#### **Tungsten Cluster Master Class**

Intermediate: Tungsten Cluster Maintenance

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# Topics

In this short course, we will

- Discuss Maintenance Operations
  - Start and stop the software
  - Isolating Cluster Nodes
  - Updating Cluster parameters
  - Rolling Maintenance & Performing Switches
  - Upgrading Tungsten Software

## **Rolling Maintenance**

Rolling maintenance proceeds node-by-node starting with replicas and proceeding to primary.

Replica	Replica	Switch	Primary
upgrade	upgrade		upgrade
<ul> <li>Shun replica</li> <li>Upgrade MySQL</li> <li>Return node to cluster</li> <li>Discard and re- provision on failure</li> </ul>	<ul> <li>Repeat for remaining replica(s)</li> </ul>	• Switch primary to promote an upgraded replica	<ul> <li>Upgrade old primary</li> <li>Maintenance is now done!</li> </ul>



# Tungsten Upgrades - INI

- Download and extract software on EVERY node
- Check Release Notes!
- Place cluster into MAINTENANCE Mode
- On each node in turn, issue:
  - tools/tpm update --replace-release
  - Add --no-connectors if either a connector host <u>OR</u> connectors co-exist on database nodes
- Once complete, issue either tpm promote-connector <u>OR</u> connector restart one by one on each connector host
- Return cluster to AUTOMATIC



# **Tungsten Upgrades - Staging**

- Download and extract software on Staging node
- Check Release Notes!
- Place cluster into MAINTENANCE Mode
- Gather configuration by using tools/tpm fetch OR copy setup.sh into new release staging directory
- Issue:
  - tools/tpm update --replace-release --no-connectors
  - Omit --no-connectors if you want all connectors to be restarted at the same time
- Once complete, issue either tpm promote-connector <u>OR</u> connector restart one by one on each connector host
- Return cluster to AUTOMATIC



## Summary

What we have learnt today

- Start/stop the software
- How Isolate Cluster Nodes
- Update Cluster parameters
- Performed Rolling Maintenance & Switches
- Upgraded Tungsten Software

### Next Steps

In the next session we will

- Discuss Monitoring & Troubleshooting
  - Handling (and recovering from) Failovers
  - Skipping Transactions
  - Finding and understanding Log Files
  - Scripts for Monitoring
  - ...and more

#### THANK YOU FOR LISTENING

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