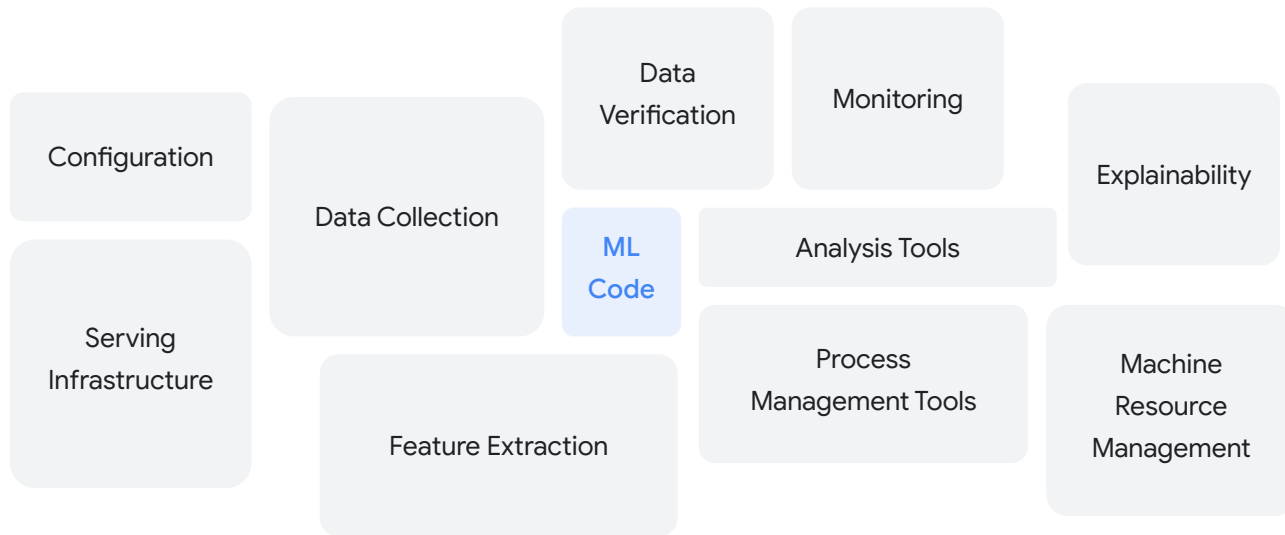# Key Concepts of MLOps for Scaling TinyML

Configuration

Data Collection

Data Verification

Monitoring

Explainability

ML Code

Analysis Tools

Serving Infrastructure

Process Management Tools

Machine Resource Management

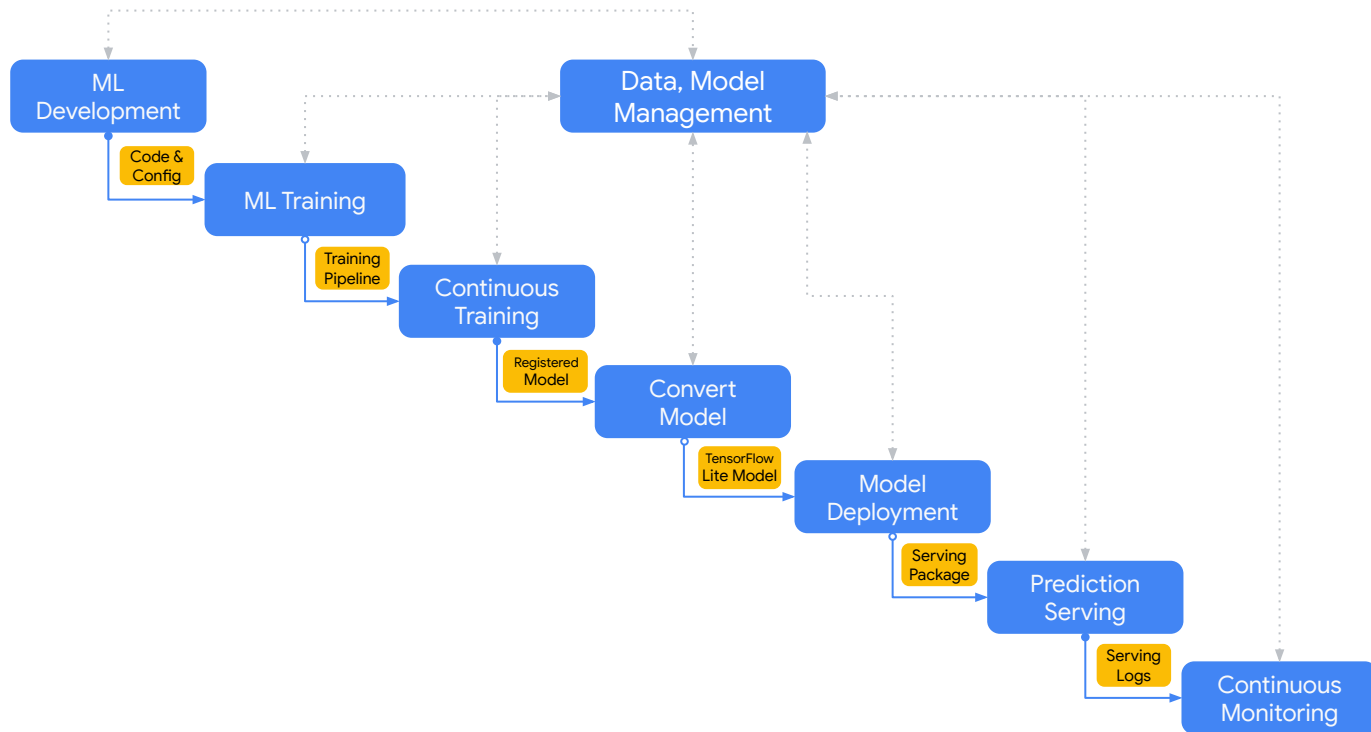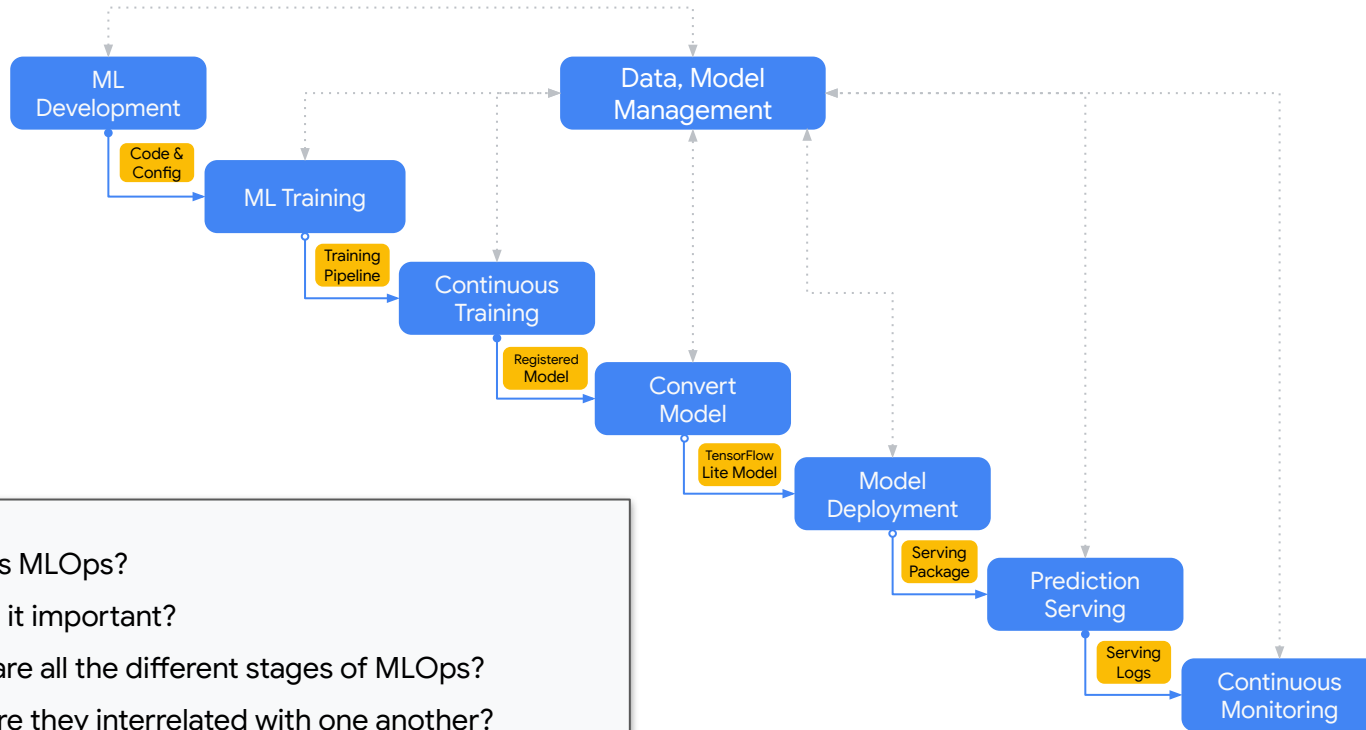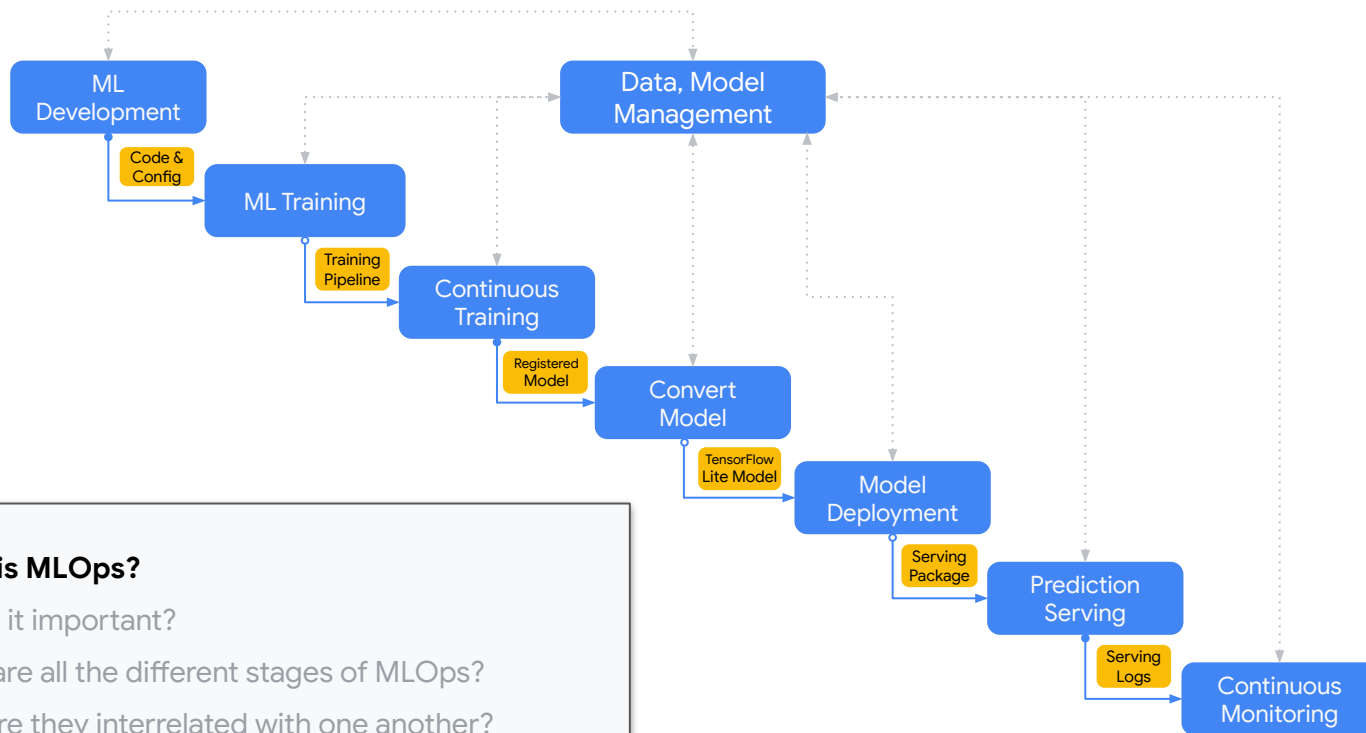Feature Extraction

"...developing and deploying ML systems is relatively fast and cheap, but maintaining them over time is difficult and expensive." by D. Sculley et al. at Google, "Hidden Technical Debt in Machine Learning Systems," NIPS 2015

ML Development

Data, Model Management

Code & Config

ML Training

Training Pipeline

Continuous Training

Registered Model

Convert Model

TensorFlow Lite Model

Model Deployment

Serving Package

Prediction Serving

Serving Logs

Continuous Monitoring

ML Development

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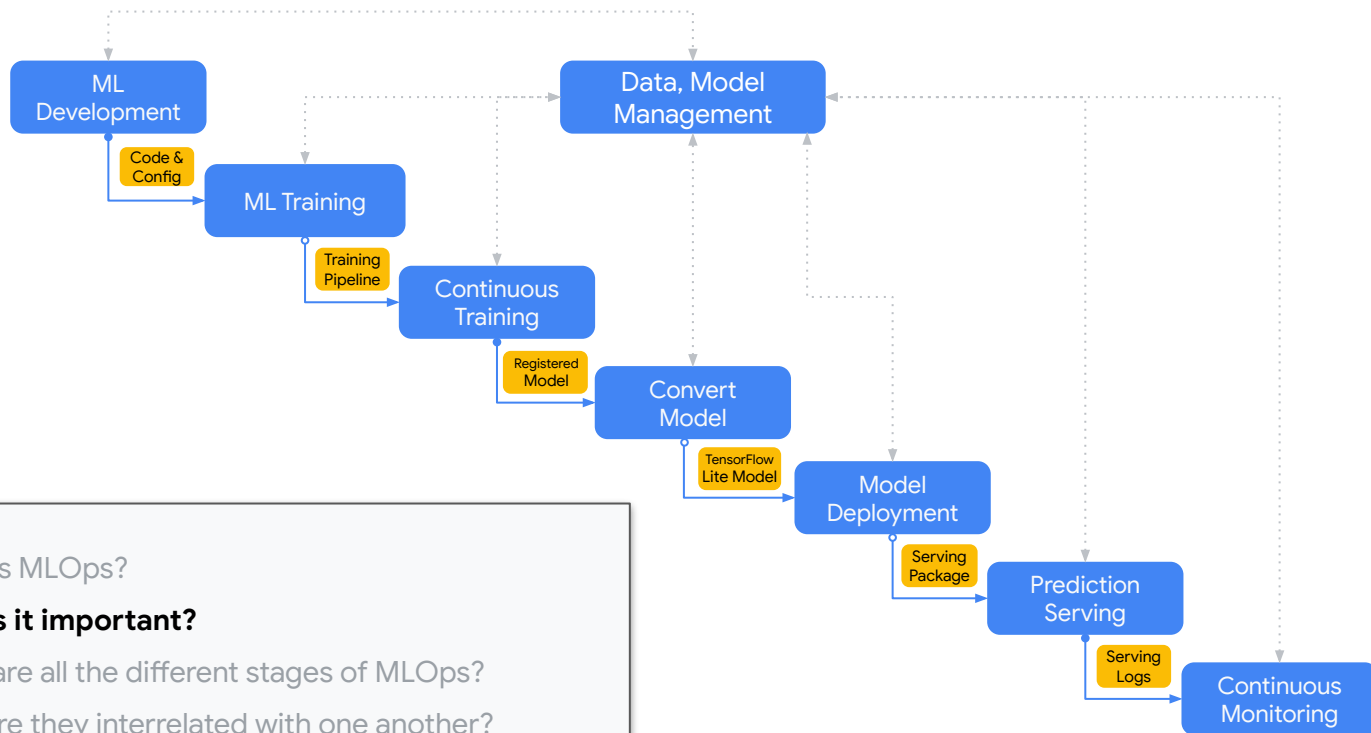Prediction Serving

Serving Logs

Continuous Monitoring

1. What is MLOps?
2. Why is it important?
3. What are all the different stages of MLOps?
4. How are they interrelated with one another?
5. What are the challenges with respect to TinyML?

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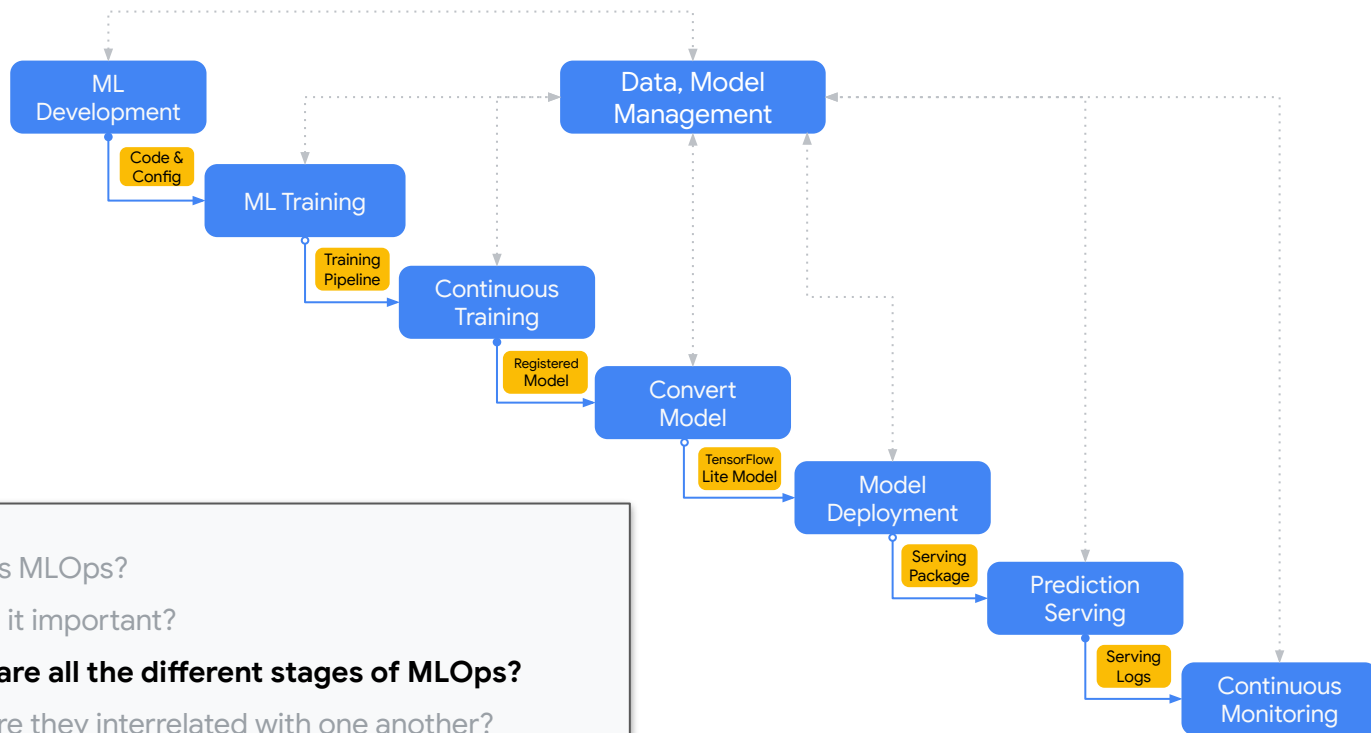5. What are the challenges with respect to TinyML?

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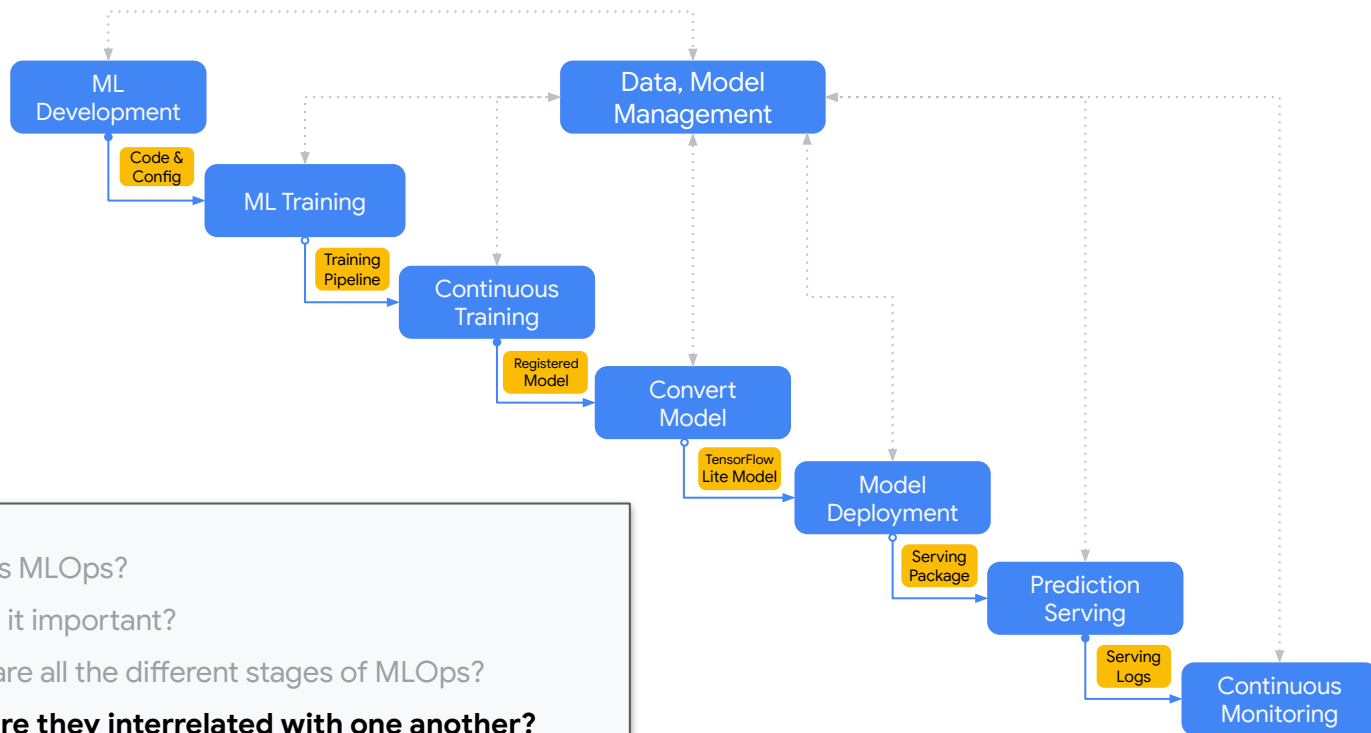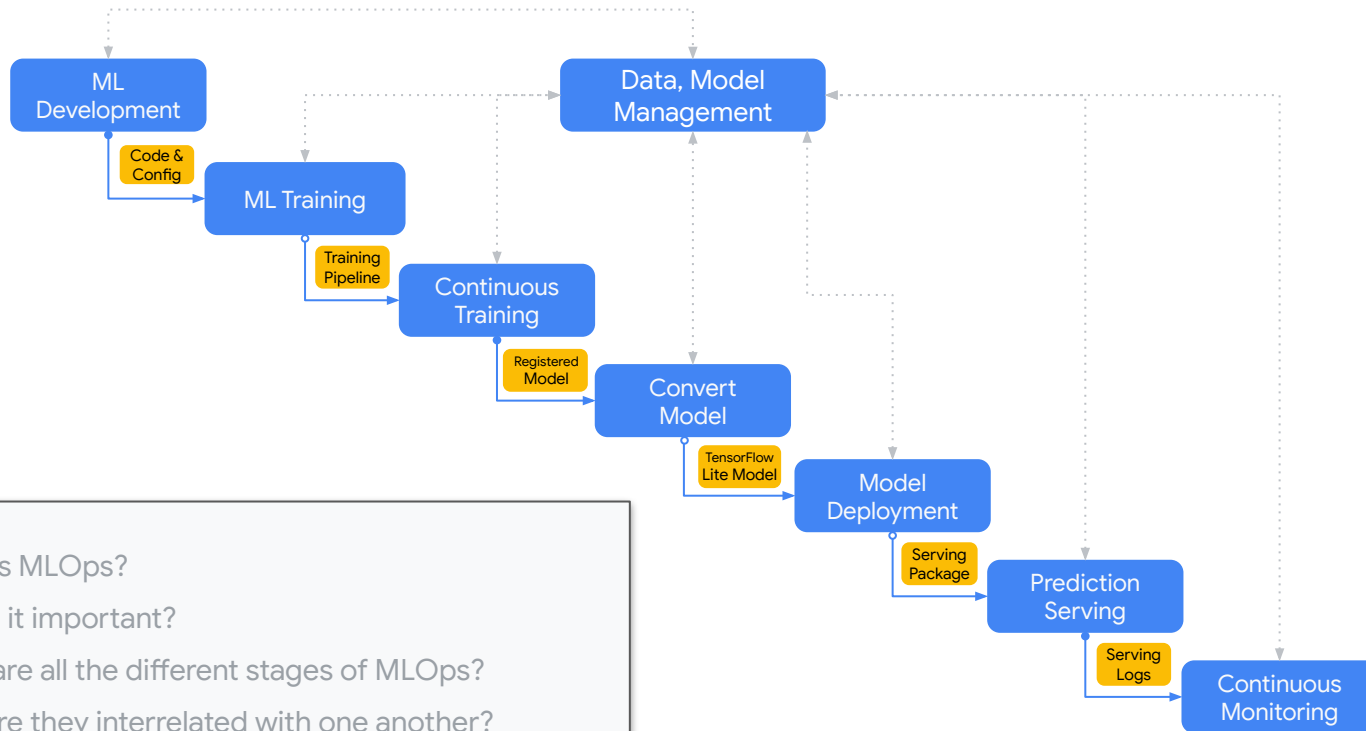
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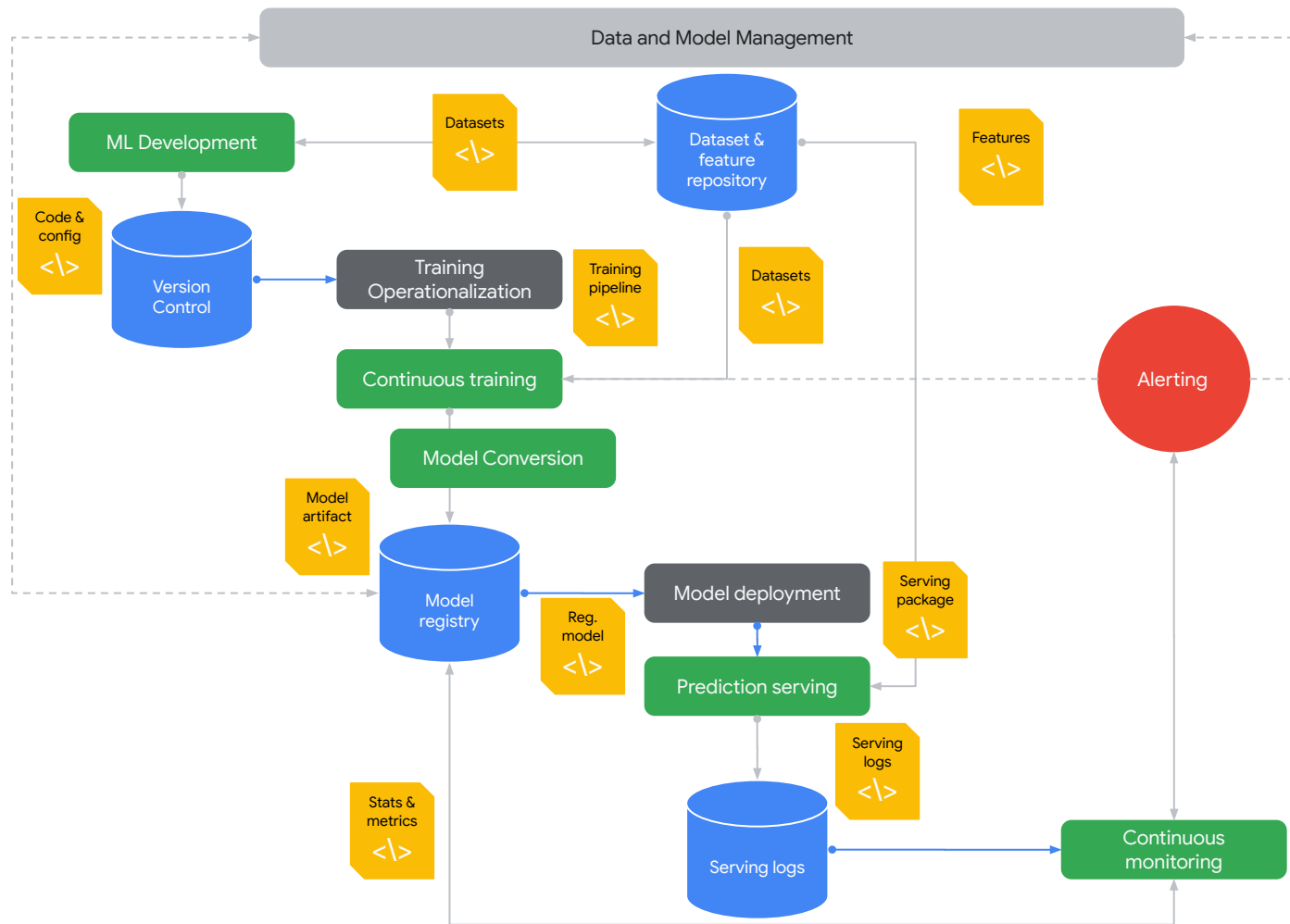Prediction Serving

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The MLOps **Personas**

ML
Engineer

ML
Researcher
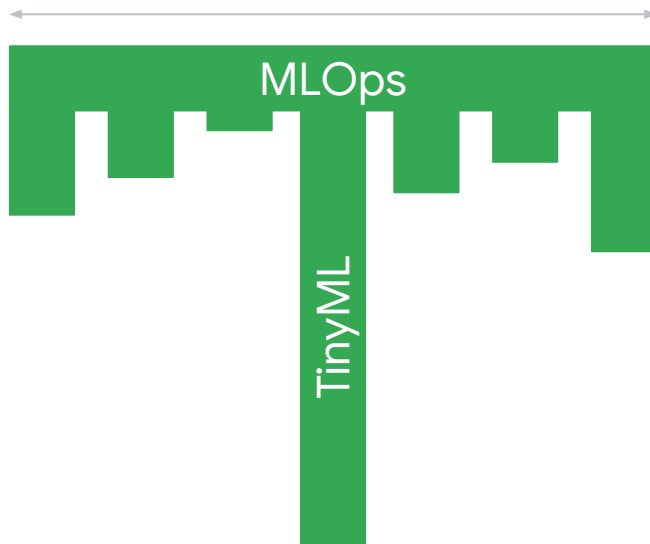
Data
Scientist

Data
Engineer

Software
Engineer

DevOps

Business
Analyst

What's Next?