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North America 2025

Your Kubernetes Playbook at Your Fingertips

Advanced Troubleshooting With MCP, RAG, and k8sgpt

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- Maintainer CNCF project Meshery
- Open Source Contributor
- Loves Machines
- The Firefox logo isn't a fox

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David vonThenen

- Are you Human or an AI?
- I want 5 Kubernetes
- Virtual Machines are Real
- Cloudy, cloudy, cloudy...
- There is storage for that!

     [@davidvonthenen](https://twitter.com/davidvonthenen)



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What Is k8sgpt?



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What are the use cases?

Your Customized AI Runbook

Your Organization's Best Practices via RAG and k8sgpt



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What Is An Operational Runbook?

- **Standardized, Step-By-Step Guide For:**
 - Performing IT Tasks
 - Troubleshooting Issues
 - Responding To Emergencies
- **Typical Runbook Characteristics:**
 - Designed to Support All Skill Levels
 - Reduce Complexity To Accomplishing A Task
 - Enable Consistency From Naming to Policy
- **Example Runbooks Uses:**
 - Routine Maintenance: Patching Servers, Renew Certs
 - Emergency Response: Failing Over, Disaster Recovery



From Runbook to Reasoning: Build AI Agents

- **Why Build An AI Runbook Agent?**
 - Runbook Becomes A "Living" Document
 - Bridges Human Procedures To Machine Reasoning
 - Codifies Consistency, Expertise, Automation
 - Generate YAML or kubectl Commands
 - Agent "Thinks Like Your Organization"
- **Using k8sgpt and MCP, Perform Actions Where You Can:**
 - Retrieve Status On Aspects Of Your Cluster
 - Perform "Set" Operations Based On Runbook
 - Orchestrate Multi-Step Remediations With Your Agent



Demo: AI Agent Runbook



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What About The Other Considerations?



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Thank You!



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