

# 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  
\$CONTINUENT\_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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