Prerequisites:

* Build, Shipped & Run containers (locally using compose)
* Deployed demo application on minikube (kubectl)
* Subscription Permissions to create AKS cluster (preferably under EA)
* Azure DevOps Account

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| --- | --- | --- | --- |
| Title | Owner | Time | Description |
| MSFT Welcome |  | 08:30 |  |
| Introduction |  | 08:45 | * What are we going to get out of this day * General cloud native application trends, patterns and birds eye view of challenges |
|  |  |  |  |
| Spin up an [AKS](https://github.com/redapt/microsoft-devops-workshop/blob/master/03_kubernetes_aks/03_standing_up_your_first_cluster/03_aks.md) cluster (45m) |  | 09:00 | * 3-5 nodes cluster via Portal/Cloud Shell * Cluster access – kubectl wired and working * kubectl cheats * Create Alcide Account * AKS Private Cluster ( roadmap or preview to use in the session) |
| Kubernetes Moving Parts |  | 10:00 | * Kubernetes Control Plane * Kubernetes Worker Node   + Networking - CNI   + Storage * Cloud Provider Controller * RBAC |
| Scheduling & Deployments Primitives |  | 11:00 | * Pod, Job, Deployment, ReplicaSet, StatefulSet, DaemonSets * ConfigMaps * Secrets |
| Lunch |  | 12:00 |  |
| Deploy Demo Application & Review  <https://github.com/redapt/favorite-beer> |  | 13:00 | * Deployments * Service * Ingress * Pod Security |
| Pod Security Walkthrough | Gadi | 14:00 | * Objective: Make your security team happy!! And your application component hardened * Fixing our demo application * Container Security Context * Dropping Capabilities of your Container * Immutable Container * Non Root * No Service Account |
| Cluster Ops |  | 14:45 | * [Resources (Limits / Requests)](https://github.com/redapt/microsoft-devops-workshop/blob/master/03_kubernetes_aks/08_autoscaling_sre/01_resources.md) * [NodeSelector/Affinity/Anti-Affinity](https://github.com/redapt/microsoft-devops-workshop/blob/master/03_kubernetes_aks/08_autoscaling_sre/02_selector_affinity_antiaffinity.md) * [Liveness / Readiness Probes](https://github.com/redapt/microsoft-devops-workshop/blob/master/03_kubernetes_aks/08_autoscaling_sre/03_readiness_liveness.md) * [Horizontal Pod Autoscaling](https://github.com/redapt/microsoft-devops-workshop/blob/master/03_kubernetes_aks/08_autoscaling_sre/04_horizontal_pod_autoscaler.md) * [Cluster Scaling](https://github.com/redapt/microsoft-devops-workshop/blob/master/03_kubernetes_aks/08_autoscaling_sre/05_cluster_autoscaler.md) |
| AKS Security Scan with Azure DevOps | Gadi | 15:30 | * Onboard AKS Cluster into Alcide * In-Cluster security scan * Build Azure DevOps pipeline that scan our AKS cluster * AKS Security Scan Profile Baseline Creation |
| Closing Note |  | 16:45 |  |
| Networking |  | 17:00 |  |