Kubernetes CKA Training 2025-09

This repository contains all materials for a 10-hour Kubernetes Administrator (CKA) t

 Repository Structure

```
kubernetes-cka-training-2025-09/
│
├── slides/                   PowerPoint deck used for the lecture
│   └── kubernetes-training.pptx
├── notes/                    Learner and trainer notes (PDF)
│   └── kubernetes-training.pdf
├── labs/                     Hands-on exercises
│   ├── 00-getting-started/   Environment setup instructions
│   ├── pods/                 Pod basics
│   ├── workloads/            Deployments, StatefulSets, DaemonSets
│   ├── networking/           Services and Ingress
│   ├── storage/              PV, PVC, ConfigMaps, Secrets
│   ├── security/             RBAC and Pod Security
│   ├── observability/        Metrics, logging, HPA, Prometheus
│   └── advanced/             VPA, autoscaling nodes, operators
├── practice-test/            Practice exam with answers
│   └── practice-test.pdf
├── README.md                 This overview file
└── README.pdf                PDF version of this file
```

 10-Hour Schedule

The training is divided into ten one-hour modules:

Hour	Module	Topics
1	Fundamentals & Architecture	Motivation, cluster components, nodes
2	Pods & Deployments	Pods, ReplicaSets, Deployments
3	Workloads & Controllers	StatefulSets, DaemonSets, Jobs, CronJobs
4	Networking & Services	Service types, Ingress
5	Storage & Configuration	Volumes, PV/PVC, ConfigMaps, Secrets
6	Resource Management & Health	Requests/limits, QoS, probes
7	Scheduling & Placement	nodeSelector, affinity, taints & tolerations
8	Autoscaling & Performance	HPA, VPA, cluster autoscaler, metrics
9	Security & Access Control	RBAC, service accounts, Pod security
10	Extensions & Observability	Helm, Operators, Prometheus, troubleshooting

Instructor Guide

- **Slides**: Use the `kubernetes-training.pptx` deck for presentation. Speaker notes
- **Notes**: `notes/kubernetes-training.pdf` contains learner-friendly explanations a
- **Labs**: Each lab directory includes step-by-step instructions and sample YAML man
- **Practice Test**: The practice test PDF contains 50 questions with detailed explan
- **Setup**: Ensure every participant has a working Kubernetes cluster (Minikube or k
- **Timing**: The suggested schedule is flexible. Some groups may need more or less t

Acknowledgements

This training material is based on the official Kubernetes documentation and best pra