Grafana Operator CRDs with Prometheus, Loki & Azure Monitor (Managed Identity)

# 1. Admin Secret (Optional if not using Managed Identity)

apiVersion: v1  
kind: Secret  
metadata:  
 name: grafana-admin-secret  
 namespace: observability  
type: Opaque  
stringData:  
 GF\_SECURITY\_ADMIN\_USER: admin  
 GF\_SECURITY\_ADMIN\_PASSWORD: SuperSecurePass123

# 2. Grafana Instance CR

apiVersion: integreatly.org/v1alpha1  
kind: Grafana  
metadata:  
 name: grafana-instance  
 namespace: observability  
 labels:  
 app: grafana  
spec:  
 serviceAccount:  
 name: grafana-sa  
 ingress:  
 enabled: true  
 configFrom:  
 secretRef:  
 name: grafana-admin-secret  
 config:  
 log:  
 mode: console  
 level: info  
 auth:  
 disable\_login\_form: false  
 disable\_signout\_menu: false  
 dashboardLabelSelector:  
 - matchExpressions:  
 - key: app  
 operator: In  
 values:  
 - grafana

# 3. Prometheus Datasource CR

apiVersion: integreatly.org/v1alpha1  
kind: GrafanaDatasource  
metadata:  
 name: prometheus-datasource  
 namespace: observability  
 labels:  
 app: grafana  
spec:  
 name: prometheus-datasource.yaml  
 datasources:  
 - name: Prometheus  
 type: prometheus  
 access: proxy  
 url: http://prometheus-k8s.monitoring:9090  
 isDefault: true  
 instanceSelector:  
 matchLabels:  
 app: grafana

# 4. Loki Datasource CR

apiVersion: integreatly.org/v1alpha1  
kind: GrafanaDatasource  
metadata:  
 name: loki-datasource  
 namespace: observability  
 labels:  
 app: grafana  
spec:  
 name: loki-datasource.yaml  
 datasources:  
 - name: Loki  
 type: loki  
 access: proxy  
 url: http://loki.observability:3100  
 instanceSelector:  
 matchLabels:  
 app: grafana

# 5. Azure Monitor Datasource CR (Managed Identity Mode)

apiVersion: integreatly.org/v1alpha1  
kind: GrafanaDatasource  
metadata:  
 name: azure-monitor-datasource  
 namespace: observability  
 labels:  
 app: grafana  
spec:  
 name: azure-monitor-datasource.yaml  
 datasources:  
 - name: Azure Monitor  
 type: grafana-azure-monitor-datasource  
 access: proxy  
 jsonData:  
 cloudName: azuremonitor  
 tenantId: "<your-tenant-id>"  
 subscriptionId: "<your-subscription-id>"  
 azureAuthType: msi # 👈 Managed Identity mode  
 instanceSelector:  
 matchLabels:  
 app: grafana

# 6. Sample Dashboard (Hybrid Metrics & Logs)

apiVersion: integreatly.org/v1alpha1  
kind: GrafanaDashboard  
metadata:  
 name: sample-hybrid-dashboard  
 namespace: observability  
 labels:  
 app: grafana  
spec:  
 json: |  
 {  
 "id": null,  
 "title": "Hybrid AKS Observability",  
 "tags": [ "aks", "azure", "prometheus", "loki" ],  
 "timezone": "browser",  
 "panels": [  
 {  
 "type": "graph",  
 "title": "Pod CPU (Prometheus)",  
 "targets": [  
 {  
 "expr": "sum(rate(container\_cpu\_usage\_seconds\_total{namespace!="",container!="POD"}[5m])) by (namespace)",  
 "legendFormat": "{{namespace}}",  
 "datasource": "Prometheus"  
 }  
 ]  
 },  
 {  
 "type": "graph",  
 "title": "Node CPU (Azure Monitor)",  
 "targets": [  
 {  
 "subscription": "<your-subscription-id>",  
 "resourceGroup": "<your-rg>",  
 "resourceName": "<your-aks-cluster>",  
 "metricName": "CPUUsagePercentage",  
 "datasource": "Azure Monitor"  
 }  
 ]  
 },  
 {  
 "type": "logs",  
 "title": "Pod Logs (Loki)",  
 "targets": [  
 {  
 "expr": "{namespace="observability"}",  
 "datasource": "Loki"  
 }  
 ]  
 }  
 ],  
 "schemaVersion": 16,  
 "version": 1  
 }  
 instanceSelector:  
 matchLabels:  
 app: grafana