<https://docs.microsoft.com/en-us/dotnet/architecture/containerized-lifecycle/design-develop-containerized-apps/build-aspnet-core-applications-linux-containers-aks-kubernetes>

<https://docs.microsoft.com/en-us/dotnet/architecture/containerized-lifecycle/design-develop-containerized-apps/build-aspnet-core-applications-linux-containers-aks-kubernetes>

Docker-compose.yml file

version: '3.4'

services:

mssql:

image: mcr.microsoft.com/mssql/server:2017-latest

container\_name: sql2

ports:

- 1433:1433

environment:

MSSQL\_SA\_PASSWORD: ${DB\_PASSWORD}

ACCEPT\_EULA: Y

volumes:

- type: volume

source: sql1data

target: /var/opt/mssql

restart: always

schoolwebapi:

image: ${DOCKER\_REGISTRY-}schoolwebapi

build:

context: .

dockerfile: SchoolWebApi/Dockerfile

environment:

- ASPNETCORE\_ENVIRONMENT=Development

- DB\_CONNECTION\_STRING=Server=tcp:mssql,1433;Database=SchoolDB;User=sa;Password=passwor$

depends\_on:

- mssql

container\_name: studentapi

ports:

- 44308:80

restart: always

studentclient:

image: ${DOCKER\_REGISTRY-}studentclient

build:

context: .

dockerfile: StudentClient/Dockerfile

environment:

API\_URL: http://public-ip:44308

ports:

- 44348:80

depends\_on:

- schoolwebapi

volumes:

sql1data:

**docker-compose.override.yml**

version: '3.4'

services:

schoolwebapi:

environment:

- ASPNETCORE\_ENVIRONMENT=Development

- ASPNETCORE\_URLS=http://+:80

ports:

- "80"

- "443"

volumes:

- ${APPDATA}/Microsoft/UserSecrets:/root/.microsoft/usersecrets:ro

- ${APPDATA}/ASP.NET/Https:/root/.aspnet/https:ro

Statup.cs

{

"iisSettings": {

"windowsAuthentication": false,

"anonymousAuthentication": true,

"iisExpress": {

"applicationUrl": "http://localhost:57989",

// "applicationUrl": "http://schooapi/",

"sslPort": 44308

}

},

"$schema": "http://json.schemastore.org/launchsettings.json",

"profiles": {

"IIS Express": {

"commandName": "IISExpress",

"launchBrowser": true,

"launchUrl": "api/students",

"environmentVariables": {

"ASPNETCORE\_ENVIRONMENT": "Development"

}

},

"SchoolWebApi": {

"commandName": "Project",

"launchBrowser": true,

"launchUrl": "api/students",

"environmentVariables": {

"ASPNETCORE\_ENVIRONMENT": "Development"

},

"applicationUrl": "https://localhost:5001;http://localhost:5000"

},

"Docker": {

"commandName": "Docker",

"launchBrowser": true,

"launchUrl": "{Scheme}://{ServiceHost}:{ServicePort}/api/students",

"publishAllPorts": true,

"useSSL": true

}

}

}

**Startup.cs**

**public void ConfigureServices(IServiceCollection services)**

**{**

**var connectionString = Environment.GetEnvironmentVariable("DB\_CONNECTION\_STRING");**

**// services.AddDbContext<SchoolDBContext>(options =>**

**// options.UseSqlServer(Configuration.GetConnectionString("MbkDbConstr")));**

**Console.Write("AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA$**

**services.AddDbContext<SchoolDBContext>(options => options.UseSqlServer(connectionString));**

**services.AddControllers();**

**}**

**After AKS**

**Schoolwebapi.dempolyemnt.yaml**

**-----------------------**

**mssql-deployment.yaml**

**apiVersion: apps/v1**

**kind: Deployment**

**metadata:**

**# annotations:**

**# kompose.cmd: kompose convert**

**# kompose.version: 1.19.0 (f63a961c)**

**#creationTimestamp: null**

**labels:**

**app: mssql**

**name: mssql**

**spec:**

**selector:**

**matchLabels:**

**app: mssql**

**replicas: 1**

**strategy:**

**type: Recreate**

**template:**

**metadata:**

**#annotations:**

**# kompose.cmd: kompose convert**

**# kompose.version: 1.19.0 (f63a961c)**

**#creationTimestamp: null**

**labels:**

**app: mssql**

**spec:**

**containers:**

**- env:**

**- name: ACCEPT\_EULA**

**value: "Y"**

**- name: SA\_PASSWORD**

**value: Db\_PASSWORD123**

**image: mcr.microsoft.com/mssql/server:2017-latest**

**name: final**

**ports:**

**- containerPort: 1433**

**resources: {}**

**volumeMounts:**

**- mountPath: /var/opt/mssql/data**

**name: finaldata**

**restartPolicy: Always**

**volumes:**

**- name: finaldata**

**persistentVolumeClaim:**

**claimName: finaldata**

**----------------------------------------------**

**finaldata-persistentvolumeclaim.yaml file**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**apiVersion: v1**

**kind: PersistentVolumeClaim**

**metadata:**

**creationTimestamp: null**

**labels:**

**app: finaldata**

**name: finaldata**

**spec:**

**accessModes:**

**- ReadWriteOnce**

**resources:**

**requests:**

**storage: 100Mi**

**status: {}**

**schoolwebapi-deployment.yaml**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**apiVersion: apps/v1**

**kind: Deployment**

**metadata:**

**#annotations:**

**# kompose.cmd: kompose convert**

**# kompose.version: 1.19.0 (f63a961c)**

**#creationTimestamp: null**

**labels:**

**app: schoolwebapi**

**name: schoolwebapi**

**spec:**

**replicas: 1**

**selector:**

**matchLabels:**

**app: schoolwebapi**

**strategy: {}**

**template:**

**metadata:**

**#annotations:**

**# kompose.cmd: kompose convert**

**# kompose.version: 1.19.0 (f63a961c)**

**#creationTimestamp: null**

**labels:**

**app: schoolwebapi**

**spec:**

**containers:**

**- env:**

**- name: ASPNETCORE\_ENVIRONMENT**

**value: Development**

**- name: DB\_CONNECTION\_STRING**

**value: Server=tcp:mssql,1433;Database=SchoolDB;User=sa;Password=Db\_PASSWORD123**

**image: acrnamedemo.azurecr.io/schoolwebapi:v1**

**name: studentapi**

**ports:**

**- containerPort: 80**

**resources: {}**

**restartPolicy: Always**

**status: {}**

**studentclient-service.yaml**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**apiVersion: v1**

**kind: Service**

**metadata:**

**#annotations:**

**# kompose.cmd: kompose convert**

**#kompose.version: 1.19.0 (f63a961c)**

**#creationTimestamp: null**

**labels:**

**app: studentclient**

**name: studentclient**

**spec:**

**type: LoadBalancer**

**ports:**

**- name: "44348"**

**port: 44348**

**targetPort: 80**

**selector:**

**app: studentclient**

**status:**

**loadBalancer: {}**

**mssql-deployment.yaml**

**apiVersion: apps/v1**

**kind: Deployment**

**metadata:**

**# annotations:**

**# kompose.cmd: kompose convert**

**# kompose.version: 1.19.0 (f63a961c)**

**#creationTimestamp: null**

**labels:**

**app: mssql**

**name: mssql**

**spec:**

**selector:**

**matchLabels:**

**app: mssql**

**replicas: 1**

**strategy:**

**type: Recreate**

**template:**

**metadata:**

**#annotations:**

**# kompose.cmd: kompose convert**

**# kompose.version: 1.19.0 (f63a961c)**

**#creationTimestamp: null**

**labels:**

**app: mssql**

**spec:**

**containers:**

**- env:**

**- name: ACCEPT\_EULA**

**value: "Y"**

**- name: SA\_PASSWORD**

**value: Db\_PASSWORD123**

**image: mcr.microsoft.com/mssql/server:2017-latest**

**name: final**

**ports:**

**- containerPort: 1433**

**resources: {}**

**volumeMounts:**

**- mountPath: /var/opt/mssql/data**

**name: finaldata**

**restartPolicy: Always**

**volumes:**

**- name: finaldata**

**persistentVolumeClaim:**

**claimName: finaldata**

**status: {}**

**schoolwebapi-service.yaml**

**apiVersion: v1**

**kind: Service**

**metadata:**

**#annotations:**

**# kompose.cmd: kompose convert**

**#kompose.version: 1.19.0 (f63a961c)**

**#creationTimestamp: null**

**labels:**

**app: schoolwebapi**

**name: schoolwebapi**

**spec:**

**ports:**

**- name: "44308"**

**port: 44308**

**targetPort: 80**

**selector:**

**app: schoolwebapi**

**status:**

**loadBalancer: {}**

**mssql-service.yaml**

**apiVersion: v1**

**kind: Service**

**metadata:**

**# annotations:**

**# kompose.cmd: kompose convert**

**# kompose.version: 1.19.0 (f63a961c)**

**#creationTimestamp: null**

**labels:**

**app: mssql**

**name: mssql**

**spec:**

**ports:**

**- name: "1433"**

**port: 1433**

**targetPort: 1433**

**selector:**

**app: mssql**

**status:**

**loadBalancer: {}**

**studentclient-deployment.yaml**

**apiVersion: apps/v1**

**kind: Deployment**

**metadata:**

**#annotations:**

**# kompose.cmd: kompose convert**

**# kompose.version: 1.19.0 (f63a961c)**

**#creationTimestamp: null**

**labels:**

**app: studentclient**

**name: studentclient**

**spec:**

**replicas: 1**

**selector:**

**matchLabels:**

**app: studentclient**

**strategy: {}**

**template:**

**metadata:**

**# annotations:**

**# kompose.cmd: kompose convert**

**# kompose.version: 1.19.0 (f63a961c)**

**# creationTimestamp: null**

**labels:**

**app: studentclient**

**spec:**

**containers:**

**- env:**

**- name: API\_URL**

**value: http://schoolwebapi/**

**image: acrnamedemo.azurecr.io/studentclient:v1**

**name: studentclient**

**ports:**

**- containerPort: 80**

**resources: {}**

**restartPolicy: Always**

**status: {}**

[**https://kubernetes.io/docs/concepts/services-networking/service/**](https://kubernetes.io/docs/concepts/services-networking/service/)

apiVersion: apps/v1  
kind: Deployment  
metadata:  
  name: my-deployment  
spec:  
  selector:  
    matchLabels:  
      app: metrics  
      department: sales  
  replicas: 3  
  template:  
    metadata:  
      labels:  
        app: metrics  
        department: sales  
    spec:  
      containers:  
      - name: hello  
        image: "gcr.io/google-samples/hello-app:2.0"

apiVersion: v1  
kind: Service  
metadata:  
  name: my-cip-service  
spec:  
  type: ClusterIP  
  selector:  
    app: metrics  
    department: sales  
  ports:  
  - protocol: TCP  
    port: 80  
    targetPort: 8080

**https://cloud.google.com/kubernetes-engine/docs/how-to/exposing-apps#kubectl-apply**