

# Instance Monitoring in InformixHQ

## 1. List of Instances in Informix:

### PRODUCTION:

rataktp1\_vm  
rataktp2\_vm  
rataktp4\_vm  
ratcalp2\_vm

### TEST:

adetrtest\_vm

We can check the Instance Information in InformixHQ as below:

### Root Group Production rataktp1.

The screenshot shows the InformixHQ interface for the 'rataktp1' instance under the 'Production' root group. The main panel displays the status of the Informix Server (Online) and HQ Agent (Online). It also shows storage information: 0 spaces < 5% free, last backup 6 hours ago at 04:15:01, and 0 spaces not backed up. The 'Auto Update Statistics' is enabled. A note indicates that the server is not part of a high availability cluster. On the right, there's a 'Storage Performance' chart showing Checkpoint Time (in seconds) over time, with values ranging from approximately 0.005 to 0.011. Below the chart, a message says 'No incidents have occurred yet.' The left sidebar provides navigation links for Setup, Dashboards, Monitoring, Alerting, Permissions, Incidents, Configuration, DB Server Log, and Performance. The bottom of the screen shows a Windows taskbar with various icons and the date/time (5/19/2023, 1:16 PM).

## 2. Monitoring Parts of Instance:

### 2.1. Under Instance also we can have multiple parts to configure:

- Setup:** Inside Setup, we can check the Server & Agent Details.

The screenshot shows the 'Setup' page for the 'rataktp1' instance. The 'Server' tab is selected. The 'Add Informix Server Information' section requires the Informix Server ID (3), Informix Server Name (rataktp1\_vm), and Informix Hostname (tramo-vm). The left sidebar includes links for Setup, Dashboards, Monitoring, Alerting, Permissions, Incidents, and Configuration. The top navigation bar shows the InformixHQ logo, the current server (informixhq-server), shutdown and view agents buttons, and the user account (admin).

- Dashboards:** We can configure the Dashboards under particular Instance.

c. **Monitoring:** Find the sensors to monitor the server.

d. **Alerting:** Add the Alerts as per our requirement & We can be able to Inherit the Alerts as well from groups.

e. **Permissions:** Find the User Permissions.

## 2.2. Incidents

The *incidents* allow you to view all the alerting incidents that occurs on an entire group of Informix servers from one centralized page.

## 2.3. Configuration

Here we can configure all the parameters which are under .config file.

## 2.4. DB Server Log

In this, there are multiple tabs.

- Online Log:** To check whether any error occurs or not.

- On-Bar Activity Log:** It will check backup related errors.

**InformixHQ**

InformixIQ Server Shutdown View Agents admin

rataktpl1.vm > Logs > ON-Bar Activity Log

**ON-Bar Activity Log**

ON-Bar Activity Log Rotation: Disabled

```

2023-05-19 10:04:26 17552 17550 (-43061) BAR_MAX_BACKUP has been reduced to 1691 to avoid allocating more
than SHFTOTAL KB.
2023-05-19 10:04:26 17552 17550 (-43141) The edition of Informix Dynamic Server currently running restricts the
number of parallel backup or restore processes to 1. Resetting BAR_MAX_BACKUP
to 1.
2023-05-19 10:04:26 17552 17550 /opt/informix/IDS/14.10/bin/onbar_d -b -1
2023-05-19 10:04:26 17552 17550 Using EMC's NetWorker XBSA version 1.0 as the Storage Manager. XBSA API version is 1.0.1.
2023-05-19 10:04:26 17552 17550 Working with networker xbsa as generic storage manager.
2023-05-19 10:04:26 17552 17550 Begin backup logical log 18140.
2023-05-19 10:04:26 17552 17550 Successfully connected to Storage Manager.
2023-05-19 10:04:33 17552 17550 Completed backup logical log 18147 (Storage Manager copy ID: 1684483466 1684483467).
2023-05-19 10:04:33 17552 17550 Successfully connected to Storage Manager.
2023-05-19 10:04:33 17552 17550 /opt/informix/IDS/14.10/bin/onbar_d complete, returning 0 (0x00)
2023-05-19 10:15:58 3507 3505 (-43061) BAR_MAX_BACKUP has been reduced to 1691 to avoid allocating more
than SHFTOTAL KB.
2023-05-19 10:15:58 3507 3505 (-43141) The edition of Informix Dynamic Server currently running restricts the
number of parallel backup or restore processes to 1. Resetting BAR_MAX_BACKUP
to 1.
2023-05-19 10:15:58 3507 3505 /opt/informix/IDS/14.10/bin/onbar_d -b -1
2023-05-19 10:15:58 3507 3505 Using EMC's NetWorker XBSA version 1.0 as the Storage Manager. XBSA API version is 1.0.1.
2023-05-19 10:15:58 3507 3505 Working with networker xbsa as generic storage manager.
2023-05-19 10:15:58 3507 3505 Begin backup logical log 18148.
2023-05-19 10:15:58 3507 3505 Successfully connected to Storage Manager.

```

Incidents Configuration DB Server Log Online Log Performance Replication Schema Manager

c. **Admin API Log:** This log having Admin related information.

**InformixHQ**

InformixIQ Server Shutdown View Agents admin

rataktpl1.vm > Logs > Admin API Log

**Admin API Log**

Filter by: Status All Time Last 7 days

User	Time	Command Executed	Result	Result Message
informix @ adetrmdb1	2023-05-17 15:08:46	task('set sql tracing user list')	✓	ALL USERS
informix @ adetrmdb1	2023-05-17 15:08:46	task('set sql tracing database list')	✓	arsoc erwerb subvent subventmulti
informix @ adetrmdb1	2023-05-17 15:08:46	task('set sql tracing user list')	✓	ALL USERS
informix @ adetrmdb1	2023-05-17 15:08:46	task('set sql tracing database list')	✓	arsoc erwerb subvent subventmulti

Incidents Configuration DB Server Log Online Log ON-Bar Activity Log Admin API Log Performance Replication Schema Manager

## 2.5. Performance

a. **Checkpoints:** A checkpoint is a point in time in the log when a known and consistent state for the database system is established. Typically, a checkpoint involves **recording a certain amount of information so that, if a failure occurs, the database server can restart at that established point.**

**InformixHQ**

InformixIQ Server Shutdown View Agents admin

rataktpl1.vm > Performance > Checkpoints

**Checkpoints**

View last: 4 hours

Automatic Checkpoints (AUTO\_CKPTS) OFF

Recovery Time Objective (RTO\_SERVER\_RESTART) Disabled

Checkpoint Interval (CKPTINTVL) 5 minutes

Run a checkpoint Type: Normal Run Checkpoint

Incidents Configuration DB Server Log Performance Checkpoints Sessions Threads Virtual Processors Replication Schema Manager

b. **Sessions:** A session represents the connection between an application and the relational database that stores its persistent objects.

ID	User Name	PID	Hostname	Connected	Memory	I/O Wait Time	CPU Time	Actions
40	informix	0		2022-09-22 04:41:47	104 KB	0.006	0.322	
41	informix	0		2022-09-22 04:41:47	716 KB	53.41	0.74	
42	informix	0		2022-09-22 04:41:47	920 KB	1503.768	0.583	
43	informix	0		2022-09-22 04:41:47	836 KB	1520.655	0.558	

c. **Threads:** Threads are objects within a process that run program instructions.

ID	Address	Name	State	State Detail	Last Run Time	CPU Time	Number of Schedules
3	10e4c83e0	pio_vp_0	sleeping	IO Idle	2022-09-22 04:41:35	0.000	0
4	10e4e93e0	aio_vp_0	sleeping	IO Idle	2023-05-19 10:26:40	5055.760	1258075
6	10e53b3e0	fifo_vp_0	sleeping	IO Idle	2022-09-22 04:41:38	0.000	0
7	10e6248a8	main_loop()	sleeping	sleeping secs: 1	2023-05-19 10:26:40	2.226	53126
8	10e6a3028	tiltcppoll	running	running	2023-05-19 10:26:40	38074.593	6126447

d. **Virtual Processors:** A virtual processor is a representation of a physical processor to the operating system of a logical partition that uses shared processors.

Class	VPs	User CPU Time	System CPU Time	Total CPU Time
adm	1	1.67	1.95	3.62
aio	1	46.89	57.02	103.91
cpu	6	2253.72	1248.4	3502.12
fifo	1	5.07	8.72	13.79
i/o	1	5.92	9.98	15.9
msc	1	0.02	0.01	0.03

Virtual Processor Total CPU Usage

## 2.6. Replication

a. **Connection Manager:** The Connection Manager gathers workload statistics from each server in the connection unit and uses service level agreements (SLAs) to manage and direct client connection requests to appropriate servers.

b. **Enterprise Replication:** It generates and manages multiple copies of data at one or more sites, which allows an enterprise to share corporate data throughout its organization.

c. **High Availability:** With Informix High-Availability Data Replication (HDR), you set up a secondary database – an identical copy of the entire production database – on a second hardware system. This greatly improves the availability of the database service.

## 2.7. Schema Manager

The Schema Manager allows you to browse and view detailed information about the various tables and indexes in each of your databases.

The screenshot shows the InformixHQ web interface with the 'Schema Manager' selected in the left sidebar. The main content area is titled 'Schema Manager' and shows 'Database Details'. The 'Information' tab is selected, displaying the following details for the 'sysmaster' database:

Database Name	Owner	Created Date	Dbspace
sysmaster	informix	2022-09-22	rootdbs

Logging Mode	Locale	Space Occupied	Case Sensitive
Unbuffered	en_US.819	5.09 MB	Yes

GLS	Load Tasks	Unload Tasks
Disabled	0	0

## 2.8. DB Server Administration

a. **Auto Update Statistics:** The Auto Update Statistics (AUS) maintenance system uses a combination of Scheduler sensors, tasks, thresholds, and tables to evaluate and update statistics. The Scheduler tasks, sensors, thresholds, and tables reside in the sysadmin database. By default, only user informix is granted access to the sysadmin database.

The screenshot shows the InformixHQ web interface with the 'Server Administration' selected in the left sidebar. The main content area is titled 'Auto Update Statistics' and shows a 'Statistics Summary' table and a pie chart.

Category	Count
Tables Missing Statistics	0
Large Tables Needing Statistics Refreshed	252
Small Tables Needing Statistics Refreshed	722
Tables With Refreshed Statistics	0

A pie chart visualizes the distribution of tables needing statistics refresh. The chart is divided into two segments: a large purple segment representing 'Small Tables Needing Statistics Refreshed' and a smaller yellow segment representing 'Large Tables Needing Statistics Refreshed'.

b. **Privileges:** User informix has the privilege required to alter the tables of the system catalog, including the systables table.

The screenshot shows the InformixHQ web interface with the 'Server Administration' selected in the left sidebar. The main content area is titled 'Manage Privileges' and shows a 'Grant New Privilege' form and a 'Database-Level Privileges' table.

**Grant New Privilege:**

- User Name for Privilege: arsoc
- Select Privilege: dropdown menu
- Grant button

**Database-Level Privileges:**

User Name	Privilege	Default Role	Revoke
informix	SELECT, INSERT, UPDATE, DELETE	INFORMIX PUBLIC	Revoke

**c. Task Scheduler:** The Task Scheduler **enables you to automatically perform routine tasks on a chosen computer**. The Task Scheduler does so by monitoring whatever criteria you choose (referred to as triggers) and then executing the tasks when those criteria are met.

The screenshot shows the InformixHQ interface with the 'Task Scheduler' section selected. A single task, 'mon\_command\_history', is listed in the table. The task is set to run at 02:00:00 every 1 hour. It is enabled and has its last execution recorded as 2023-05-20 at 10:36:12. The table includes columns for Name, Group, Start Time, Run Frequency, and various day-of-the-week and Enabled checkboxes.

## 2.9. Storage

Storage catalog tables. **A set of flat files that track information about all storage objects, devices, and device pools**. These files are required to restore backup objects that are created by Informix Primary Storage Manager. By default, these files are stored in the \$INFORMIXDIR/etc/psm directory.

The screenshot shows the InformixHQ interface with the 'Storage' section selected. It displays a 'Storage Summary' box with information about database spaces, storage pool, last backup, and spaces not backed up. Below it is a chart titled 'Overall Storage Space Usage' showing the distribution of space across Dbspaces, Blob spaces, and Temp spaces. At the bottom is a section for 'OS Device Utilization'.

**a. Spaces:** Here we can find all the DBSAPCES information.

The screenshot shows the InformixHQ interface with the 'Spaces' section selected under 'Storage'. It lists four database spaces: data0bs1, data0bs2, log0bs, and root0bs. Each entry includes details like name, type (dbspace), size, page size, and status.

Number	Name	Status	Type	% Used	Size	Page Size	Expandable	Create Size	Extend Size	Last Backup
3	data0bs1	●	dbspace	●	9.54 GB	6 KB	✓	10%	9.77 MB	2023-05-19 04:15:01
4	data0bs2	●	dbspace	●	9.54 GB	6 KB	✓	10%	9.77 MB	2023-05-19 04:15:01
5	log0bs	●	dbspace	●	9.54 GB	2 KB	✓	10%	9.77 MB	2023-05-19 04:15:01
1	root0bs	●	dbspace	●	7.63 GB	2 KB	✓	10%	9.77 MB	2023-05-19 04:15:01

**b. Pool:** Database connection pooling is a way to reduce the cost of opening and closing connections by maintaining a “pool” of open connections that can be passed from database operation to database operation as needed.

**c. Tables & Indexes:** An index is a copy of selected columns of data, from a table, that is designed to enable very efficient search.

An index normally includes a "key" or direct link to the original row of data from which it was copied, to allow the complete row to be retrieved efficiently.

Name	Dbspace name	Database	Type	Rows	Extents	Space Usage	Compressed	Used Size	Page Usage
121_70	data dbs2	arsoc	Index	0	1	12 KB	Off	12 KB	12 KB
queue_in_tmp	data dbs2	arsoc	Table	0	1	6 KB	Off	6 KB	6 KB

**d. Backups:** It can enable you to recover your databases after data is lost or becomes corrupted due to hardware or software failure or accident.

**e. Logs:** These logs **keep records of database changes**. If a database needs to be restored to a point beyond the last full, offline backup, logs are required to roll the data forward to the point of failure.

The screenshot shows the 'Logs' section of the InformixHQ interface. On the left, a sidebar lists options like Schema Manager, DB Server Administration, Storage, Pool, Tables & Indexes, Backups, Logs (which is selected), SQL Tracing, System Reports, and System Resources. The main panel displays 'Log Usage' with a chart showing Used (red), Free (green), and Backed Up (blue) space for Physical Log (1.263 MB) and Logical Log (1.94 MB). Below this, a table lists Logical Logs with columns for Number, Unique ID, Size, % Used, Location, Last Filled, Notes, Backed Up, and Fill Rate.

## 2.10. SQL Tracing

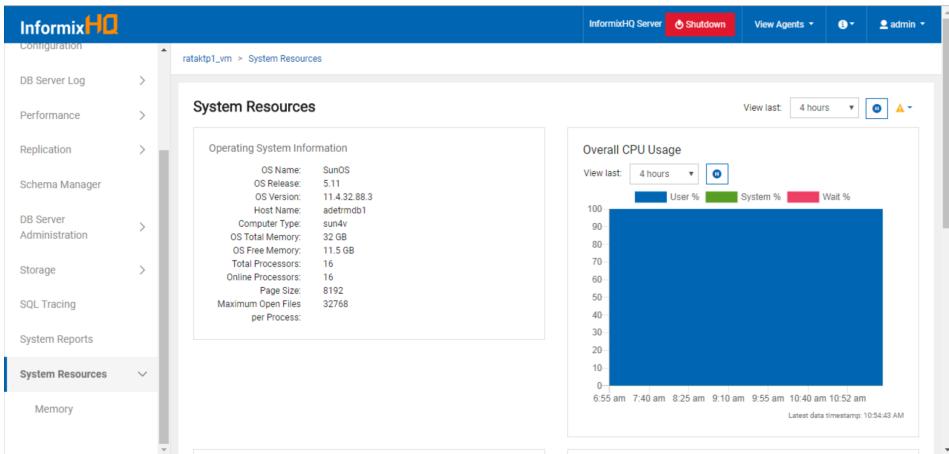
Within Informix, the SQLTRACE configuration parameter **controls the number of SQL statement completions that should be presented in rolling pseudo-table sysmaster: syssqltrace** and the level of detail held for each.

The screenshot shows the 'SQL Tracing' configuration page. The sidebar includes Configuration, DB Server Log, Performance, Replication, Schema Manager, DB Server Administration, Storage, SQL Tracing (selected), System Reports, and System Resources. The main area shows 'Configuration' status as Enabled, Mode Global, Level Med, and Number of traces 500. It also displays 'Tracing Info' with details like Tracing Start Time (2023-04-03 16:51:49), Earliest Trace in (2023-05-19 10:52:49), Duration of Trace (10 seconds), Total SQL seen (122882993), and SQL per second (50). Below this is a 'SQL Statements By Type' section with buttons for 'Drill down on statements' and 'Drill down on transactions'.

## 2.11. System Report

The screenshot shows the 'System Reports' page. The sidebar includes Configuration, DB Server Log, Performance, Replication, Schema Manager, DB Server Administration, Storage, SQL Tracing, System Reports (selected), and System Resources. The main panel features a search bar and a table with columns for Name and Description. The table lists various reports: Lock List, Locks per Session, Locks per Table, Locks with Waiters, Resource Usage, Session Activity, and Slowest SQL Statements. At the bottom, there are navigation buttons for First, Previous, Next, and Last, and a 'Rows per page' dropdown set to 20.

## 2.12. System Resource



### Memory:

