

# Grey Matter Training Syllabus

## Description

Grey Matter Fundamentals is a 2.5 day, instructor-led, hands-on course designed to bring any technical practitioner from “What’s a service mesh?” to “I wield Grey Matter”.

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## You will learn:

- Service mesh fundamentals
- Grey Matter core features
- How to install Grey Matter
- How to deploy a new service into Grey Matter
- How to configure and customize Grey Matter

## Who should attend?

Any technical practitioner involved in the ideation, architecture, development, deployment, and maintenance of software services, including Cloud Administrators, Linux Administrators, Architects, Operations, DevOps, and Software Engineers.

## Your Trainers:

You’ll be learning from Daniel Cox, Zoe McCormick, and Kait Moreno, three affable Decipherers with their hands in the source code.

## Detailed Curriculum:

1. What is a service mesh?
2. Grey Matter Features
3. Grey Matter Installation
  1. Launching a machine
  2. Installing prerequisites
  3. Minikube setup
4. Grey Matter configuration
  1. Helm overrides

2. Decipher Helm repository
5. Grey Matter installation
6. Verifying the deployment
7. Troubleshooting an installation
4. Grey Matter Service Deployment
  1. Download the latest Grey Matter CLI
  2. Configuring the Grey Matter CLI
  3. Launching a new service
    1. Kubernetes configuration
    2. Grey Matter sidecar configuration
      1. Cluster
      2. Domain
      3. Listener
      4. Shared Rules
      5. Route
      6. Proxy
  3. Review
  4. Grey Matter edge configuration
    1. Edge Cluster
    2. Edge Shared Rules
    3. Edge Route (for route with trailing slash)
    4. Edge Route 2 (adds missing trailing slash)
  5. Catalog service configuration
4. Troubleshooting a deployment
5. Mesh Configuration
  1. Discovery mechanisms
    1. Kubernetes
    2. Consul
    3. AWS Elastic Container Service (ECS)
    4. Flat file
  2. Securing the mesh with role-based access control (RBAC)
  3. Securing impersonation
  4. Observables, metrics, and auditing
  5. Multi-mesh communication
6. Grey Matter Data
  1. Introduction
  2. Basic usage
  3. Security model
7. Bring Your Own Problems (BYOP)