

# 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:

- Network Failures
- Disk Capacity
- OOM
- MySQL Crashes
- MySQL Max Connections
- Human Error
  - Deletion of THL
  - Incorrect Shutdown Procedures
  - Writing direct to a replica

## Things to check:

- Set up Monitoring / Alerts
- Check status outputs
- Check Log Files
- Check OS
- Check MySQL state



# 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://docs.continuent.com/tungsten-clustering-6.1/troubleshooting-known-issues-triggers.html>



# Log Files

- /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
- Review log files to understand errors
- Simply try restarting replicator – YES this sometimes works!
- Which node is experiencing an error?
- 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
- Write your own! - New API coming in v7



# Summary

What we have learnt today

- Reviewed Common Issues
- Discussed Triggers
- Looked at Log Files
- Discussed Failures
  - Skipping Transactions
  - Resetting
- Reviewed Scripts for Monitoring





# Next Steps

In the next session we will

- Explore Filtering!



# THANK YOU FOR LISTENING

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