

Tungsten Replicator Master Class

Intermediate: Replicator Monitoring & Troubleshooting

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Topics

In this short course, we will discuss monitoring & troubleshooting:

- Review common issues
- Triggers
- Finding and understanding log files
- Handling (and recovering from) failures:
 - Skipping transactions
 - Resetting
- Scripts for monitoring

Most Common Issues

Common Incidents

- Set up monitoring / alerts
- Check status outputs
- Check log files
- Check OS
- Check MySQL state

Things to Check

- Network failures
- Disk capacity
- OOM
- MySQL crashes
- MySQL max connections
- Human error:
 - Deletion of THL
 - Incorrect shutdown procedures
 - Writing direct to a replica

Triggers

Triggers are an issue in all MySQL<>MySQL replication topologies

The combination of the binlog_format (ROW vs MIXED) and the TRIGGER type (DETERMINISTIC vs NONDETERMINISTIC) will result in triggers behaving differently.

Either:

- Avoid Triggers altogether if possible, or
- Code Triggers to intelligently fire ONLY on Primary hosts

Read the docs for a full explanation:

<https://www.continuent.com/resources/docs/latest/tr/troubleshooting-known-issues-triggers.html>

Log Files

- Symlink in `/opt/continuent/service_logs/`
 - `trepsvc.log` for complete replicator log
- Use `logrotate` to manage
- ``replicator dump``
 - Dumps memory stack to log file
 - Can be useful in support cases
 - Automatically issued by ``tpm diag``

Recovering from Failures

- Enable auto-recovery properties
 - `auto-recovery-max-attempts`
 - `auto-recovery-delay-interval`
 - `auto-recovery-reset-interval`
- Review log files to understand errors
- Simply try restarting replicator – *YES this sometimes works!*
- If statement clash, is skipping safe?
- If database crashed, have you lost binary logs?
- Have you lost THL files?
- Worse case – reset and re-provision

Monitoring Scripts

- Nagios-compatible scripts are located in
`$CONTINUED_ROOT/tungsten/cluster-home/bin/check_tungsten_*`
- These scripts will only check the local host. They do not check other hosts.
- `check_tungsten_online` – report ok if all services are online
- `check_tungsten_services -r` – report ok if replicator services are healthy
- `check_tungsten_latency` – used for Nagios style warning and critical replicator latency thresholds
- Prometheus exporters
- API calls
- Write your own!

Summary

What we have learnt today:

- Reviewed common issues
- Discussed triggers
- Looked at log files
- Discussed failures
 - Skipping transactions
 - Resetting
- Reviewed scripts for monitoring

Thank you for listening

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