SCHOONER WHITE PAPER

Top 7 Reasons Why DBAs Love the SchoonerSQL™ Cluster Admin GUI

- Simplified management with effective database monitoring

About Schooner Information Technology

Schooner Information Technology provides SchoonerSQL™: a high-availability high-performance OLTP database, 100% compatible with standard MySQL and InnoDB, for demanding mission-critical applications. SchoonerSQL provides industry-leading 99.999% availability with auto fail-over, guarantees no data loss and no stale data with "synchronous read masters", delivers industry-leading performance and scalability on commodity servers and storage, radically simplifies cluster administration, and minimizes your database Total Cost of Ownership (TCO).

Schooner is headquartered in Sunnyvale, California.

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December 2011

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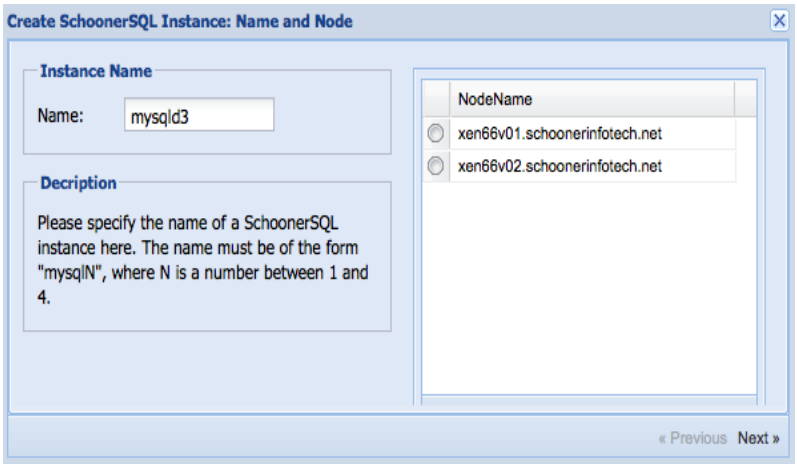
Managing environments with numerous database servers is a time-consuming and painstaking process. Added to that, maintenance is another big concern for many DBAs. There are many database management tools available to serve specific needs but none are designed to make life really easy for front-line DBAs and architects. SchoonerSQL was designed for breakthrough ease of use. It has a complete robust centralized Cluster Admin GUI that makes it radically easier for DBAs to do their jobs.

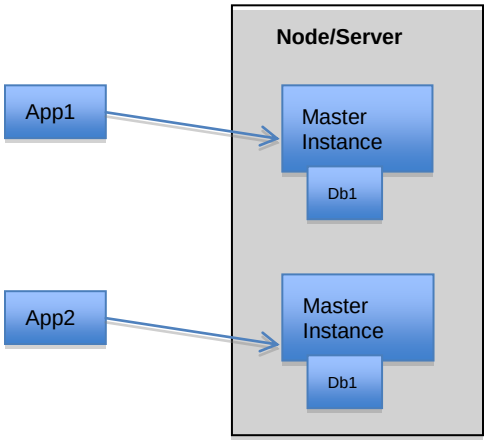
Simplified management with effective database monitoring has made the SchoonerSQL Cluster Admin GUI a clear winner. This white paper discusses the top 7 reasons why DBAs love the SchoonerSQL GUI.

1. Online Database Provisioning with Simplified Replication Management

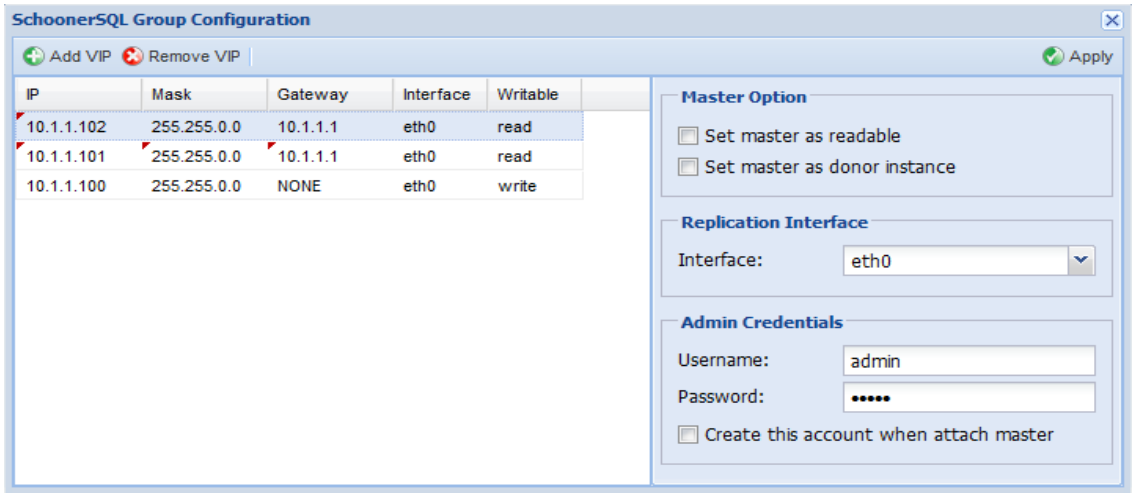
Using the SchoonerSQL GUI, administrators can

- Create an instance online with a single click and attach it to a current or a new node, and utilize the second instance for a different application serving different needs.





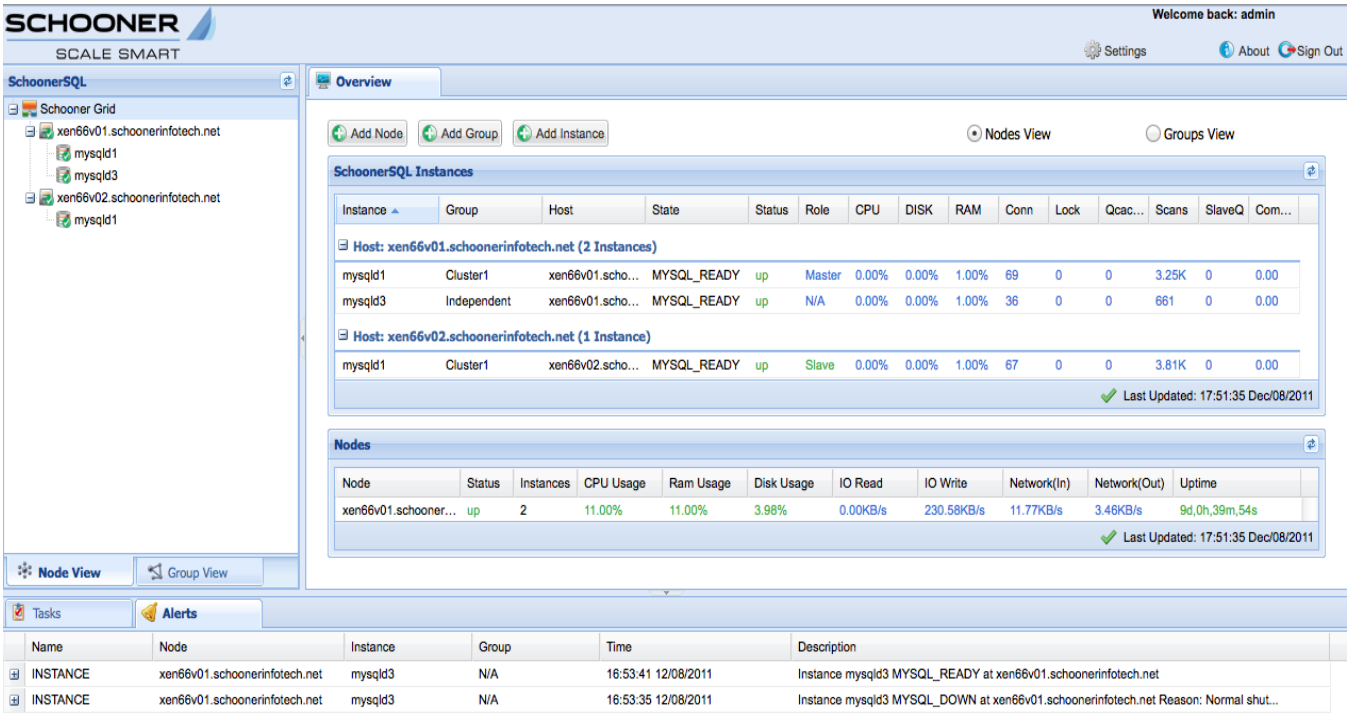
- Assign write & read virtual IPs to a Master, Read Masters, and Asynchronous Masters/Slaves. This ensures write and read load balancing.
- Create online synchronous, asynchronous clusters and assign instances for these clusters with a few clicks.
- Provision a permanent Master or block writes to a Master and assign it as the only donor during recovery.
- Reap the benefit of automatic failover and reconfiguration of slaves whenever an asynchronous master fails and a new master is promoted.



2. Single Unified View of the Complete Database Environment

The SchoonerSQL GUI manages multiple database nodes within a single window. DBAs can carefully monitor node behavior, resource allocation, status of database nodes and even fine-tune specific parameters whenever necessary. The SchoonerSQL GUI presents all of the useful database and system details that let DBAs know what's going on and tune their servers in real time. These details include:

- ***Number of open connections***
- ***Number of database locks and scans per second***
- ***Database query cache size***
- ***Pending transactions at the slave***
- ***CPU, Disk, RAM usage***
- ***IO read and write kb/s***
- ***System uptime***

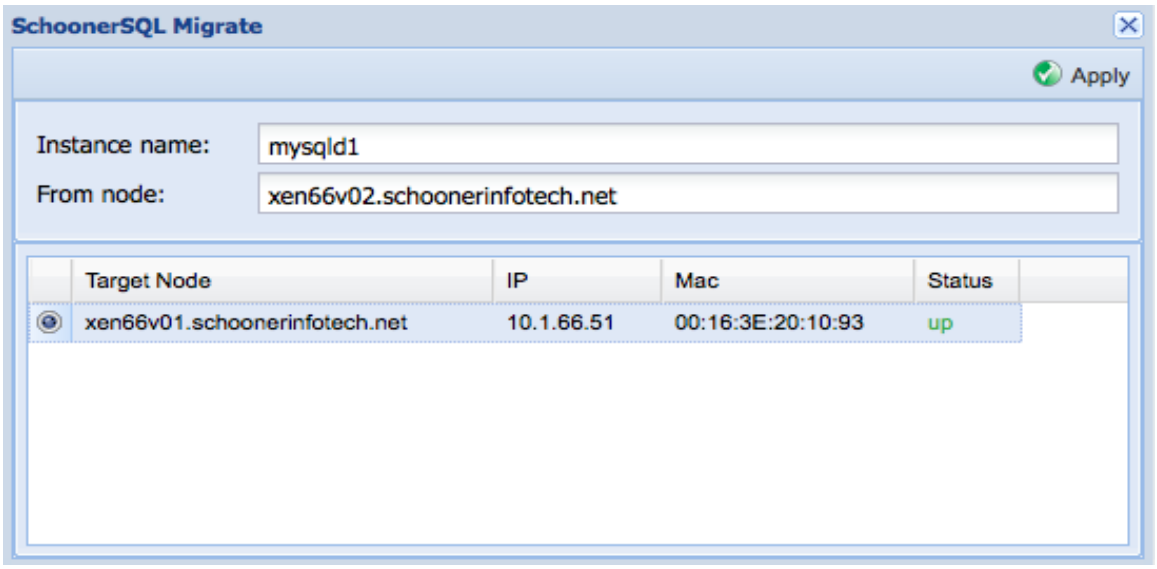


The above parameters are critical information for any database administrator. They can easily be managed through the SchoonerSQL GUI rather than having to write special scripts or running command line tools which is time consuming and painful.

3. Online Database Migration

The SchoonerSQL GUI provides an easy way of migrating a live instance from one node to another node in a replication group. The GUI provides an option of selecting the source node and the target node for migration.

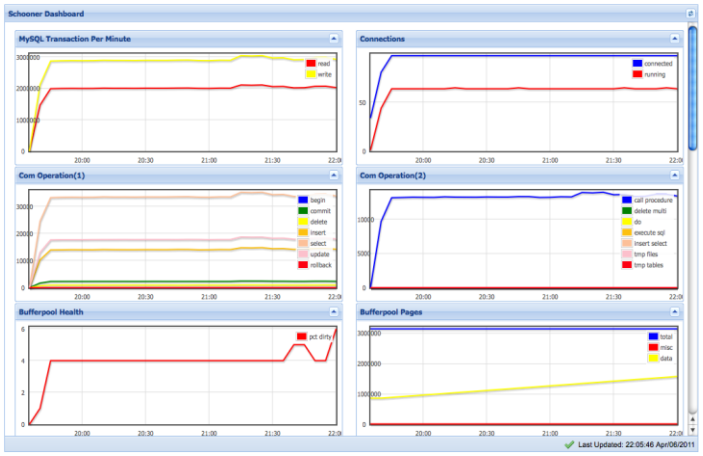
Restore supports both static and dynamic backups. Depending upon the replication type, the SchoonerSQL GUI will ensure that the node synchronizes with the master instance automatically. Online database migration saves DBAs a huge amount of work and time.

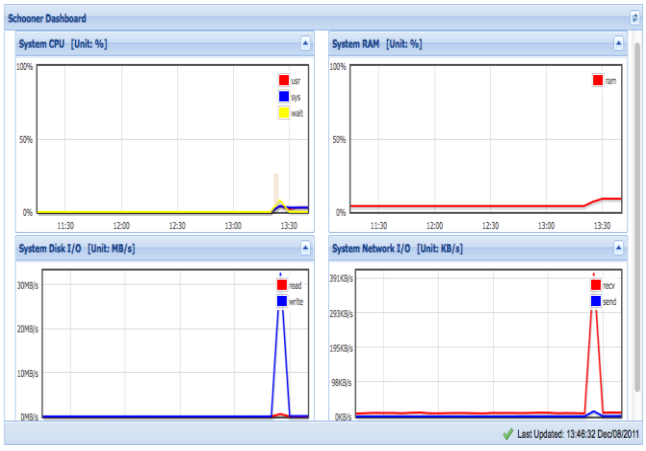


4. Granular Database Monitoring

The SchoonerSQL GUI Dashboard provides fine-grain detail about each specific instance of SchoonerSQL. For each instance the DBA sees important database metrics in clear graphs. The GUI offers insights including:

- ***Intrinsic view of database queries at a specific time*** - DBAs can now see what type of queries run at a specific time, whether they're select/write/update, and when they were run.
- ***Comprehensive InnoDB-related parameters*** - These include buffer pool page and their health, data and pending reads/writes, row updates, log writes, and pending fsync and writes. This helps smooth database operation.
- ***Current running connections*** - These can also be checked to ensure smooth running database processes.
- ***Replication-specific monitoring, system related details and flow control graphs*** - This data also provides valuable insights in the state of a database cluster.



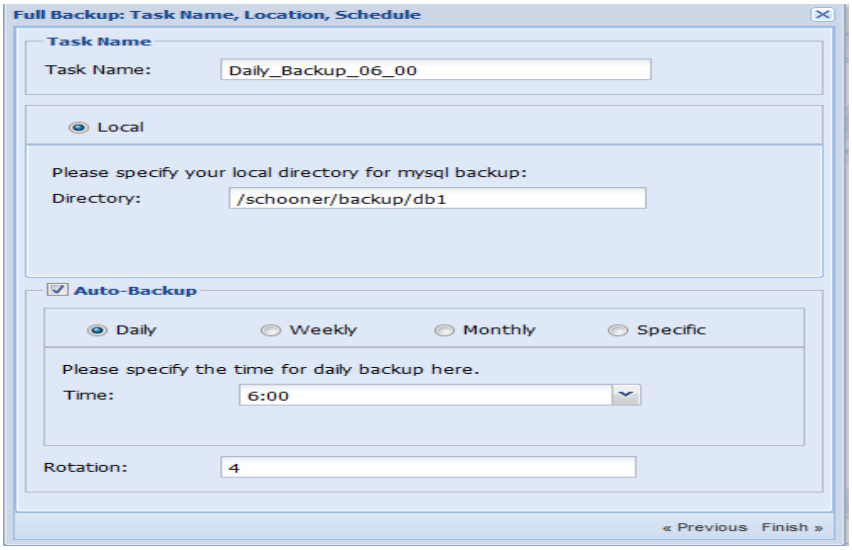


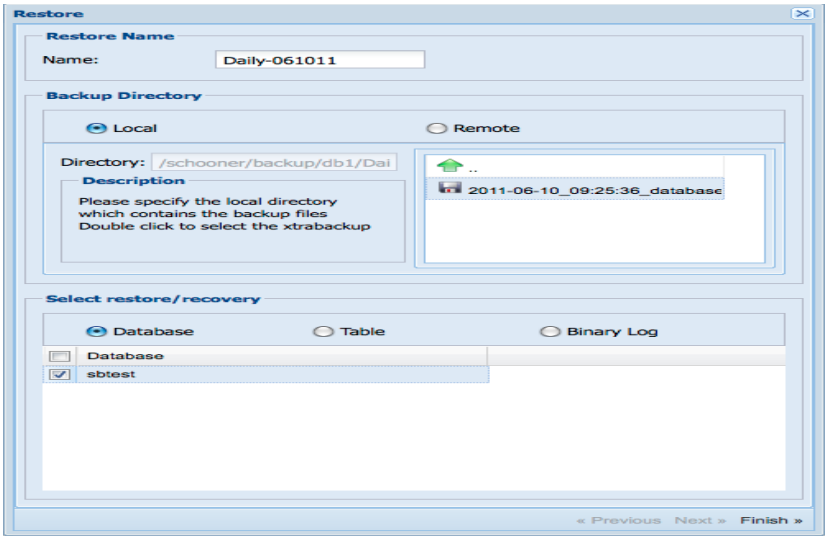
5. Online Backup with Restore

Regular backing up of databases is a critical operational step for any organization that values its data. SchoonerSQL offers backup options to do either:

- ***Online Backup*** – Users can backup the data and at the same time perform database operations without any locking. The tool offers flexibility to do scheduled backups (daily, weekly, monthly or specific periods)
  - Full Backup
  - Incremental backup – useful when changes are minimal
- ***MySQL Dump*** – Users have an option to also perform logical backups.
  - Databases
  - Tables
  - Binary logs
  - Schooner logs

The GUI also supports full database restore and capability to automatically synchronize the Read Master/Slave with its Master.

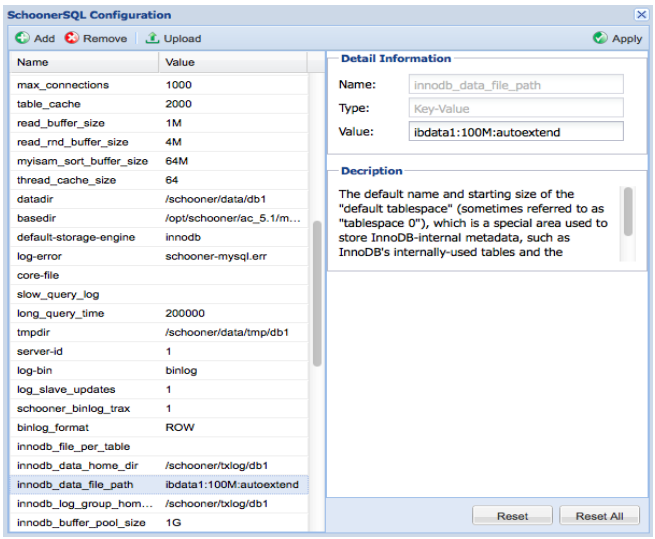


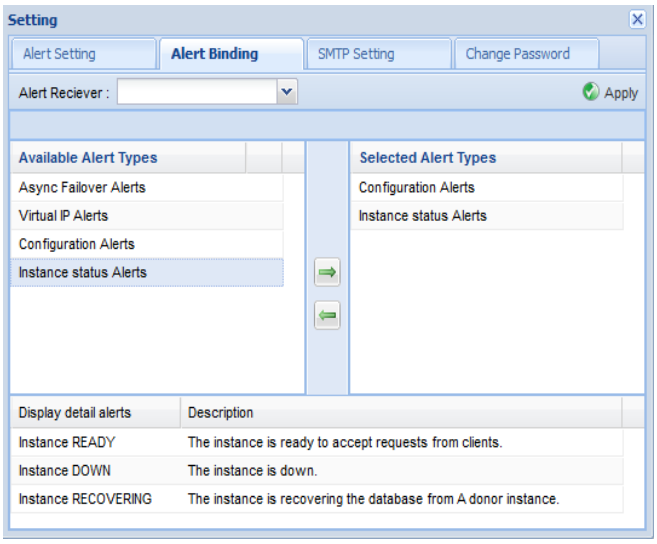


6. Integrated Configuration Management with Email-Based Alerts

DBAs can easily alter configuration parameters through the GUI or upload a pre-defined file into the SchoonerSQL configuration panel. This eliminates the need for users to go to the command line multiple times for several configuration changes containing multiple instances.

Email-based alerts for critical MySQL events make the administrator's life very easy. Users can configure their email IDs and receive automatic notifications when an instance/group is created or deleted, when an instance is up/down, when asynchronous failover occurs, or when changes in the VIPs have occurred. The alert contains the name, date & time, node and group name, and description.



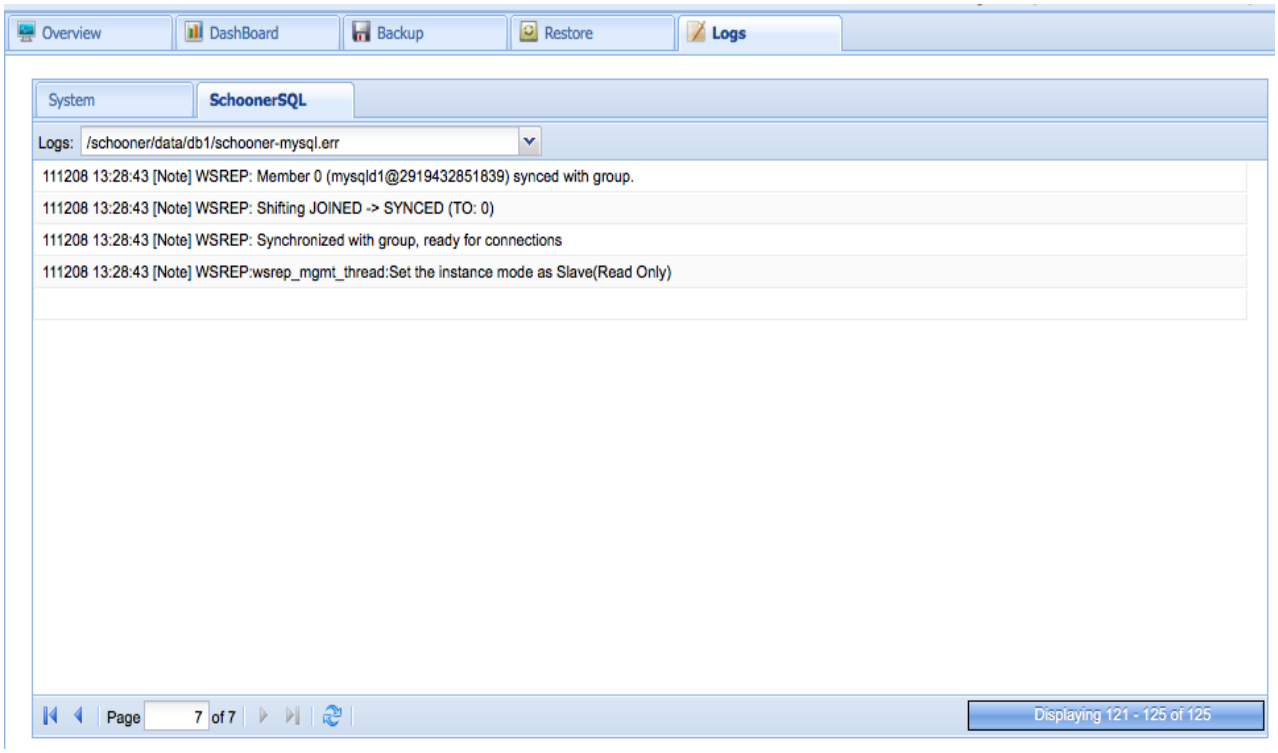


7. Centralized Log Management

The SchoonerSQL GUI has a built-in log management tool making it easy for DBAs to analyze and debug issues. It has two types of logs:

- **Database Log**
  - ***Error log*** - Allows users to check any critical errors while an instance is running
  - ***Event log*** - Displays database status (recovery, ready)
  - ***Snapshot transfer log*** - Aids in slave recovery

- **System Log**
  - Displays authentication or port related information
  - Shows whether SchoonerSQL instance has started
  - Other system related information


Overview
DashBoard
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SchoonerSQL
Logs: /schooner/data/db1/schooner-mysql.err
111208 13:28:43 [Note] WSREP: Member 0 (mysqld1@2919432851839) synced with group.
111208 13:28:43 [Note] WSREP: Shifting JOINED -> SYNCED (TO: 0)
111208 13:28:43 [Note] WSREP: Synchronized with group, ready for connections
111208 13:28:43 [Note] WSREP:wsrep_mgmt_thread:Set the instance mode as Slave(Read Only)
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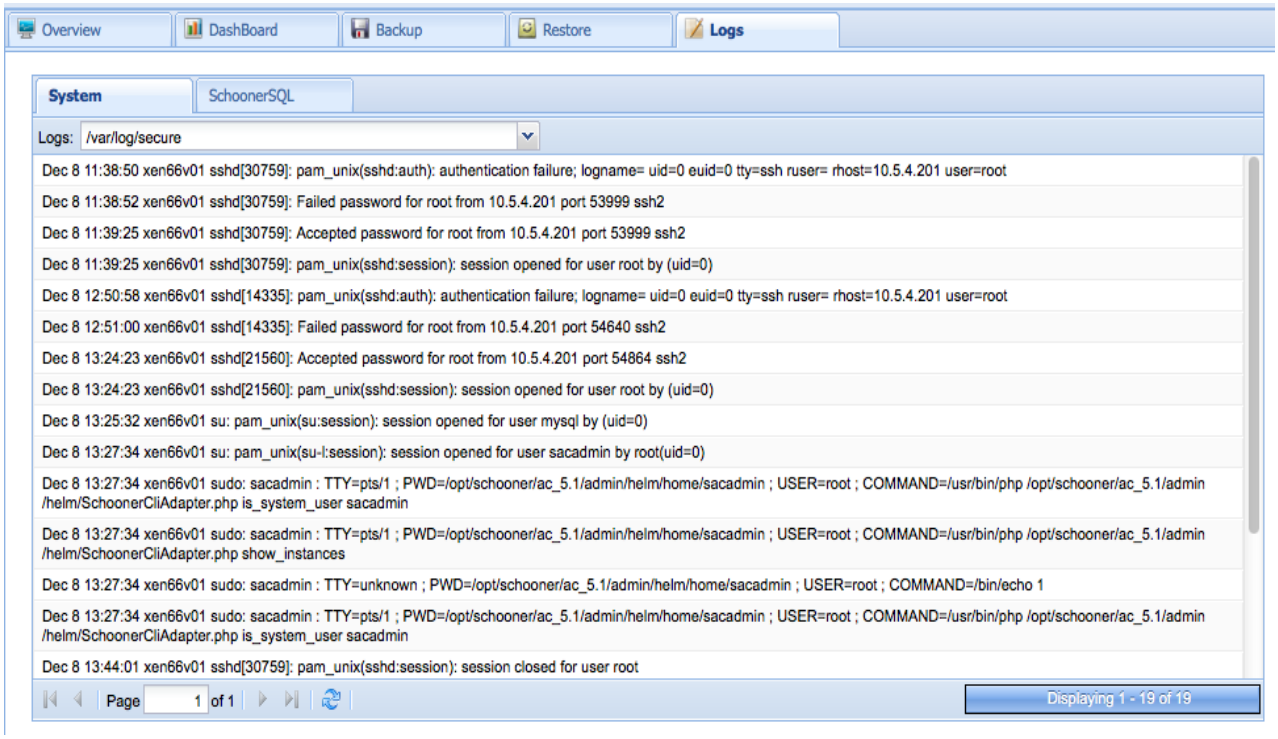
Overview
DashBoard
Backup
Restore
Logs
System
SchoonerSQL
Logs: /var/log/secure
Dec 8 11:38:50 xen66v01 sshd[30759]: pam_unix(sshd:auth): authentication failure; logname= uid=0 euid=0 tty=ssh ruser= rhost=10.5.4.201 user=root
Dec 8 11:38:52 xen66v01 sshd[30759]: Failed password for root from 10.5.4.201 port 53999 ssh2
Dec 8 11:39:25 xen66v01 sshd[30759]: Accepted password for root from 10.5.4.201 port 53999 ssh2
Dec 8 11:39:25 xen66v01 sshd[30759]: pam_unix(sshd:session): session opened for user root by (uid=0)
Dec 8 12:50:58 xen66v01 sshd[14335]: pam_unix(sshd:auth): authentication failure; logname= uid=0 euid=0 tty=ssh ruser= rhost=10.5.4.201 user=root
Dec 8 12:51:00 xen66v01 sshd[14335]: Failed password for root from 10.5.4.201 port 54640 ssh2
Dec 8 13:24:23 xen66v01 sshd[21560]: Accepted password for root from 10.5.4.201 port 54864 ssh2
Dec 8 13:24:23 xen66v01 sshd[21560]: pam_unix(sshd:session): session opened for user root by (uid=0)
Dec 8 13:25:32 xen66v01 su: pam_unix(su:session): session opened for user mysql by (uid=0)
Dec 8 13:27:34 xen66v01 su: pam_unix(su-l:session): session opened for user sacadmin by root(uid=0)
Dec 8 13:27:34 xen66v01 sudo: sacadmin : TTY=pts/1 ; PWD=/opt/schooner/ac_5.1/admin/helm/home/sacadmin ; USER=root ; COMMAND=/usr/bin/php /opt/schooner/ac_5.1/admin /helm/SchoonerCliAdapter.php is_system_user sacadmin
Dec 8 13:27:34 xen66v01 sudo: sacadmin : TTY=pts/1 ; PWD=/opt/schooner/ac_5.1/admin/helm/home/sacadmin ; USER=root ; COMMAND=/usr/bin/php /opt/schooner/ac_5.1/admin /helm/SchoonerCliAdapter.php show_instances
Dec 8 13:27:34 xen66v01 sudo: sacadmin : TTY=unknown ; PWD=/opt/schooner/ac_5.1/admin/helm/home/sacadmin ; USER=root ; COMMAND=/bin/echo 1
Dec 8 13:27:34 xen66v01 sudo: sacadmin : TTY=pts/1 ; PWD=/opt/schooner/ac_5.1/admin/helm/home/sacadmin ; USER=root ; COMMAND=/usr/bin/php /opt/schooner/ac_5.1/admin /helm/SchoonerCliAdapter.php is_system_user sacadmin
Dec 8 13:44:01 xen66v01 sshd[30759]: pam_unix(sshd:session): session closed for user root
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SchoonerSQL™ is a high-availability high-performance SQL database that is 100% compatible with the widely-used MySQL and its standard InnoDB storage engine. SchoonerSQL is broadly deployed across industry segments, with customers realizing the business benefits 24/7/365. Let Schooner help your business too! Below is a simple summary of SchoonerSQL's advantages in mission-critical use.

99.999% High Availability

- Slash unplanned downtime with immediate automatic fail-over
- Slash planned downtime with automated upgrade and migration
- Various replication flexibility

Highest Data Integrity

- No slave lag
- Zero data loss
- No stale data
- No data corruption

Hassle-Free Operations

- Immediate automated failover, recovery across LAN, MAN, or WAN
- No error-prone manual processes for failover, recovery, provisioning

Highest Scalability

- Transparent sharding with unlimited read and write scaling
- Easy vertical scaling using processor cores and SSDs

Great Performance

- Get the most out of your HDDs, SSDs, or SAN
- 4x more throughput vs. MySQL 5.5
- Reduce your server footprint
- High performance WAN support

Easiest Management

- 1-click node addition, removal, promotion
- Extensive monitoring capabilities
- Easy alerts
- Integrated hot backup

100% MySQL Enterprise/Community Compatible

Evaluating the options and trade-offs for your Data Center?

Let Schooner Help!

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