files
4. Register the dirty external backup
5. Perform an incremental online backup (cumulative online backup in IRIS terms)

Advantages

- Minimal or no interruption to database activity
- Suitable for environments where Online or External Backup approaches are not viable

Disadvantages

- Restore process is more complex and time-consuming
- Multiple components must be restored (database files and incremental backup files)
- Requires a running InterSystems IRIS instance for restore operations
- Operational complexity is higher compared to other methods

Bacula Enterprise IRIS Plugin Support

- Fully supported
- Plugin orchestrates the coordination between file-level copies and IRIS incremental backups within a unified Bacula job

3.5 Summary of Plugin Backup Modes

The **Bacula Enterprise IRIS Plugin** enables the following IRIS-native backup strategies:

- Online Backup
- External Backup
- Concurrent External Backup

Cold Backups are also supported by Bacula Enterprise through existing mechanisms (File Daemon or Hypervisor Plugins), and while the IRIS Plugin may be useful, it is not strictly required.

This flexibility allows organizations to select the most appropriate protection strategy based on availability requirements, storage capabilities, and recovery objectives, while maintaining centralized management and policy enforcement through Bacula Enterprise.

3.6 Feature Summary

Below is a summary of the features this plugin offers:

- Backup and restore of InterSystems IRIS databases
- Full, Differential, and Incremental backups using IRIS native commands
- Support for Online Backup, External Backup, and Concurrent External Backup workflows
- Instance and database discovery via `.ls` and `.query`
- Database selection and exclusion by name or regex
- Journal file protection and replay control during restore
- Backup chain consistency checks with automatic Full fallback
- Local restore to the same IRIS instance (Linux-only; Windows planned)

4 Architecture

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Bacula Enterprise IRIS Plugin is a Bacula File Daemon plugin that uses IRIS binaries (`iris` and `irissession`) to interact with the underlying instance and databases. The plugin runs a Java daemon that abstracts the local communication layer and emits backup artifacts (`.cbk` dumps, journal files, and metadata) to the Bacula Storage Daemon.

Instance discovery is performed via `iris qlist`, and restore operations invoke IRIS routines such as `EXTALL^DBREST` and `EXTSELECT^DBREST` using the configured `iris_owner_user`.

For more information about IRIS binaries and commands, see:

- https://docs.intersystems.com/irislatest/csp/docbook/DocBook.UI.Page.cls?KEY=GCDI_backup

Below is a simplified view of the architecture of this plugin within a generic **Bacula Enterprise** deployment:

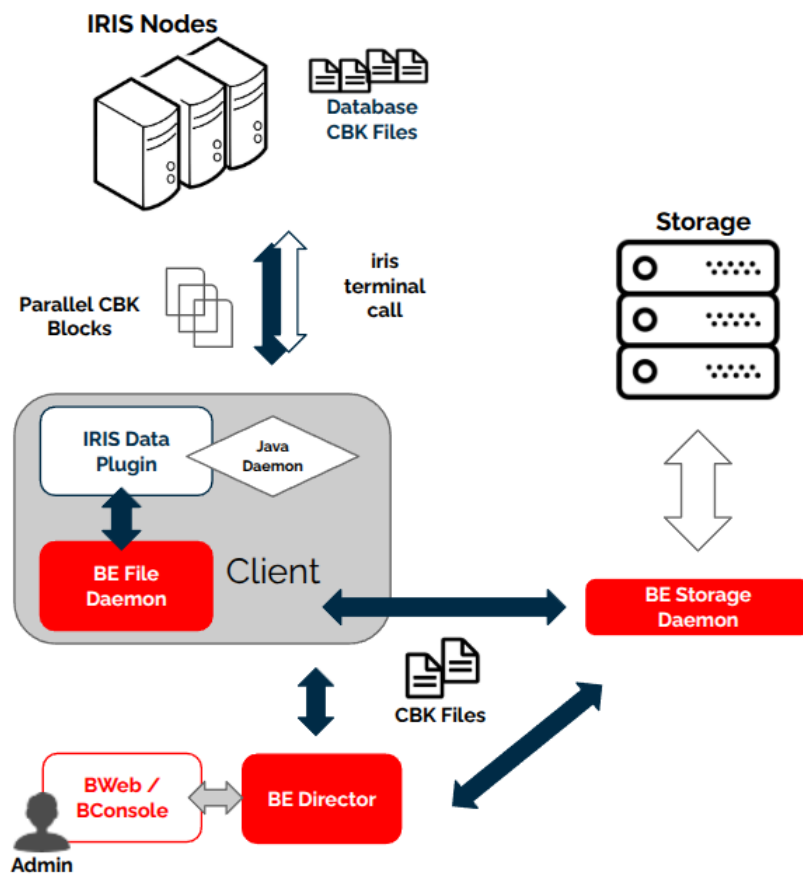


Fig. 1: Bacula Enterprise IRIS Plugin Architecture

5 Installation

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This article describes how to install the Bacula Enterprise IRIS Plugin.

5.1 Prerequisites

- The Bacula File Daemon and the IRIS Plugin need to be installed on a host where the target instances are accessible and where the IRIS binaries are available.
- The plugin must be deployed on a host running Linux. It is possible to use any of the supported **Linux** distributions of Bacula Enterprise, including RHEL, Debian, Ubuntu, or SUSE Linux Enterprise Server.
- The plugin works via a Java daemon, therefore Java needs to be installed into the host using a JRE or JDK package (openjdk-11-jre, for example). The Java environment should be version 11 or higher, and the Java binary must be accessible in the system PATH.
- The memory and computational requirements can vary significantly based on the configuration and usage of the plugin, such as parallelization and backup data size. It is recommended to have a minimum of **4GB RAM** on the server where the File Daemon runs. By default, each job may use up to 512 MB of RAM in demanding scenarios, although it is typically less. In certain cases, this could be higher. Memory limits can be adjusted (see: Out of memory).
- To communicate with IRIS and fetch data, proper permissions for the backup user are required. Details about how to configure those permissions are covered in the configuration section.

5.2 Installation Methods

- IrisInstallationWithBIM (recommended)
- IrisInstallationPackageManagers
- IrisInstallationManual

IRIS Plugin Installation with BIM

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The recommended way to install any Bacula component, including any daemon and any plugin, is to use the Bacula Installation Manager (BIM).

Steps

1. Install File Daemon.
2. Select the `iris` key in the plugin selection step.

Result

The IRIS Plugin is installed. Click [here](#) for more details.

For more information, visit [Linux: Bacula Enterprise Installation with BIM](#).

IRIS Plugin Installation with Package Managers

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Another way to install this plugin is to use your distribution's package manager.

In this example, Debian Bullseye serves as the base operating system. The process is very similar for any version of Debian or any other Debian-based distribution (e.g., Ubuntu). For RPM-based distributions (Red Hat, Oracle Linux, or SUSE), switch to the appropriate package manager for that distribution, typically *yum* or *dnf*.

Steps

1. Add the repository file suitable for the existing customer subscription and the Debian version utilized. An example would be `/etc/apt/sources.list.d/bacula.list` with the following content:

Listing 1: **APT repositories**

```
# Bacula Enterprise
deb https://www.baculasystems.com/dl/@customer-string@/debs/bin/@version@/
bullseye-64/ bullseye main
deb https://www.baculasystems.com/dl/@customer-string@/debs/iris/@version@/
bullseye-64/ bullseye iris
```

2. Run the apt update:

Listing 2: **APT update**

```
apt update
```

3. Install the plugin using:

Listing 3: **APT install**

```
apt install bacula-enterprise-iris-plugin
```

The plugin has two distinct packages that should be installed automatically with the command shown:

- `bacula-enterprise-iris-plugin`
- `bacula-enterprise-iris-plugin-libs`

Result

The IRIS Plugin is installed. [Click here](#) for more details.

IRIS Plugin Manual Installation

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Manual installation can be done by downloading the packages and then using the package manager to install them.

1. Download the following packages from your Bacula Systems download area.
 - bacula-enterprise-iris-plugin
 - bacula-enterprise-iris-plugin-libs
2. After downloading the packages, install them with the command:

Listing 4: **Manual dpkg install**

```
dpkg -i bacula-enterprise-*
```

Result

The IRIS Plugin is installed. [Click here for more details.](#)

5.3 Result

The installation package includes the following components:

- JAR libraries in `/opt/bacula/lib` (such as `bacula-iris-plugin-x.x.x.jar` and `bacula-iris-plugin-libs-x.x.x.jar`). Note that the version of these JAR archives is not aligned with the package version. However, the JAR version is shown in the job log, for example: “Jar version: X.X.X”.
- A plugin connection file (`iris-fd.so`) in the plugins directory (usually `/opt/bacula/plugins`).
- A backend file (`iris-backend`) that invokes the JAR files in `/opt/bacula/bin`. This backend file searches for the most recent `bacula-iris-plugin-x.x.x.jar` file in order to launch it, even though there should generally be only one file present.

Once the plugin is installed, you can verify it is loaded through a status client command in Bconsole (the Plugin: line must contain `iris`):

Listing 5: **Status client**

```
*st client
Automatically selected Client: 127.0.0.1-fd
Connecting to Client 127.0.0.1-fd at 127.0.0.1:8102

127.0.0.1-fd Version: 18.2.2 (20 Jan 2026) x86_64-pc-linux-gnu ubuntu 24.04
Daemon started 22-jan-26 10:14. Jobs: run=2 running=0 max=100.
```

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```
Ulimits: nofile=1024 memlock=2026356736 status=ok
Heap: heap=827,392 smbytes=436,939 max_bytes=5,100,087 bufs=153 max_bufs=248
Sizes: boffset_t=8 size_t=8 debug=600 trace=1 mode=1,2010 bwlimit=0kB/s
Crypto: fips=no crypto=OpenSSL 3.0.2 15 Mar 2022
APIs: !GPFS
Plugin: bpipe(2)iris(1.0.0)
```

6 Configuration

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This chapter explains how to configure the plugin. Backup jobs with the Bacula Enterprise IRIS Plugin function similarly to other Bacula Enterprise backup jobs after the appropriate Fileset has been established.

In the following sections we explain how to configure the parameters to set up a Fileset to invoke the IRIS Plugin through a job for the different backup scenarios this plugin supports.

Restore parameters are discussed in the Restore section of Operations chapter.

Note

The IRIS Plugin is Linux-focused. Windows compatibility will be addressed in future versions.

6.1 Job Configuration Example

Below is an example of a minimal Job and Fileset configuration that runs an IRIS backup:

Listing 6: **IRIS Job configuration**

```
Job {
  Name = "IRIS-Backup"
  JobDefs = "DefaultJob"
  Client = irishost-fd
  FileSet = "FS-IRIS"
  Storage = File
  Pool = Default
  Messages = Standard
}

Fileset {
  Name = "FS-IRIS"
  Include {
```

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```
Options { signature = MD5 }
Plugin = "iris: instance=IRIS"
}
}
```

6.2 Plugin Configuration

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Once the plugin is successfully installed, you can define regular Filesets for backup jobs in Bacula. Include a line similar to the one below to invoke the IRIS Plugin:

Listing 7: **Fileset IRIS**

```
Fileset {
  Name = FS_IRIS
  Include {
    Options {
      signature = MD5
      ...
    }
    Plugin = "iris: <iris-parameter-1>=<iris-value-1> <iris-parameter-2>=
↪<iris-value-2> ..."
  }
}
```

It is **strongly recommended** to use only one Plugin line within each Fileset. The plugin offers the needed flexibility to combine various selections within the same plugin line. In instances where multiple IRIS servers exist, it is essential to employ distinct Filesets and separate jobs.

In this plugin, any parameter that accepts a list of values can be set to a comma-separated list.

The following subsections list all parameters you can use to control the IRIS Plugin behavior.

Advanced Parameters

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The following parameters are advanced and should not be modified in the vast majority of cases:

Option	Re- quire	Default	Values	Example	Description
stream_sleep	No	1	Positive integer (1/10 seconds)	5	Time to sleep when reading header packets from FD and not having a full header available
stream_max_wait	No	0	Positive integer (seconds)	360	Max wait time for FD to answer packet requests
time_max_log	No	86400	Positive integer (seconds)	43200	Maximum time to wait to overwrite a debug log that was marked as being used by another process
logging_max_file_size	No	50MB	String size	300MB	Maximum size of a single debug log file
logging_max_backup_index	No	25	Positive integer (number of files)	50	Maximum number of log files to keep
log_rolling	No	/tmp/iris/iris.%d MM-ddHHmm}.log.g	String file name pattern	/tmp/iris/iris.%d MM-dd}.log.gz	Log pattern for rotated log files
split_config	No	=	Character	:	Character to be used in config_file parameter as separator for keys and values
opener_timeout	No	36000	Positive integer (seconds)	3600	Timeout when internal opener queue is full
publisher_timeout	No	36000	Positive integer (seconds)	3600	Timeout when internal publisher queue is full

The internal plugin logging framework has the following characteristics:

- The .log files are rotated automatically. Currently, each file can be up to 50 MB and the plugin keeps 25 files.
 - This behavior can be changed using the internal advanced parameters: `logging_max_file_size` and `logging_max_backup_index`.
- The .err file can show contents even if no actual error has occurred during the jobs. It can also present contents even if debugging is disabled. This file is not rotated, but it is generally anticipated to remain small in size. If you still need to rotate it, you can include it in a general rotating tool such as `logrotate`.
- Parallel backups and failed backups will generate several log files, for example: `iris-debug-0.log`, `iris-debug-1.log`, and so on.

Connection Parameters

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The following parameters control how the IRIS Plugin connects to the local IRIS installation.

Option	Require	Default	Values	Example	Description
in-stance	No	(all local instances)	Comma-separated list of instance IDs	IRIS,IRIS2	Limits operations to one or more IRIS instances as returned by <code>iris qlist</code> . If empty, all instances are considered
names-pace	No	%SYS	IRIS names-pace	USER	Namespace used by <code>irissession</code> for backup and restore commands
iris_bir	No	/usr/bin/iris	Absolute path	/usr/bin/iris	Path to the <code>iris</code> binary
iris_ses	No	/home/irisov	Absolute path	/home/irisow	Path to the <code>irissession</code> binary
iris_ow	No	irisowner	Username	irisowner	OS user used to execute IRIS commands (commands are run through <code>sudo -u</code> on Linux)

Note

The IRIS Plugin currently targets Linux environments. Windows compatibility will be addressed in future versions.

Common Parameters

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These parameters control the general behavior of the IRIS Plugin. You may also encounter these parameters in other Bacula Enterprise Plugins that produce similar effects, so you may already be familiar with them.

Option	Require	Default	Values	Example	Description
abort	No	No	No, Yes	Yes	If set to Yes , abort the job as soon as any error is found. If set to No , jobs can continue even if some elements fail; the job attempts to back up or restore the remaining elements and only reports a warning
config_file	No		The path pointing to a file containing any combination of plugin parameters	/opt/bacula	Allows you to define a config file to configure any plugin parameter, so you don't need to put them directly in the Plugin line of the Fileset
log	No	/tmp/iris-debug	An existing path with enough permissions for File Daemon to create a file with the provided name	/tmp/iris	Generates an additional log besides the job log. This parameter is included in the backend file, so by default the log is stored in the working directory
debug	No	0	0, 1, 2, 3, 4, 5, 6, 7, 8, 9	6	Generates <code>iris-debug.log*</code> files containing debug information. Greater values generate more verbose logs
path	No	/tmp	An existing path with enough permissions for File Daemon to create any internal (and usually temporary) plugin file	/opt/bacula	Uses this path to store metadata and temporary files

This is an example of a `config_file` with the `FilesetIRISConnectionParameters` options:

```
# cat /opt/bacula/etc/iris.settings
instance=IRIS
namespace=%SYS
iris_owner_user=irisowner
iris_session_bin=/home/irisowner/bin/irissession
iris_bin=/usr/bin/iris
```

Backup Parameters

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The following list of parameters controls what will be incorporated into the corresponding backup:

Option	Re-quire	De-fault	Values	Ex-ample	Description
database	No		Comma-separated list of database names	USER,	List of databases to include in the backup. If empty, all available databases are selected (unless external is enabled)
database	No		Comma-separated list of database names	TEM-PDB,A	Databases to exclude from the backup. If this is the only selection parameter, all databases are included and then excluded by this list
database	No		Regular expression	^APP_	Include databases matching a regular expression. Do not combine with list parameters
database	No		Regular expression	^TEMI	Exclude databases matching a regular expression. Do not combine with list parameters
external	No	No	0, no, No, false, FALSE, false, off ; 1, yes, Yes, TRUE, true, on	yes	Use the external/concurrent backup workflow (clear incremental list, copy IRIS.DAT, run external backup, then run online incremental backup)
cleanup	No	No	0, no, No, false, FALSE, false, off ; 1, yes, Yes, TRUE, true, on	yes	Remove temporary backup artifacts after they are sent to Bacula (backup data file and logs are deleted on exit)
switchjournals	No	Yes	0, no, No, false, FALSE, false, off ; 1, yes, Yes, TRUE, true, on	no	Reserved for future use. The IRIS backup command currently always switches journals

Tuning Parameters

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The following parameters can be used to adjust the plugin's behavior for increased flexibility in challenging network conditions, high job concurrency scenarios, and similar situations.

It is generally unnecessary to change them in most situations.

Option	Re- quired	De- fault	Values	Ex- am- ple	Description
backup_queue	No	1000	Positive integer	2000	Max number of queued backup objects before the publisher blocks
concurrent_threads	No	500	Positive integer	100	Number of concurrent backup threads used by the plugin
general_network_retries	No	5	Positive integer (number of retries)	10	Number of retries for transient I/O errors while streaming data
general_network_delay	No	50	Positive integer (seconds)	5	Delay between retry attempts
freeze_timeout	No		Positive integer (seconds)	60	Timeout passed to IRIS freeze command when using <code>.query</code> with <code>freeze</code>

Fileset Examples

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This section provides Fileset examples:

Listing 8: **Fileset: backup a specific instance**

```
Fileset {
  Name = fs-iris-instance
  Include {
    Options { signature = MD5 }
    Plugin = "iris: instance=IRIS"
  }
}
```

Listing 9: **Fileset: using a config file**

```
Fileset {
  Name = fs-iris-instance
  Include {
    Options { signature = MD5 }
    Plugin = "iris: config_file=/opt/bacula/etc/iris.settings"
  }
}
```

Config file contents stored on the same File Daemon host at `/opt/bacula/etc/iris.settings`:

```
instance=IRIS
```

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```
namespace=%SYS
iris_owner_user=irisowner
iris_session_bin=/home/irisowner/bin/irissession
iris_bin=/usr/bin/iris
```

Listing 10: **Fileset: select databases by name**

```
Fileset {
  Name = fs-iris-db-select
  Include {
    Options { signature = MD5 }
    Plugin = "iris: instance=IRIS database=USER,APPDB"
  }
}
```

Listing 11: **Fileset: select databases using regex and exclusions**

```
Fileset {
  Name = fs-iris-db-regex
  Include {
    Options { signature = MD5 }
    Plugin = "iris: instance=IRIS database_regex_include=^APP_.* database_
→exclude=APP_TMP"
  }
}
```

Listing 12: **Fileset: external/concurrent backup workflow**

```
Fileset {
  Name = fs-iris-external
  Include {
    Options { signature = MD5 }
    Plugin = "iris: instance=IRIS external=yes cleanup=yes"
  }
}
```

Listing 13: **Fileset: multiple instances**

```
Fileset {
  Name = fs-iris-multi
  Include {
    Options { signature = MD5 }
    Plugin = "iris: instance=IRIS,IRIS2"
  }
}
```

Listing 14: **Fileset: custom binaries and namespace**

```
Fileset {
  Name = fs-iris-custom-bin
  Include {
```

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```
Options { signature = MD5 }
Plugin = "iris: instance=IRIS namespace=USER iris_owner_user=irisowner
↪iris_session_bin=/home/irisowner/bin/irissession iris_bin=/usr/bin/iris"
}
}
```

Listing 15: **Fileset: exclude databases only**

```
Fileset {
  Name = fs-iris-exclude
  Include {
    Options { signature = MD5 }
    Plugin = "iris: instance=IRIS database_exclude=TEMPDB,AUDIT"
  }
}
```

Listing 16: **Fileset: regex exclude only**

```
Fileset {
  Name = fs-iris-regex-exclude
  Include {
    Options { signature = MD5 }
    Plugin = "iris: instance=IRIS database_regex_exclude=^TEMP_.*"
  }
}
```

Listing 17: **Fileset: tuning and logging**

```
Fileset {
  Name = fs-iris-tuned
  Include {
    Options { signature = MD5 }
    Plugin = "iris: instance=IRIS backup_queue_size=2000 concurrent_
↪threads=200 log=/opt/bacula/working/iris/iris-debug.log path=/opt/bacula/
↪working"
  }
}
```

7 Operations

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

The following article describes details regarding backup, restore, or list operations with **Bacula Enter-**

prise IRIS Plugin.

7.1 Backup

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

The overall backup operation involves the following steps:

1. Resolve the instance list: use `instance` if provided, otherwise query all local instances.
2. Build the database selection (`database` / `database_exclude` / `regex`). Read-only databases are automatically excluded.
3. If `external=no` (default), run the IRIS online backup command for the Bacula level:
 - Full -> IRIS Full
 - Differential -> IRIS Cumulative
 - Incremental -> IRIS Incremental
4. If `external=yes`, run the external/concurrent workflow:
 - Clear incremental list (`CLRINC^DBACK`)
 - Copy `IRIS.DAT` files
 - Run external backup (`BACKUP^DBACK` with type E)
 - Run an online incremental backup to capture changed blocks
5. Collect and send backup artifacts to Bacula:
 - IRIS online backup data file (`.cbk`)
 - Switched journal file (`.log` or compressed `.logz`)
 - General journal `.log`
 - `IRIS.DAT` files for selected databases
 - Delta link file (used for incremental consistency checks)
6. Optionally delete temporary backup files if `cleanup=yes`.

Backup Methods

The IRIS Plugin supports multiple backup methods. Choose the method based on your recovery objectives and storage capabilities.

Online Backup (default)

When `external=no` (default), the plugin runs IRIS native online backups using `BACKUP^DBACK` at the Bacula job level:

- Full -> IRIS Full

- Differential -> IRIS Cumulative
- Incremental -> IRIS Incremental

This method is recommended for most environments because it provides application-aware backups without requiring storage snapshots.

Advantages:

- Minimal or no interruption to production workloads.
- Works without snapshot-capable storage.

Disadvantages:

- Backup and restore can be slower for very large datasets.
- Restoring a single database still requires processing the full backup file.

Concurrent External Backup

When `external=yes`, the plugin runs the external/concurrent workflow:

- Clear incremental list (`CLRINC^DBACK`)
- Copy `IRIS.DAT` files
- Run external backup (`BACKUP^DBACK` with type E)
- Run an online incremental backup to capture changed blocks

This method is useful when you need to align backups with storage snapshots or external copies. Restore operations require both the external copy and the incremental backup files.

Advantages:

- Minimal interruption while still enabling snapshot-aligned workflows.
- Useful when a pure online backup is not feasible.

Disadvantages:

- More complex restore workflow (external copy plus incremental backup).
- Requires a running IRIS instance during restore.

External Backup with Snapshot Orchestration

For environments that rely on storage snapshots (NAS or array-based), Bacula can orchestrate the sequence around the IRIS Plugin:

1. Freeze IRIS writes if required by the snapshot method (use `.query` with `freeze`).
2. Trigger the snapshot using your storage tooling or Bacula snapshot plugin.
3. Thaw IRIS writes (use `.query` with `thaw`).
4. Copy or mount the snapshot for backup ingestion.
5. Finalize any external backup bookkeeping in IRIS if your workflow requires it.

The IRIS Plugin does not perform snapshot orchestration by itself. Use Bacula job orchestration (for example, `RunScript` directives and storage plugins) to enforce the correct order and handle error recovery.

Advantages:

- Leverages fast storage snapshots for very large datasets.

- Reduces backup window when storage snapshots are available.

Disadvantages:

- Requires reliable orchestration across storage and database systems.
- Error handling and rollback must be designed at the workflow level.

Backup File Structure

A single IRIS backup produces entries similar to the following:

Listing 18: Files protected with the backup

```
$ dir
----- 0 root      root              0  1970-01-01 01:00:00  /@iris/
↪ IRIS/
-rw-r----- 1 root      root          7340032  2025-02-25 14:10:12  /@iris/
↪ IRIS/Bacula_20250225-141012F.cbk
-rw-r----- 1 root      root          104857  2025-02-25 14:10:12  /@iris/
↪ IRIS/20250225.001.log
-rw-r----- 1 root      root           8192  2025-02-25 14:10:12  /@iris/
↪ IRIS/journal.log
-rw-r----- 1 root      root       1073741824  /@iris/IRIS/IRIS.DAT
-rw-r----- 1 root      root           128  2025-02-25 14:10:12  /@iris/
↪ IRIS/<jobname>.deltaLink
```

The catalog entries include the IRIS instance name as a prefix and the generated backup artifacts. Journal files are stored using the original journal path under the instance prefix.

Consistency and Delta Handling

For incremental and differential backups, the plugin compares the previous backup time recorded in the IRIS volume with the local delta catalog. If they do not match, the backup is automatically upgraded to a Full to keep a consistent chain.

Backup Example

Below an example backup job log.

Listing 19: Backup execution example

```
*list joblog jobid=1
Automatically selected Catalog: MyCatalog
Using Catalog "MyCatalog"
+-----+
↪ -----+
| logtext                                     |
↪                                     |
+-----+
↪ -----+
| 127.0.0.1-dir JobId 1: Start Backup JobId 1, Job=pluginTest.2026-02-25_16.
↪ 08.00_03                                |
| 127.0.0.1-dir JobId 1: Connected to Storage "File" at 127.0.0.1:8103 with
↪ TLS                                    |
| 127.0.0.1-dir JobId 1: Created new Volume="TEST-2026-02-25:0", Pool="Default
```

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```
↪ ", MediaType="File" in catalog. |
| 127.0.0.1-dir JobId 1: Using Device "FileStorage" to write. ↪
↪ |
| 127.0.0.1-dir JobId 1: Connected to Client "CLIENT_IRIS" at 172.17.0.2:9102 ↪
↪ with TLS |
| 127.0.0.1-sd JobId 1: Connected to Client at 172.17.0.2:9102 with TLS ↪
↪ |
| 127.0.0.1-sd JobId 1: Labeled new Volume "TEST-2026-02-25:0" on File device ↪
↪ "FileStorage" (/tmp/regress/tmp). |
| 127.0.0.1-sd JobId 1: Wrote label to prelabeled Volume "TEST-2026-02-25:0" ↪
↪ on File device "FileStorage" (/tmp/regress/tmp) |
| iris-client-fd JobId 1: iris: Plugin log of this job available in: /opt/ ↪
↪ bacula/working/iris/iris-debug-0.log |
| iris-client-fd JobId 1: iris: Jar Version: 1.0.0 | Java version: 21.0.9 | ↪
↪ Java Pid: 751 |
| iris-client-fd JobId 1: iris: Maximum java memory configured: 4 GiB ↪
↪ |
| iris-client-fd JobId 1: iris: Running instance listing... ↪
↪ |
| iris-client-fd JobId 1: iris: Using provided instance:IRIS ↪
↪ |
| iris-client-fd JobId 1: iris: Getting all available DBs ... ↪
↪ |
| iris-client-fd JobId 1: iris: Selecting all available databases... ↪
↪ |
| iris-client-fd JobId 1: iris: Getting included DBs in backup ... ↪
↪ |
| iris-client-fd JobId 1: Warning: iris: Excluding database:ENSLIB as it is ↪
↪ read-only |
| iris-client-fd JobId 1: Warning: iris: Excluding database:IRISLIB as it is ↪
↪ read-only |
| iris-client-fd JobId 1: iris: Getting included DBs in backup ... ↪
↪ |
| iris-client-fd JobId 1: iris: Running backup process for included databases ↪
↪ of instance:IRIS |
| iris-client-fd JobId 1: iris: The following DBs will be backed up... ↪
↪ |
| iris-client-fd JobId 1: iris: AVIATION_SAMPLEC: /usr/irissys/mgr/Aviation_ ↪
↪ SAMPLE/C/ |
| iris-client-fd JobId 1: iris: AVIATION_SAMPLED: /usr/irissys/mgr/Aviation_ ↪
↪ SAMPLE/D/ |
| iris-client-fd JobId 1: iris: DATATYPE_SAMPLEC: /usr/irissys/mgr/DataType_ ↪
↪ SAMPLE/C/ |
| iris-client-fd JobId 1: iris: DATATYPE_SAMPLED: /usr/irissys/mgr/DataType_ ↪
↪ SAMPLE/D/ |
| iris-client-fd JobId 1: iris: DUCKDB_SAMPLEC: /usr/irissys/mgr/DuckDB_ ↪
↪ SAMPLE/C/ |
| iris-client-fd JobId 1: iris: DUCKDB_SAMPLED: /usr/irissys/mgr/DuckDB_ ↪
↪ SAMPLE/D/ |
| iris-client-fd JobId 1: iris: FEDERATIONC: /usr/irissys/mgr/FEDERATION/C/ ↪
↪ |
| iris-client-fd JobId 1: iris: FEDERATIOND: /usr/irissys/mgr/FEDERATION/D/ ↪
```

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```
↪ | iris-client-fd JobId 1: iris: IRISAUDIT: /usr/irissys/mgr/irisaudit/ ↪
↪ | iris-client-fd JobId 1: iris: IRISLOCALDATA: /usr/irissys/mgr/irislocaldata/ ↪
↪ | iris-client-fd JobId 1: iris: IRISMETRICS: /usr/irissys/mgr/irismetrics/ ↪
↪ | iris-client-fd JobId 1: iris: IRISSECURITY: /usr/irissys/mgr/irissecurity/ ↪
↪ | iris-client-fd JobId 1: iris: IRISSYS: /usr/irissys/mgr/ ↪
↪ | iris-client-fd JobId 1: iris: PERSON_SAMPLEC: /usr/irissys/mgr/Person_ ↪
↪ SAMPLE/C/ | ↪
↪ | iris-client-fd JobId 1: iris: PERSON_SAMPLED: /usr/irissys/mgr/Person_ ↪
↪ SAMPLE/D/ | ↪
↪ | iris-client-fd JobId 1: iris: USER: /usr/irissys/mgr/user/ ↪
↪ | iris-client-fd JobId 1: iris: Running BACKUP^DBACK level:full ↪
↪ external:false... | ↪
↪ | iris-client-fd JobId 1: iris: *** The time is: 2026-02-25 15:08:04 *** ↪
↪ | iris-client-fd JobId 1: iris: Backing up the following directories: ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/Aviation_SAMPLE/C/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/Aviation_SAMPLE/D/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/DataType_SAMPLE/C/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/DataType_SAMPLE/D/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/DuckDB_SAMPLE/C/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/DuckDB_SAMPLE/D/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/FEDERATION/C/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/FEDERATION/D/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/Person_SAMPLE/C/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/Person_SAMPLE/D/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/irisaudit/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/irislocaldata/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/irismetrics/ ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/irissecurity/ ↪
```

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```
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/user/ ↪
↪ | iris-client-fd JobId 1: iris: Performing a Full backup. ↪
↪ | iris-client-fd JobId 1: iris: Backing up to device: /opt/bacula/working/
↪ iris/pluginTest.2026-02-25_16.08.00_03F.cbk | ↪
| iris-client-fd JobId 1: iris: Journal file switched to: ↪
↪ | iris-client-fd JobId 1: iris: /usr/irissys/mgr/journal/20260225.003 ↪
↪ | iris-client-fd JobId 1: iris: Starting backup round 1 ↪
↪ | iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/ at 02/25/2026 ↪
↪ 15:08:05 | ↪
| iris-client-fd JobId 1: iris: Copied 7942 blocks in 0.190 seconds ↪
↪ | iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/ | ↪
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Aviation_SAMPLE/C/
↪ at 02/25/2026 15:08:05 | ↪
| iris-client-fd JobId 1: iris: Copied 1154 blocks in 0.033 seconds ↪
↪ | iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/Aviation_SAMPLE/C/ | ↪
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Aviation_SAMPLE/D/
↪ at 02/25/2026 15:08:05 | ↪
| iris-client-fd JobId 1: iris: Copied 18915 blocks in 0.491 seconds ↪
↪ | iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/Aviation_SAMPLE/D/ | ↪
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DataType_SAMPLE/C/
↪ at 02/25/2026 15:08:06 | ↪
| iris-client-fd JobId 1: iris: Copied 115 blocks in 0.007 seconds ↪
↪ | iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/DataType_SAMPLE/C/ | ↪
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DataType_SAMPLE/D/
↪ at 02/25/2026 15:08:06 | ↪
| iris-client-fd JobId 1: iris: Copied 95 blocks in 0.006 seconds ↪
↪ | iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/DataType_SAMPLE/D/ | ↪
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DuckDB_SAMPLE/C/ ↪
↪ at 02/25/2026 15:08:06 | ↪
| iris-client-fd JobId 1: iris: Copied 77 blocks in 0.005 seconds ↪
↪ | iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/DuckDB_SAMPLE/C/ | ↪
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DuckDB_SAMPLE/D/ ↪
↪ at 02/25/2026 15:08:06 | ↪
| iris-client-fd JobId 1: iris: Copied 77 blocks in 0.005 seconds ↪
```

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```
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/DuckDB_SAMPLE/D/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/FEDERATION/C/ at
↪ 02/25/2026 15:08:06 |
| iris-client-fd JobId 1: iris: Copied 130 blocks in 0.008 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/FEDERATION/C/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/FEDERATION/D/ at
↪ 02/25/2026 15:08:06 |
| iris-client-fd JobId 1: iris: Copied 77 blocks in 0.005 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/FEDERATION/D/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Person_SAMPLE/C/
↪ at 02/25/2026 15:08:06 |
| iris-client-fd JobId 1: iris: Copied 287 blocks in 0.014 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/Person_SAMPLE/C/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Person_SAMPLE/D/
↪ at 02/25/2026 15:08:06 |
| iris-client-fd JobId 1: iris: Copied 112 blocks in 0.006 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/Person_SAMPLE/D/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irisaudit/ at 02/
↪ 25/2026 15:08:07 |
| iris-client-fd JobId 1: iris: Copied 701 blocks in 0.025 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/irisaudit/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irislocaldata/ at
↪ 02/25/2026 15:08:07 |
| iris-client-fd JobId 1: iris: Copied 487 blocks in 0.019 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/irislocaldata/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irismetrics/ at
↪ 02/25/2026 15:08:07 |
| iris-client-fd JobId 1: iris: Copied 77 blocks in 0.004 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/irismetrics/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irissecurity/ at
↪ 02/25/2026 15:08:07 |
| iris-client-fd JobId 1: iris: Copied 89 blocks in 0.003 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪ mgr/irissecurity/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/user/ at 02/25/
```

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```
↪2026 15:08:07 |
| iris-client-fd JobId 1: iris: Copied 130 blocks in 0.007 seconds
↪
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/user/
| iris-client-fd JobId 1: iris: Backup round 1 complete at 02/25/2026
↪15:08:07
| iris-client-fd JobId 1: iris: Starting backup round 2
↪
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/ at 02/25/2026
↪15:08:08
| iris-client-fd JobId 1: iris: Copied 2 blocks in 0.000 seconds
↪
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Aviation_SAMPLE/C/
↪at 02/25/2026 15:08:08
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
↪
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/Aviation_SAMPLE/C/
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Aviation_SAMPLE/D/
↪at 02/25/2026 15:08:08
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
↪
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/Aviation_SAMPLE/D/
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DataType_SAMPLE/C/
↪at 02/25/2026 15:08:08
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
↪
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/DataType_SAMPLE/C/
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DataType_SAMPLE/D/
↪at 02/25/2026 15:08:08
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
↪
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/DataType_SAMPLE/D/
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DuckDB_SAMPLE/C/
↪at 02/25/2026 15:08:08
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
↪
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/DuckDB_SAMPLE/C/
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DuckDB_SAMPLE/D/
↪at 02/25/2026 15:08:08
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
↪
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/DuckDB_SAMPLE/D/
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/FEDERATION/C/ at
```

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```
→02/25/2026 15:08:08 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
→
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
→mgr/FEDERATION/C/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/FEDERATION/D/ at
→02/25/2026 15:08:08 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
→
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
→mgr/FEDERATION/D/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Person_SAMPLE/C/
→at 02/25/2026 15:08:08 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
→
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
→mgr/Person_SAMPLE/C/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Person_SAMPLE/D/
→at 02/25/2026 15:08:08 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.001 seconds
→
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
→mgr/Person_SAMPLE/D/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irisaudit/ at 02/
→25/2026 15:08:09 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
→
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
→mgr/irisaudit/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irislocaldata/ at
→02/25/2026 15:08:09 |
| iris-client-fd JobId 1: iris: Copied 3 blocks in 0.000 seconds
→
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
→mgr/irislocaldata/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irismetrics/ at
→02/25/2026 15:08:09 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
→
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
→mgr/irismetrics/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irissecurity/ at
→02/25/2026 15:08:09 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.001 seconds
→
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
→mgr/irissecurity/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/user/ at 02/25/
→2026 15:08:09 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
→
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
```

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```
↪mgr/user/ |
| iris-client-fd JobId 1: iris: Backup round 2 complete at 02/25/2026↪
↪15:08:09 |
| iris-client-fd JobId 1: iris: Starting backup round 3 ↪
↪ |
| iris-client-fd JobId 1: iris: Journal file '/usr/irissys/mgr/journal/
↪20260225.003' and the subsequent ones are required for recovery purpose if↪
↪the backup were to be restored |
| iris-client-fd JobId 1: iris: Journal marker set at ↪
↪ |
| iris-client-fd JobId 1: iris: offset 198612 of /usr/irissys/mgr/journal/
↪20260225.003 |
| iris-client-fd JobId 1: iris: - This is the last round - Suspending write↪
↪daemon |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/ at 02/25/2026↪
↪15:08:11 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Aviation_SAMPLE/C/
↪at 02/25/2026 15:08:11 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/Aviation_SAMPLE/C/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Aviation_SAMPLE/D/
↪at 02/25/2026 15:08:11 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/Aviation_SAMPLE/D/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DataType_SAMPLE/C/
↪at 02/25/2026 15:08:11 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/DataType_SAMPLE/C/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DataType_SAMPLE/D/
↪at 02/25/2026 15:08:11 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/DataType_SAMPLE/D/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DuckDB_SAMPLE/C/↪
↪at 02/25/2026 15:08:11 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.001 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/DuckDB_SAMPLE/C/ |
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/DuckDB_SAMPLE/D/↪
↪at 02/25/2026 15:08:11 |
```

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```
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
|
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
mgr/DuckDB_SAMPLE/D/
|
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/FEDERATION/C/ at
02/25/2026 15:08:11
|
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
|
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
mgr/FEDERATION/C/
|
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/FEDERATION/D/ at
02/25/2026 15:08:11
|
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
|
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
mgr/FEDERATION/D/
|
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Person_SAMPLE/C/
at 02/25/2026 15:08:12
|
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
|
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
mgr/Person_SAMPLE/C/
|
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/Person_SAMPLE/D/
at 02/25/2026 15:08:12
|
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
|
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
mgr/Person_SAMPLE/D/
|
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irisaudit/ at 02/
25/2026 15:08:12
|
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.001 seconds
|
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
mgr/irisaudit/
|
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irislocaldata/ at
02/25/2026 15:08:12
|
| iris-client-fd JobId 1: iris: Copied 5 blocks in 0.000 seconds
|
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
mgr/irislocaldata/
|
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irismetrics/ at
02/25/2026 15:08:12
|
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds
|
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
mgr/irismetrics/
|
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/irissecurity/ at
02/25/2026 15:08:12
|
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.001 seconds
|
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
mgr/irissecurity/
```

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```
| iris-client-fd JobId 1: iris: Backing up /usr/irissys/mgr/user/ at 02/25/
↪2026 15:08:12 |
| iris-client-fd JobId 1: iris: Copied 1 blocks in 0.000 seconds ↪
↪ |
| iris-client-fd JobId 1: iris: Finished this round of copying /usr/irissys/
↪mgr/user/ |
| iris-client-fd JobId 1: iris: Backup round 3 complete at 02/25/2026↪
↪15:08:12 |
| iris-client-fd JobId 1: iris: ***FINISHED BACKUP*** ↪
↪ |
| iris-client-fd JobId 1: iris: Global references are enabled. ↪
↪ |
| iris-client-fd JobId 1: iris: Backup complete. ↪
↪ |
| iris-client-fd JobId 1: iris: BACKUP^DBACK was successful ↪
↪ |
| iris-client-fd JobId 1: iris: Switched journal file in: /usr/irissys/mgr/
↪journal/20260225.003 |
| iris-client-fd JobId 1: iris: Backup data file generated in: /opt/bacula/
↪working/iris/pluginTest.2026-02-25_16.08.00_03F.cbk |
| iris-client-fd JobId 1: iris: Getting vol info from: /opt/bacula/working/
↪iris/pluginTest.2026-02-25_16.08.00_03F.cbk |
| iris-client-fd JobId 1: iris: Backup associated journal file in:/usr/
↪irissys/mgr/journal/20260225.001z |
| iris-client-fd JobId 1: iris: Backup general journal file in:/usr/irissys/
↪mgr/journal.log |
| 127.0.0.1-sd JobId 1: Elapsed time=00:00:13, Transfer rate=8.871 M Bytes/
↪second |
| 127.0.0.1-sd JobId 1: Sending spooled attrs to the Director. Despooling 2,
↪073 bytes ... |
| 127.0.0.1-dir JobId 1: Bacula 127.0.0.1-dir 18.2.3 (04Feb26):
Build OS: x86_64-pc-linux-gnu ubuntu 24.04
JobId: 1
Job: pluginTest.2026-02-25_16.08.00_03
Backup Level: Full
Client: "CLIENT_IRIS" 18.2.1 (08Oct25) x86_64-pc-linux-gnu-
↪bacula-enterprise,ubuntu,24.04
FileSet: "FS_IRIS" 2026-02-25 16:07:59
Pool: "Default" (From Job resource)
Catalog: "MyCatalog" (From Client resource)
Storage: "File" (From Job resource)
Scheduled time: 25-feb-2026 16:08:00
Start time: 25-feb-2026 16:08:02
End time: 25-feb-2026 16:08:15
Elapsed time: 13 secs
Priority: 10
FD Files Written: 6
SD Files Written: 6
FD Bytes Written: 115,331,629 (115.3 MB)
SD Bytes Written: 115,333,444 (115.3 MB)
Rate: 8871.7 KB/s
Software Compression: 55.4% 2.2:1
```

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```
Comm Line Compression: 3.1% 1.0:1
Snapshot/VSS: no
Encryption: no
Accurate: yes
Volume name(s): TEST-2026-02-25:0
Volume Session Id: 1
Volume Session Time: 1772032079
Last Volume Bytes: 115,460,456 (115.4 MB)
Non-fatal FD errors: 0
SD Errors: 0
FD termination status: OK
SD termination status: OK
Termination: Backup OK |
| 127.0.0.1-dir JobId 1: Begin pruning Jobs older than 6 months .
↪ |
| 127.0.0.1-dir JobId 1: No Jobs found to prune.
↪ |
| 127.0.0.1-dir JobId 1: Begin pruning Files.
↪ |
| 127.0.0.1-dir JobId 1: No Files found to prune.
↪ |
| 127.0.0.1-dir JobId 1: End auto prune.
↪ |
+-----+
↪ -----+
+-----+-----+-----+-----+-----+-----+-----+
↪ -----+-----+
| jobid | name | starttime | type | level | jobfiles |
↪ jobbytes | jobstatus |
+-----+-----+-----+-----+-----+-----+-----+
↪ -----+-----+
| 1 | pluginTest | 2026-02-25 16:08:02 | B | F | 6 | 115,
↪ 331,629 | T |
+-----+-----+-----+-----+-----+-----+-----+
↪ -----+-----+
```

7.2 Restore

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

Restore Procedure

The Bacula Enterprise IRIS Plugin restores backups by first restoring the backup artifacts to the local filesystem and then invoking IRIS restore commands. The following workflows are supported:

1. Full restore of all databases from the backup dump(s).
2. Selective restore using a directory list file.
3. Restore with different journal replay modes (just restored, all journals, selected, or none).
4. Restore using local dump files (`input_dump`) instead of restored files.

Depending on the desired result, the restore operation should be parameterized differently.

Restore Parameters

When restoring, the plugin writes dump and journal files to disk and then executes IRIS restore routines. Use `Where=/` to preserve original paths, and control destination directories using the parameters below.

The following parameters are available to control the restore behavior within the **Plugin Options** menu during a Bconsole restore session:

Option	Re- quire	De- fault	Values	Example	Description
des- tina- tion_path	No	<path>/ iris	Path	/opt/bacula/wo	Directory where restored .cbk dump files are placed before in- voking IRIS restore. Default is PATH/iris
des- tina- tion_path	No	Cur- rent journal direc- tory	Path	/var/lib/iris/jou	Directory where restored journal files are placed. If not set, the cur- rent journal directory is queried from IRIS
al- low_upd	No	Yes	0, no, No, false, FALSE, false, off ; 1, yes, Yes, TRUE, true, on	no	Allow database updates during restore (IRIS allowupd)
directo- ries_path	No		Path to a directory list file	/tmp/iris_dirs.t	If set, use selective restore (EXTSELECT^DBREST). The file contains one directory per line
jour- nal_optio	No	2	1, 2, 3, 4	3	Journal replay mode: 1=just restored, 2=all in jour- nal, 3=selected (requires journal_globals_path), 4=none
jour- nal_glob	No		Path to a selection file	/tmp/iris_jrn_g	Required only when journal_option=3. Pro- vides directory/global selection criteria for journal replay
in- put_dump	No		Comma-separated list of local dump paths	/mnt/backup/a	Use local dump files instead of those restored from Bacula
re- store_cle	No	No	0, no, No, false, FALSE, false, off ; 1, yes, Yes, TRUE, true, on	yes	Delete restored dump and journal files after the IRIS restore finishes

Restore Use Cases

The following restore scenarios are supported and described below:

- a) Full restore using dumps and journals from the backup:
 1. Run a restore session selecting the IRIS backup job.
 2. Select all backup contents.
 3. Use **Where=**/.
- b) Restore using local dump files (no files restored from Bacula):
 - Use **input_dump=/path/file1.cbk,/path/file2.cbk** and set **instance** to the target instance(s)
 - The plugin will invoke IRIS restore commands using the specified files
- c) Selective restore (subset of directories):

- Provide `directories_path` pointing to a file that lists directories to restore (one per line)
 - The plugin switches to `EXTSELECT^DBREST`
- d) Journal replay control:
- Set `journal_option`: - 1 = replay journals just restored - 2 = replay all journals in journal directory (default) - 3 = replay selected globals/directories (requires `journal_globals_path`) - 4 = do not replay journals
- e) Use alternate destinations for restored files:
- Set `destination_path_dump` and/or `destination_path_journals` to control where files are restored before IRIS restore
- f) Clean up restore artifacts:
- Set `restore_cleanup=yes` to delete restored dump and journal files after completion

Restore Methods and Guidance

Full System Restore (Cold Backup)

This workflow applies to cold backups (file-level or hypervisor-level backups). It is outside the IRIS Plugin scope but is included here for completeness:

1. Restore the operating system files and all IRIS database files from backup so the host matches the original state.
2. Start InterSystems IRIS in maintenance or emergency mode.
3. Apply journal recovery as required by your IRIS configuration.

Advantages:

- Restores the system to a known full state with all files aligned.
- Useful when the entire host must be recovered.

Disadvantages:

- Requires full host restoration and downtime.
- Recovery time is longer and involves OS-level steps.

Online Backup Restore (Incremental/Cumulative)

This workflow applies to backups created by the IRIS Plugin (.cbk plus journals). It uses IRIS restore routines such as `EXTALL^DBREST` for full restore and `EXTSELECT^DBREST` for selective restore.

Procedure (Plugin-Based Restore)

1. Start a Bacula restore session and select the IRIS backup JobId(s).
2. Select the IRIS artifacts to restore (typically the .cbk file and journal files).
3. Use `Where=/` so the plugin can place artifacts in their expected paths.
4. Set plugin restore options in `Plugin Options` based on the restore scenario: - Full restore: keep `directories_path` empty to use `EXTALL^DBREST`. - Selective restore: provide `directories_path` with one directory per line to use `EXTSELECT^DBREST`. - Journal replay: set `journal_option` (1=just restored, 2=all in journal, 3=selected, 4=none). - If

`journal_option=3`, also set `journal_globals_path` for directory/global selection. - If restoring to alternate locations, set `destination_path_dump` and/or `destination_path_journals`.
- If using local dump files instead of Bacula-restored files, set `input_dump`.

5. Run the restore job. The plugin restores artifacts to disk and invokes the IRIS restore routines.
6. Optional: set `restore_cleanup=yes` to remove restored dump and journal files after IRIS completes the restore.

Notes:

- A running IRIS instance is required for online restore workflows.
- `allow_updates` controls IRIS update behavior during restore (`allowupd`).
- Ensure the File Daemon user can write to the configured destination paths.

Advantages:

- Supports full or selective restore without rebuilding the entire host.
- Journal replay options allow different recovery points within the available journal set.

Disadvantages:

- Requires a running IRIS instance for restore operations.
- Selective restore depends on a correct `directories_path` list and journal options.

Directory List File Example

The `directories_path` file contains one directory name per line. IRIS deletes this file after a successful restore.

Listing 20: Example directory list file

```
# /tmp/iris_dirs.txt
/usr/irissys/mgr/USER
/usr/irissys/mgr/APPDB
```

Backup Artifacts Map

The IRIS Plugin restores from a small set of artifacts that are captured during backup:

- `.cbk`: IRIS online backup dump file used by `EXTALL^DBREST` or `EXTSELECT^DBREST`
- Switched journal file (`.log` or `.logz`): required to replay journal changes after restoring the dump
- `journal.log`: general journal metadata file
- `IRIS.DAT` files: included in external/concurrent workflows for database directory consistency
- `<jobname>.deltaLink`: Bacula catalog helper for backup chain consistency (not used directly by restore)

Restore Example Session

Note

It is also possible to run backup or restore operations from any of the Bacula graphical user interfaces (GUIs).

Listing 21: Restore Bconsole session

```
restore jobid=1,2 Client=CLIENT_IRIS where="/"
Using Catalog "MyCatalog"
You have selected the following JobIds: 1,2

Building directory tree for JobId(s) 1,2 ...
8 nodes inserted into the tree.

You are now entering file selection mode where you add (mark) and
remove (unmark) files to be restored. No files are initially added, unless
you used the "all" keyword on the command line.
Enter "done" to leave this mode.

cwd is: /
$ cd "/@iris/"
cwd is: /@iris/
$ dir
----- 0 root      root                0  1970-01-01 01:00:00  /@iris/
→ IRIS/
$ estimate
8 total files; 0 marked to be restored; 0 bytes.
$ mark *
8 files marked.
$ done
Bootstrap records written to /tmp/regress/working/127.0.0.1-dir.restore.1.bsr

The Job will require the following (*=>InChanger):
  Volume(s)                Storage(s)                SD Device(s)
=====
  TEST-2026-02-25:0        File                      FileStorage

Volumes marked with "*" are in the Autochanger.

8 BSR records selected to be restored.

Using Catalog "MyCatalog"
Run Restore job
JobName:      RestoreFiles
Bootstrap:    /tmp/regress/working/127.0.0.1-dir.restore.1.bsr
Where:        /
Replace:      Always
FileSet:      Full Set
Backup Client: CLIENT_IRIS
Restore Client: CLIENT_IRIS
Storage:      File
When:         2026-02-25 16:08:31
Catalog:      MyCatalog
Priority:      10
Plugin Options: *None*
```

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```
OK to run? (Yes/mod/no): mod
Parameters to modify:
  1: Level
  2: Storage
  3: Job
  4: FileSet
  5: Restore Client
  6: When
  7: Priority
  8: Bootstrap
  9: Where
 10: File Relocation
 11: Replace
 12: JobId
 13: Plugin Options
Select parameter to modify (1-13): 13
Automatically selected : iris: instance="IRIS" namespace="%SYS" debug=6
Plugin Restore Options
Option                                Current Value      Default Value
destination_path_dump:                *None*             (*none*)
destination_path_journals:            *None*             (*none*)
directories_path:                      *None*             (*none*)
allow_updates:                        *None*             (0)
journal_option:                       *None*             (1)
journal_globals_path:                 *None*             (*none*)
input_dump:                           *None*             (*none*)
instance:                             *None*             (*none*)
namespace:                            *None*             (*none*)
iris_owner_user:                      *None*             (*none*)
iris_session_bin:                     *None*             (*none*)
iris_bin:                             *None*             (*none*)
restore_cleanup:                      *None*             (0)
debug:                                *None*             (*none*)
Use above plugin configuration? (Yes/mod/no): yes
Run Restore job
JobName:                               RestoreFiles
Bootstrap:                             /tmp/regress/working/127.0.0.1-dir.restore.1.bsr
Where:                                  /
Replace:                               Always
FileSet:                               Full Set
Backup Client:                         CLIENT_IRIS
Restore Client:                        CLIENT_IRIS
Storage:                               File
When:                                  2026-02-25 16:08:31
Catalog:                               MyCatalog
Priority:                               10
Plugin Options:                        *None*
OK to run? (Yes/mod/no): yes
Job queued. JobId=3
You have messages.
wait
127.0.0.1-dir: restore.c:216-3 send_bootstrap_file: /tmp/regress/working/127.
```

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```
↪0.0.1-dir.restore.1.bsr
quit
Connecting to Director 127.0.0.1:8101
1000 OK: 10003 127.0.0.1-dir Version: 18.2.3 (04 February 2026)
Enter a period to cancel a command.
@tee /tmp/regress/tmp/joblog_3.out
l1ist joblog jobid=3
Automatically selected Catalog: MyCatalog
Using Catalog "MyCatalog"
    time: 2026-02-25 16:08:33
logtext: 127.0.0.1-dir JobId 3: Start Restore Job RestoreFiles.2026-02-25_16.
↪08.31_09

    time: 2026-02-25 16:08:33
logtext: 127.0.0.1-dir JobId 3: Restoring files from JobId(s) 1,2

    time: 2026-02-25 16:08:33
logtext: 127.0.0.1-dir JobId 3: Connected to Storage "File" at 127.0.0.1:8103_
↪with TLS

    time: 2026-02-25 16:08:33
logtext: 127.0.0.1-dir JobId 3: Using Device "FileStorage" to read.

    time: 2026-02-25 16:08:33
logtext: 127.0.0.1-dir JobId 3: Connected to Client "CLIENT_IRIS" at 172.17.0.
↪2:9102 with TLS

    time: 2026-02-25 16:08:33
logtext: 127.0.0.1-sd JobId 3: Connected to Client at 172.17.0.2:9102 with TLS

    time: 2026-02-25 16:08:33
logtext: 127.0.0.1-sd JobId 3: Ready to read from volume "TEST-2026-02-25:0" _
↪on File device "FileStorage" (/tmp/regress/tmp).

    time: 2026-02-25 16:08:33
logtext: 127.0.0.1-sd JobId 3: Forward spacing Volume "TEST-2026-02-25:0" to_
↪addr=252

    time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Plugin log of this job available in: /
↪opt/bacula/working/iris/iris-debug-1.log

    time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Jar Version: 1.0.0 | Java version: 21.
↪0.9 | Java Pid: 1153

    time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Maximum java memory configured: 4 GiB

    time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Starting backend restore process
```

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```
time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Destination Path for Dumps was not set.
↳ Original path will be used

time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Destination Path for Journals was not
↳ set. Current journal will be queried and used

time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Journal Option: restore_all_
↳ directories_in_journal

time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Input dump path(s) was not set.
↳ Restored files from backup will be used

time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Directories path was not set, so all
↳ directories included in the backup will be restored

time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Allow updates: true

time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Cleanup restored files after
↳ finishing: false

time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Journal Globals Path was not set.

time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: Running ^%SYS("JOURNAL")...

time: 2026-02-25 16:08:34
logtext: iris-client-fd JobId 3: iris: ^%SYS("JOURNAL") was successful

time: 2026-02-25 16:08:36
logtext: 127.0.0.1-sd JobId 3: End of Volume "TEST-2026-02-25:0" at
↳ addr=115647991 on device "FileStorage" (/tmp/regress/tmp).

time: 2026-02-25 16:08:36
logtext: 127.0.0.1-sd JobId 3: Elapsed time=00:00:03, Transfer rate=38.50 M
↳ Bytes/second

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: No more items to restore. Restore ended

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: Will run EXTALL^DBREST from:/opt/
↳ bacula/working/iris/pluginTest.2026-02-25_16.08.00_03F.cbk with
↳ allowUpdates:true
```

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```
time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: Running restore EXTALL^DBREST ...

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: The following directories will be
↪ restored:

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Aviation_SAMPLE/C/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Aviation_SAMPLE/D/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DataType_SAMPLE/C/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DataType_SAMPLE/D/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DuckDB_SAMPLE/C/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DuckDB_SAMPLE/D/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/FEDERATION/C/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/FEDERATION/D/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Person_SAMPLE/C/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Person_SAMPLE/D/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irisaudit/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irislocaldata/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irismetrics/ =>

time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irissecurity/ =>
```

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```
time: 2026-02-25 16:08:36
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/user/ =>

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/ at
↳15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 7942 blocks restored in 0.2 seconds
↳for this pass, 7942 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/C/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1154 blocks restored in 0.0 seconds
↳for this pass, 1154 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/D/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 18915 blocks restored in 0.4 seconds
↳for this pass, 18915 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/C/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 115 blocks restored in 0.0 seconds for
↳this pass, 115 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/D/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 95 blocks restored in 0.0 seconds for
↳this pass, 95 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/C/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 77 blocks restored in 0.0 seconds for
↳this pass, 77 total restored.

time: 2026-02-25 16:08:53
```

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```
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/D/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 77 blocks restored in 0.0 seconds for_
↳this pass, 77 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/C/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 130 blocks restored in 0.0 seconds for_
↳this pass, 130 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/D/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 77 blocks restored in 0.0 seconds for_
↳this pass, 77 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/C/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 287 blocks restored in 0.0 seconds for_
↳this pass, 287 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/D/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 112 blocks restored in 0.0 seconds for_
↳this pass, 112 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irisaudit/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 701 blocks restored in 0.0 seconds for_
↳this pass, 701 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irislocaldata/ at 15:08:53

time: 2026-02-25 16:08:53
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```
logtext: iris-client-fd JobId 3: iris: 487 blocks restored in 0.0 seconds for_
↳this pass, 487 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irismetrics/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 77 blocks restored in 0.0 seconds for_
↳this pass, 77 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irissecurity/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 89 blocks restored in 0.0 seconds for_
↳this pass, 89 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/user/ at_
↳15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 130 blocks restored in 0.0 seconds for_
↳this pass, 130 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/ at_
↳15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 2 blocks restored in 0.0 seconds for_
↳this pass, 7944 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/C/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1155 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/D/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 18916 total restored.

    time: 2026-02-25 16:08:53
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```
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/C/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 116 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/D/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 96 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/C/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 78 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/D/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 78 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/C/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 131 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/D/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 78 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/C/ at 15:08:53

time: 2026-02-25 16:08:53
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```
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 288 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/D/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 113 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irisaudit/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 702 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irislocaldata/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 3 blocks restored in 0.0 seconds for_
↳this pass, 490 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irismetrics/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 78 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irissecurity/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 90 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/user/ at_
↳15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 131 total restored.

time: 2026-02-25 16:08:53
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```
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/ at_
↳15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 7945 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/C/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1156 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/D/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 18917 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/C/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 117 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/D/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 97 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/C/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 79 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/D/ at 15:08:53

    time: 2026-02-25 16:08:53
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```

logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 79 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/C/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 132 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/D/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 79 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/C/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 289 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/D/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 114 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irisaudit/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 703 total restored.

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irislocaldata/ at 15:08:53

    time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 5 blocks restored in 0.0 seconds for
↳this pass, 495 total restored.

    time: 2026-02-25 16:08:53

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```
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irismetrics/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 79 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irissecurity/ at 15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 91 total restored.

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/user/ at_
↳15:08:53

time: 2026-02-25 16:08:53
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 132 total restored.

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/      ... (Mounted)

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/Aviation_
↳SAMPLE/C/

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Aviation_SAMPLE/C/ ..
↳. (Mounted)

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/Aviation_
↳SAMPLE/D/

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Aviation_SAMPLE/D/ ..
↳. (Mounted)

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/DataType_
↳SAMPLE/C/

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DataType_SAMPLE/C/ ..
↳. (Mounted)
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```
time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/DataType_
↳SAMPLE/D/

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DataType_SAMPLE/D/ ..
↳. (Mounted)

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/DuckDB_
↳SAMPLE/C/

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DuckDB_SAMPLE/C/ ...
↳(Mounted)

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/DuckDB_
↳SAMPLE/D/

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DuckDB_SAMPLE/D/ ...
↳(Mounted)

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/FEDERATION/C/

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/FEDERATION/C/ ...
↳(Mounted)

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/FEDERATION/D/

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/FEDERATION/D/ ...
↳(Mounted)

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/Person_
↳SAMPLE/C/

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Person_SAMPLE/C/ ...
↳(Mounted)

time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/Person_
↳SAMPLE/D/

time: 2026-02-25 16:09:10
```

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```
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Person_SAMPLE/D/ ...  
↳(Mounted)  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/irisaudit/  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irisaudit/ ...  
↳(Mounted)  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/  
↳irislocaldata/  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irislocaldata/ ...  
↳(Mounted)  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/irismetrics/  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irismetrics/ ...  
↳(Mounted)  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/irissecurity/  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irissecurity/ ...  
↳(Mounted)  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/user/  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/user/ ... (Mounted)  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: We know something about where  
↳journaling was at the time of the backup:  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: 0: offset 198612 in /usr/irissys/mgr/  
↳journal/20260225.003  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: You are attempting to restore from the  
↳current journal file.  
  
time: 2026-02-25 16:09:10  
logtext: iris-client-fd JobId 3: iris: Journaling will be disabled.
```

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```
→temporarily.

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/journal/20260225.004

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: 98.91%

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Journal reads completed. Applying
→changes to databases...

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: 50.00% 100.00%100.00%

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: ***Journal file finished at 15:09:10

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: EXTALL^DBREST was successful

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Will run EXTALL^DBREST from:/opt/
→bacula/working/iris/pluginTest.2026-02-25_16.08.17_06I.cbk with
→allowUpdates:true

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: Running restore EXTALL^DBREST ...

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: The following directories will be
→restored:

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Aviation_SAMPLE/C/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Aviation_SAMPLE/D/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DataType_SAMPLE/C/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DataType_SAMPLE/D/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DuckDB_SAMPLE/C/ =>

    time: 2026-02-25 16:09:10
```

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```
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DuckDB_SAMPLE/D/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/FEDERATION/C/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/FEDERATION/D/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Person_SAMPLE/C/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Person_SAMPLE/D/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irisaudit/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irislocaldata/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irismetrics/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irissecurity/ =>

    time: 2026-02-25 16:09:10
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/user/ =>

    time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/ at_
↳15:09:27

    time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 5 blocks restored in 0.0 seconds for_
↳this pass, 5 total restored.

    time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/C/ at 15:09:27

    time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 3 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.

    time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/D/ at 15:09:27

    time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 7 blocks restored in 0.0 seconds for_
↳this pass, 7 total restored.
```

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```
time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/C/ at 15:09:27
```

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```
time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irisaudit/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 26 blocks restored in 0.0 seconds for_
↳this pass, 26 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irislocaldata/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 20 blocks restored in 0.0 seconds for_
↳this pass, 20 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irismetrics/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irissecurity/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 2 blocks restored in 0.0 seconds for_
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/user/ at_
↳15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 1 total restored.
```

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```
time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/ at
↳15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 6 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 4 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 8 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/D/ at 15:09:27
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```
time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irisaudit/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 27 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irislocaldata/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 2 blocks restored in 0.0 seconds for_
↳this pass, 22 total restored.
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```
time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irismetrics/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irissecurity/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 3 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/user/ at
↳15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 2 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/ at
↳15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 7 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 5 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Aviation_
↳SAMPLE/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for
↳this pass, 9 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/C/ at 15:09:27
```

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```
time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DataType_
↳SAMPLE/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/DuckDB_
↳SAMPLE/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳FEDERATION/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/C/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.
```

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```
time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/Person_
↳SAMPLE/D/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irisaudit/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 28 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irislocaldata/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 3 blocks restored in 0.0 seconds for_
↳this pass, 25 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irismetrics/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/
↳irissecurity/ at 15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 4 total restored.

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: ***Restoring /usr/irissys/mgr/user/ at_
↳15:09:27

time: 2026-02-25 16:09:27
logtext: iris-client-fd JobId 3: iris: 1 blocks restored in 0.0 seconds for_
↳this pass, 3 total restored.

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/
```

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```
time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/    ... (Mounted)

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/Aviation_
↳SAMPLE/C/

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Aviation_SAMPLE/C/  ..
↳. (Mounted)

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/Aviation_
↳SAMPLE/D/

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Aviation_SAMPLE/D/  ..
↳. (Mounted)

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/DataType_
↳SAMPLE/C/

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DataType_SAMPLE/C/  ..
↳. (Mounted)

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/DataType_
↳SAMPLE/D/

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DataType_SAMPLE/D/  ..
↳. (Mounted)

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/DuckDB_
↳SAMPLE/C/

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DuckDB_SAMPLE/C/  ...↳
↳(Mounted)

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/DuckDB_
↳SAMPLE/D/

time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/DuckDB_SAMPLE/D/  ...↳
↳(Mounted)

time: 2026-02-25 16:09:43
```

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```
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/FEDERATION/C/

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/FEDERATION/C/ ...
↳ (Mounted)

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/FEDERATION/D/

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/FEDERATION/D/ ...
↳ (Mounted)

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/Person_
↳ SAMPLE/C/

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Person_SAMPLE/C/ ...
↳ (Mounted)

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/Person_
↳ SAMPLE/D/

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/Person_SAMPLE/D/ ...
↳ (Mounted)

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/irisaudit/

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irisaudit/ ...
↳ (Mounted)

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/
↳ irislocaldata/

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irislocaldata/ ...
↳ (Mounted)

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/irismetrics/

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irismetrics/ ...
↳ (Mounted)

    time: 2026-02-25 16:09:43
```

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```
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/irissecurity/

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/irissecurity/ ...
↳(Mounted)

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Mounting /usr/irissys/mgr/user/

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/user/ ... (Mounted)

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: We know something about where
↳journaling was at the time of the backup:

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: 0: offset 198096 in /usr/irissys/mgr/
↳journal/20260225.004

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: You are attempting to restore from the
↳current journal file.

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Journaling will be disabled
↳temporarily.

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: /usr/irissys/mgr/journal/20260225.005

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: 96.31%

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Journal reads completed. Applying
↳changes to databases...

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: 33.33% 66.67% 100.00%100.00%

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: ***Journal file finished at 15:09:43

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: Journal reads completed. Applying
↳changes to databases...

    time: 2026-02-25 16:09:43
logtext: iris-client-fd JobId 3: iris: 100.00%

    time: 2026-02-25 16:09:43
```

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```
logtext: iris-client-fd JobId 3: iris: EXTALL^DBREST was successful

    time: 2026-02-25 16:09:43
logtext: 127.0.0.1-dir JobId 3: Bacula 127.0.0.1-dir 18.2.3 (04Feb26):
Build OS:          x86_64-pc-linux-gnu ubuntu 24.04
JobId:             3
Job:               RestoreFiles.2026-02-25_16.08.31_09
Restore Client:    "CLIENT_IRIS" 18.2.1 (08Oct25) x86_64-pc-linux-gnu-
↳ bacula-enterprise,ubuntu,24.04
Where:             /
Replace:           Always
Start time:        25-feb-2026 16:08:33
End time:          25-feb-2026 16:09:43
Elapsed time:      1 min 10 secs
Files Expected:    8
Files Restored:    8
Bytes Restored:    259,997,611 (259.9 MB)
Rate:              3714.3 KB/s
FD Errors:         0
FD termination status: OK
SD termination status: OK
Termination:       Restore OK

    time: 2026-02-25 16:09:43
logtext: 127.0.0.1-dir JobId 3: Begin pruning Jobs older than 6 months .

    time: 2026-02-25 16:09:43
logtext: 127.0.0.1-dir JobId 3: No Jobs found to prune.

    time: 2026-02-25 16:09:43
logtext: 127.0.0.1-dir JobId 3: Begin pruning Files.

    time: 2026-02-25 16:09:43
logtext: 127.0.0.1-dir JobId 3: No Files found to prune.

    time: 2026-02-25 16:09:43
logtext: 127.0.0.1-dir JobId 3: End auto prune.

    jobid: 3
      job: RestoreFiles.2026-02-25_16.08.31_09
      name: RestoreFiles
    purgedfiles: 0
      type: R
      level: F
    clientid: 2
    clientname: CLIENT_IRIS
    jobstatus: T
  jobstatuslong: Completed successfully
    schedtime: 2026-02-25 16:08:31
    starttime: 2026-02-25 16:08:33
      endtime: 2026-02-25 16:09:43
    realendtime: 2026-02-25 16:09:43
```

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```
realstarttime: 2026-02-25 16:08:33
jobtdate: 1,772,032,183
volsessionid: 3
volsessiontime: 1,772,032,079
jobfiles: 8
jobbytes: 259,997,611
readbytes: 115,513,422
joberrors: 0
jobmissingfiles: 0
poolid: 0
poolname:
priorjobid: 0
priorjob:
controljobid: 0
filesetid: 0
fileset:
hascache: 0
comment:
reviewed: 0
isvirtualfull: 0
rate: 3714.3
compressratio: 0
statusinfo:
writestorage:
writedevice:
lastreadstorage: File
lastreaddevice: FileStorage
controljobid: 0
prune: 0
```

7.3 List and Query

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

It is possible to list IRIS instances or databases using the Bconsole `.ls` command or through a `.query` command.

Any Fileset parameter can be employed in the `plugin=""` value to filter the results, similar to how the backup operates.

Below are several examples:

List instances:

Listing 22: **List example: instances**

```
.ls plugin="iris: instance=IRIS" client=127.0.0.1-fd path=/instance
Connecting to Client 127.0.0.1-fd at 127.0.0.1:9102
-rw-r----- 1 nobody  nobody          1050 2025-02-25 18:19:57  /
↪@iris/IRIS/instance.json
2000 OK estimate files=1 bytes=1,050
```

Query instances:

Listing 23: **Query example: list all instances**

```
.query plugin="iris: instance=IRIS" client=127.0.0.1-fd parameter="instance"
instance=IRIS
name=IRIS
up=true
status=running
version=2025.1
```

List available databases:

Listing 24: **Query example: list available databases**

```
.query plugin="iris: instance=IRIS" client=127.0.0.1-fd parameter="database-
↪available"
database=USER
instance=IRIS
path=/usr/irissys/mgr/USER
included=true
readOnly=false
```

List databases currently included in IRIS backups:

Listing 25: **Query example: list included databases**

```
.query plugin="iris: instance=IRIS" client=127.0.0.1-fd parameter="database-
↪included"
```

Add or remove a database from the IRIS backup list:

Listing 26: **Query example: add database**

```
.query plugin="iris: instance=IRIS" client=127.0.0.1-fd parameter="database-
↪add:APPDB"
```

Listing 27: **Query example: remove database**

```
.query plugin="iris: instance=IRIS" client=127.0.0.1-fd parameter="database-
↪remove:APPDB"
```

Freeze and thaw (useful for external snapshot workflows):

Listing 28: **Query example: freeze/thaw**

```
.query plugin="iris: instance=IRIS freeze_timeout=60" client=127.0.0.1-fd_
↪parameter="freeze"
.query plugin="iris: instance=IRIS" client=127.0.0.1-fd parameter="thaw"
```

8 Best Practices

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

The following article presents best practices for job distribution, concurrency, and performance.

- Use one Bacula job per IRIS instance when possible. This reduces contention and makes restore selection easier.
- Prefer Online Backup for most environments. Use External/Concurrent External only when storage snapshots are required.
- Keep `iris_owner_user` and `irissession` paths correct and test them manually before scheduling backups.
- When using selective restores, generate directory list files directly from IRIS tools to avoid typos.
- Maintain a separate IRIS instance for restore validation in production environments.
- Avoid aggressive `concurrent_threads` settings unless you have verified sufficient CPU and disk bandwidth.
- Set `cleanup=yes` only if you have confirmed that Bacula successfully stored the backup artifacts.

8.1 Concurrency Best Practices

- Avoid overlapping backup jobs on the same instance; IRIS allows only one online backup at a time.
- Stagger backup schedules for multiple instances on the same host to prevent I/O contention.
- For high-load environments, start with conservative values (e.g., `concurrent_threads=50`) and increase gradually.
- Ensure the File Daemon and Storage Daemon have sufficient throughput before raising concurrency parameters.

8.2 Restore Playbook Recommendations

- Test restores regularly on a non-production IRIS instance using the same Fileset and job definitions.
- Validate both full restore and selective restore paths (`directories_path` and journal replay options).
- Keep a documented runbook including required restore parameters and expected artifact locations.

- For critical systems, retain a known-good full backup and a recent incremental chain to reduce RTO.

8.3 High-Load Checklist

Use this checklist before increasing workload concurrency or backing up multiple instances on the same host:

- **CPU:** verify adequate headroom during peak load; avoid raising `concurrent_threads` if CPU is already saturated.
- **Disk I/O:** ensure the IRIS data volume and Bacula storage path can sustain backup throughput without latency spikes.
- **Network:** validate sustained bandwidth between File Daemon and Storage Daemon for the expected backup window.
- **JVM Memory:** increase `IRIS_JVM_MAX` if large backups or many parallel jobs risk OutOfMemory errors.
- **Scheduling:** avoid overlapping backups for the same instance; stagger jobs for multiple instances.

9 Limitations

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

The following article presents limitations of the IRIS Plugin.

- Linux-only in the current release. Windows support will be addressed in future versions.
- Restore operations require a running IRIS instance and access to `irissession` under `iris_owner_user`.
- Read-only databases are excluded automatically from backups.
- Selective restore requires a valid `directories_path` file; journal selection requires `journal_globals_path` when `journal_option=3`.
- The plugin updates the IRIS backup database list to match selection parameters. Review this if you manage the list manually.
- `switchjournal` is currently reserved and does not change behavior (IRIS always switches journals during online backup).

10 Troubleshooting

Enterprise

Bacula Enterprise Only

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This section provides suggested solutions to common situations that can cause issues when using the IRIS Plugin.

Common issues:

- **Permission denied writing dump/journal files:** verify `destination_path_dump` and `destination_path_journals` are writable by the File Daemon user.
- **IRIS backup already running:** the plugin waits and retries, but concurrent IRIS backups can delay or fail jobs.
- **Full backup required:** if the IRIS volume indicates a mismatch with the local delta catalog, the plugin upgrades to Full automatically.
- **Instance not found:** verify instance values match output of `iris qlist`.
- **Out of Memory:** see out-of-memory.

10.1 Monitoring Recommendations

- Review Bacula job logs for warnings such as “backup already running” or “Full Backup is mandatory”.
- Check the plugin debug log path (`log` parameter) for detailed IRIS command output.
- Track job duration and throughput; sudden changes often indicate storage or IRIS load issues.
- Ensure filesystem space is available under `path` for temporary files and restored artifacts.

10.2 Out of Memory

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

If you encounter *OutOfMemory* errors from the Java daemon (recorded in the `iris-debug.err` file), you may need to increase the JVM memory. You may also need to increase the underlying host physical memory.

To increase the JVM memory, you will need to:

Create the following file: `/opt/bacula/etc/iris_backend.conf`.

Below is an example of the contents:

Listing 29: **Limits file contents**

```
IRIS_JVM_MIN=2G  
IRIS_JVM_MAX=8G
```

These values define the MIN (IRIS_JVM_MIN) and MAX (IRIS_JVM_MAX) memory values assigned to the JVM heap. Exercise caution if you are running jobs in parallel, as large values and several jobs at once could quickly consume all available memory on your host.

The `/opt/bacula/etc/iris_backend.conf` file remains unchanged during package upgrades, ensuring that your memory settings are retained.