



DataOps 101

A Better Way to Develop and Deliver Data Analytics





Agenda

- Background
- What is DataOps
- Why it Matters
- How it can Help You





About Me

Experience

- 12+ years with Microsoft BI stack
- 9+ years with PowerPivot/Power BI
- 6+ years with Azure DevOps

Credentials

- MCSE: Productivity
- MS: PBI Data Analyst
- PMP (Project Management Professional)



Contact Me

 @JKerski

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GitHub: <https://github.com/kerski>





Background





Alex





Bob





Risks

Data is a Strategic Asset but...



Demand is High



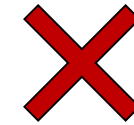
Complex Data Lineage



Data Quality Issues

Issues

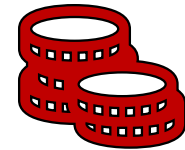
Leads to...



Defects & Errors



Slow Delivery



More Cost



Disappointment





DataOps





What is DataOps?

DevOps

+

Agile

+

Lean Manufacturing



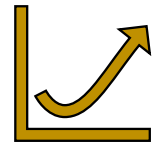
[Manifesto](#)



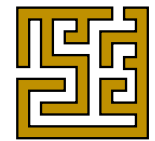


Why it Matters

Data is a Strategic Asset



Demand is High



Complex Data Landscape



Data Quality Issues

DataOps Principles

Leads to...



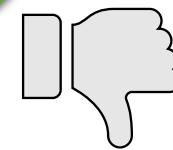
Defects & Errors



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How can it help me?





Make it reproducible

Reproducible results are required and therefore we version everything: data, low-level hardware and software configurations, and the code and configuration specific to each tool in the toolchain.

Learn Git

Get your work into Version Control





Quality is paramount

Analytic pipelines should be built with a **foundation capable of automated detection of abnormalities** and security issues in code, configuration, and data, and should provide continuous feedback to operators for error avoidance.

When you Find an Error, Build a Test
Tests are your Safety Net





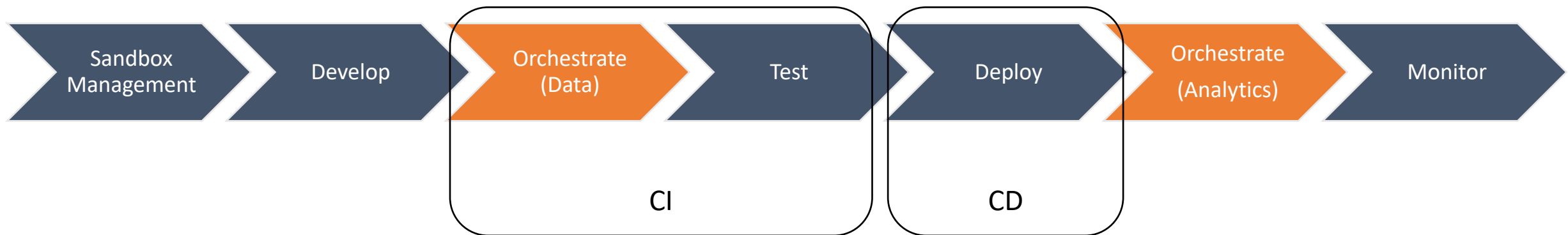
Orchestrate

The beginning-to-end orchestration of data, tools, code, environments, and the analytic teams work is a key driver of analytic success.

Continuous Integration

Continuous Deployment

Scripts over Clicks





Monitor quality and performance

Our goal is to have performance, security and quality measures that are **monitored continuously** to detect unexpected variation and generate operational statistics.

Catch the Errors Before Your Customers Do
Practice What You Build





Reduce Heroism

As the pace and breadth of need for analytic insights ever increases, we believe analytic teams should strive to reduce heroism and create sustainable and scalable data analytic teams and processes.

Avoid Burnout





Recap - How Can It Help You

1. **Make It Reproducible** - Learn/Embrace Git
2. **Quality is Paramount** - Find an Error, Build a Test
3. **Orchestration** - Implement CI/CD
4. **Monitor Quality and Performance** - Catch Errors Before Your Clients Do
5. **Reduce Heroism** – Avoid Burnout





Resources

- General
- [DataOps Cookbook](#)
- [DataOps – Chris Bergh](#)

Version Control

- [GitHub Desktop Tutorial](#)
- [pbi-tools](#)

- Testing & Orchestration
- [Video](#)
- [Visual Testing](#)

Monitoring

- [Template](#)





Thank you

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