

Understanding PromQL

Table of Contents

Training Overview

- Introduction

PromQL: The Big Picture

- What is PromQL?
- PromQL Execution in Prometheus
- Use Cases

Data Model Refresher

- Time Series Data Model
- Metric Types

Basic Querying

- Overview and Demo Service
- Using the Expression Browser
- Using PromLens
- Selecting Series
- Rates and Derivatives
- Aggregating Over Dimensions
- Arithmetic

Interlude: Language Theory

- Overview
- PromQL's Nested Structure
- Expression Result Types
- Expression Node Types
- Query Types and Evaluation Time

Advanced Querying

- Overview
- Working with Histograms
- Thresholds and Filtering by Value
- Set Operations
- Working with Timestamp Metrics
- Sorting and topk / bottomk
- Comparing to Past Data for Simple Anomaly Detection
- Inspecting Scrape Health
- Detecting Absent Series
- Aggregating Over Time
- Subqueries