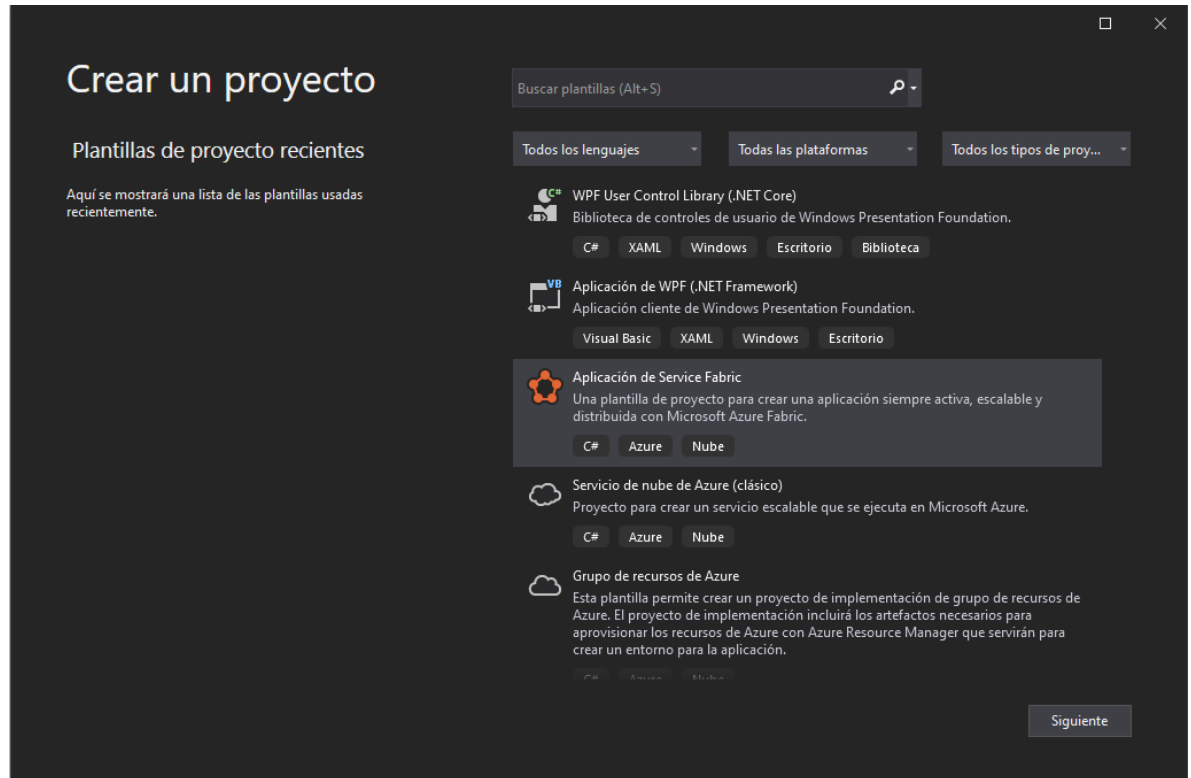


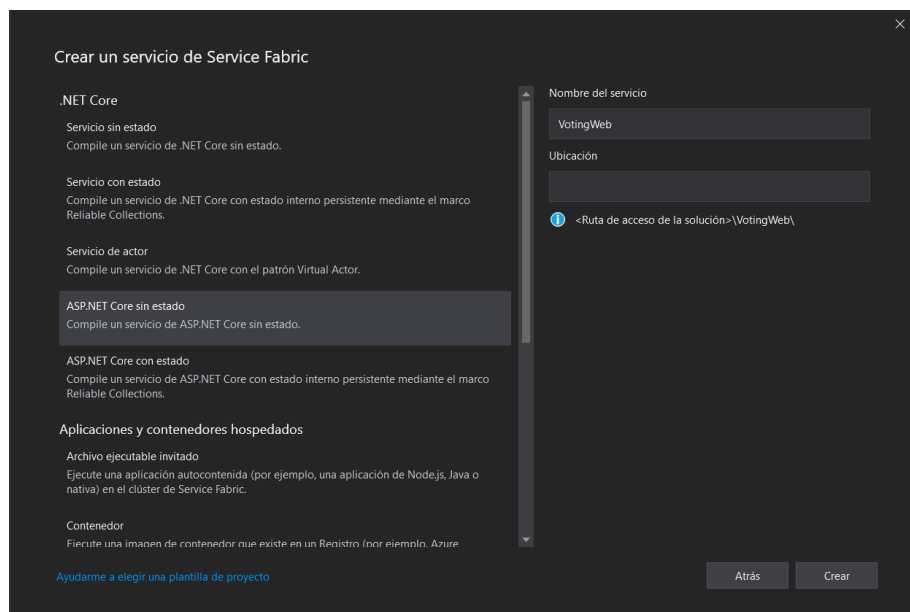
## Question #2

- Create an application using .NET and Service Fabric

Se crea una aplicación de Servis Fabric

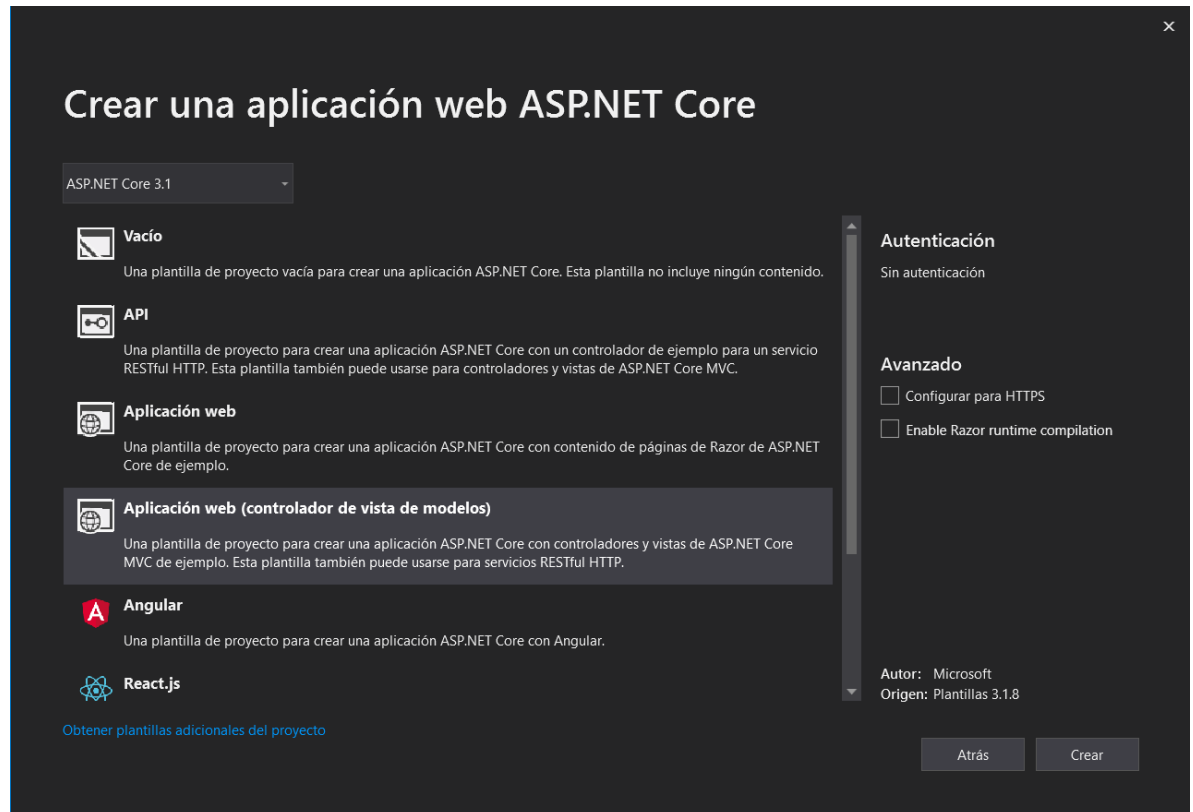


Se crear un servicio para Service Fabric de tipo ASP.NET core sin estado

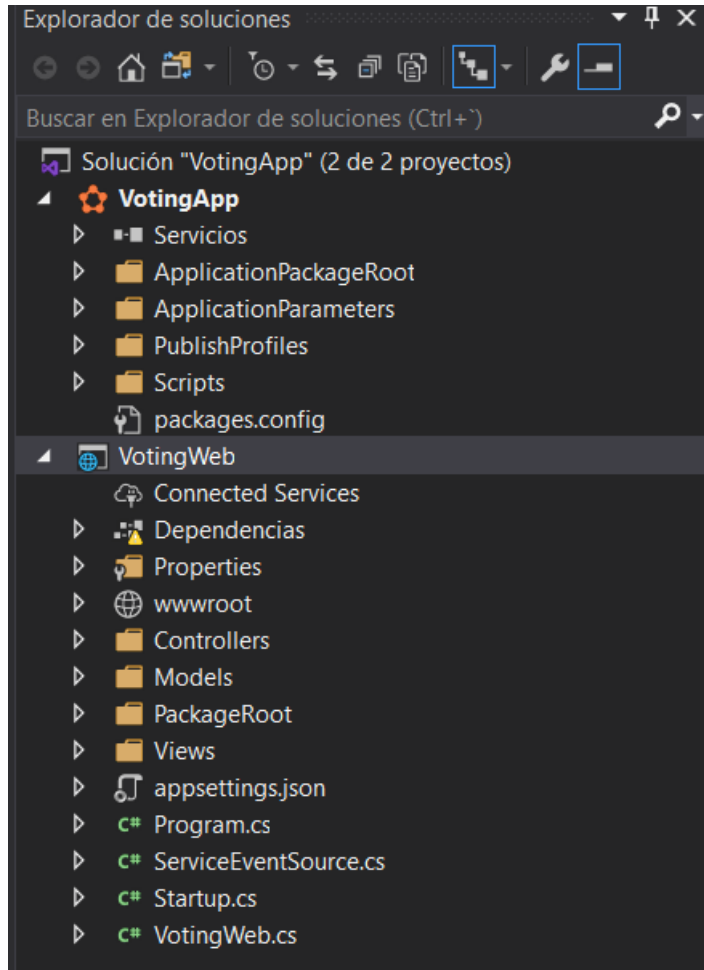


- Use ASP.NET core as a web frontend

Finalmente, para dar inicio al proyecto se agrega un template de MVC



Obtenemos estos archivos



- Store application data in a stateful service

Se crea un servicio con estado

## Crear un servicio de Service Fabric

### .NET Core

#### Servicio sin estado

Compile un servicio de .NET Core sin estado.

#### Servicio con estado

Compile un servicio de .NET Core con estado interno persistente mediante el marco Reliable Collections.

#### Servicio de actor

Compile un servicio de .NET Core con el patrón Virtual Actor.

#### ASP.NET Core sin estado

Compile un servicio de ASP.NET Core sin estado.

#### ASP.NET Core con estado

Compile un servicio de ASP.NET Core con estado interno persistente mediante el marco Reliable Collections.

### Aplicaciones y contenedores hospedados

#### Archivo ejecutable invitado

Ejecute una aplicación autocontenida (por ejemplo, una aplicación de Node.js, Java o nativa) en el clúster de Service Fabric.

#### Contenedor

Ejecute una imagen de contenedor que existe en un Registro (por ejemplo, Azure

[Ayudarme a elegir una plantilla de proyecto](#)

### Nombre del servicio

VotingData

### Ubicación

 <Ruta de acceso de la solución>\VotingData\

Atrás

Crear

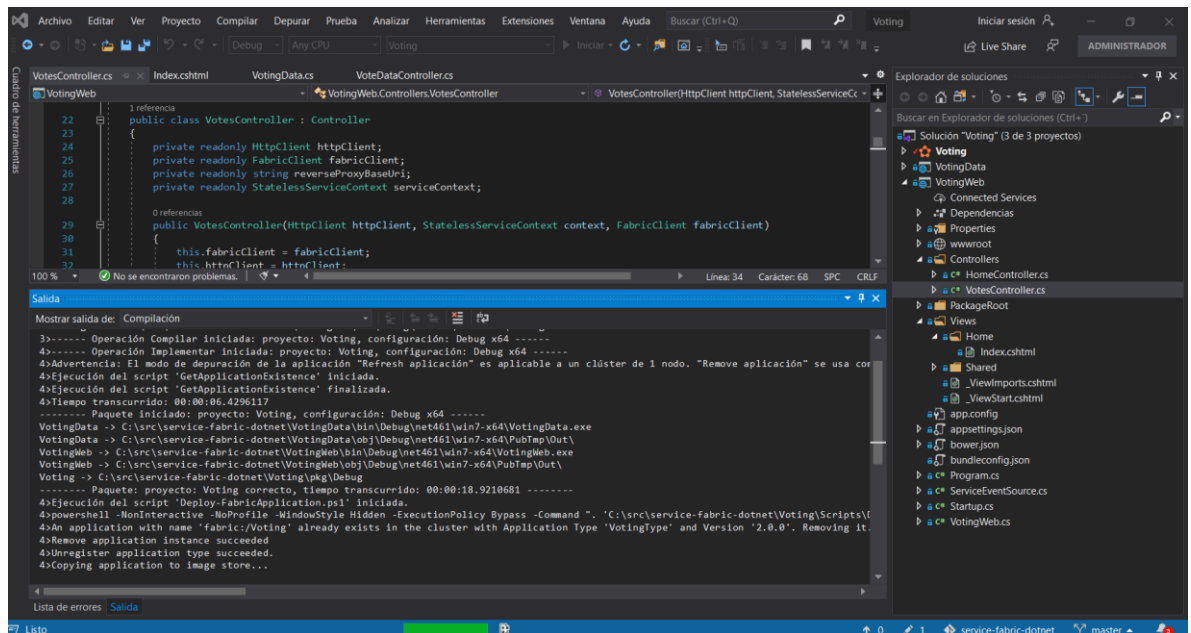
Vamos al servic fabric para verificar la conexión de los servicios, el puerto, etc.

The screenshot displays the Microsoft Azure Service Fabric Explorer interface. The browser address bar shows the URL: `localhost:19080/Explorer/index.html#/tab/manifest`. The interface includes a top navigation bar with the Microsoft Azure logo and the Service Fabric Explorer title. A left sidebar contains a navigation menu with options like Cluster, Applications, Nodes, and System. The main content area is titled "Cluster http://localhost" and shows the "MANIFEST" tab selected. The manifest content is an XML document defining the cluster configuration, including node types and their endpoints. The XML structure is as follows:

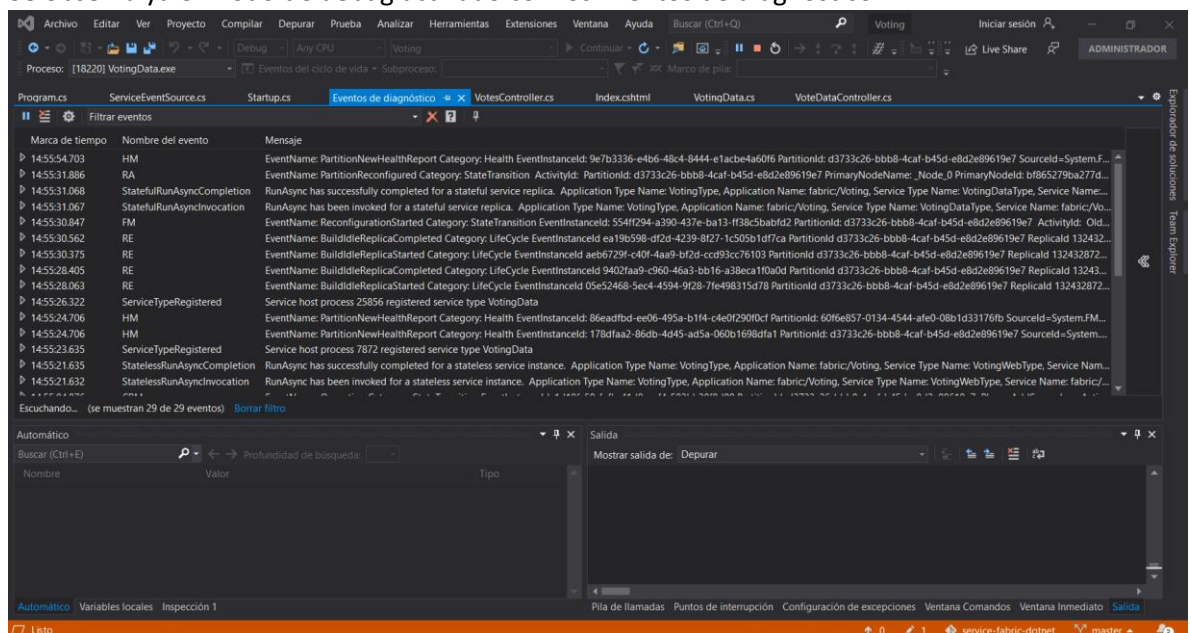
```
<ClusterManifest xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" Name="DevCluster" Version="0" Description="This is a generated file. Do not modify." xmlns="http://schemas.microsoft.com/2011/01/fabric">
  <NodeTypes>
    <NodeType Name="NodeType0">
      <Endpoints>
        <ClientConnectionEndpoint Port="19000" />
        <LeaseDriverEndpoint Port="19001" />
        <ClusterConnectionEndpoint Port="19002" />
        <HttpGatewayEndpoint Port="19080" Protocol="http" />
        <HttpApplicationGatewayEndpoint Port="19081" Protocol="http" />
        <ServiceConnectionEndpoint Port="19006" />
        <ApplicationEndpoints StartPort="30001" EndPort="31000" />
      </Endpoints>
      <PlacementProperties>
        <Property Name="NodeTypeName" Value="NodeType0" />
      </PlacementProperties>
    </NodeType>
    <NodeType Name="NodeType1">
      <Endpoints>
        <ClientConnectionEndpoint Port="19010" />
        <LeaseDriverEndpoint Port="19011" />
        <ClusterConnectionEndpoint Port="19012" />
        <HttpGatewayEndpoint Port="19082" Protocol="http" />
        <HttpApplicationGatewayEndpoint Port="19083" Protocol="http" />
        <ServiceConnectionEndpoint Port="19016" />
        <ApplicationEndpoints StartPort="31001" EndPort="32000" />
      </Endpoints>
      <PlacementProperties>
        <Property Name="NodeTypeName" Value="NodeType1" />
      </PlacementProperties>
    </NodeType>
    <NodeType Name="NodeType2">
      <Endpoints>
        <ClientConnectionEndpoint Port="19020" />
        <LeaseDriverEndpoint Port="19021" />
        <ClusterConnectionEndpoint Port="19022" />
        <HttpGatewayEndpoint Port="19084" Protocol="http" />
        <HttpApplicationGatewayEndpoint Port="19085" Protocol="http" />
        <ServiceConnectionEndpoint Port="19026" />
      </Endpoints>
    </NodeType>
  </NodeTypes>
</ClusterManifest>
```

- Debug your application locally

Inicio de la actividad de Debug de la aplicación localmente.



Se observa ya el modo de debug activado con los Eventos de diagnóstico



La aplicación ya desplegada para probarla.

localhost:8080

## Service Fabric Voting Sample

+ Add

---

Click to vote

Team A1 Votes

×

Remove

Team B1 Votes

×

Remove

- Scale-out the application across multiple nodes

Visualizamos ya la aplicación escalada en 3 nodos de los 4 que posee el clueter.

Microsoft AzureService Fabric Explorer

REFRESH RATE 15s OFFFAST

To enter beta (click here)

OKWarningError

Search Cluster

Cluster

Applications

VotingType

+ fabric/Voting

+ fabric/VotingType

Nodes

\_Node\_0 (Seed Node)

+ fabric/Voting

\_Node\_1 (Seed Node)

+ fabric/Voting

\_Node\_2 (Seed Node)

+ fabric/Voting

\_Node\_3

\_Node\_4

+ fabric/Voting

System

+ fabric/System/ClusterManagerService

+ fabric/System/DnsService

+ fabric/System/EventStoreService

+ fabric/System/FailoverManagerService

+ fabric/System/FaultAnalysisService

+ fabric/System/NamingService

### Application Type VotingType

ESSENTIALSDetails

Name	Version	Status	Actions
VotingType	1.0.0	Available	UnprovisionCreate app instance

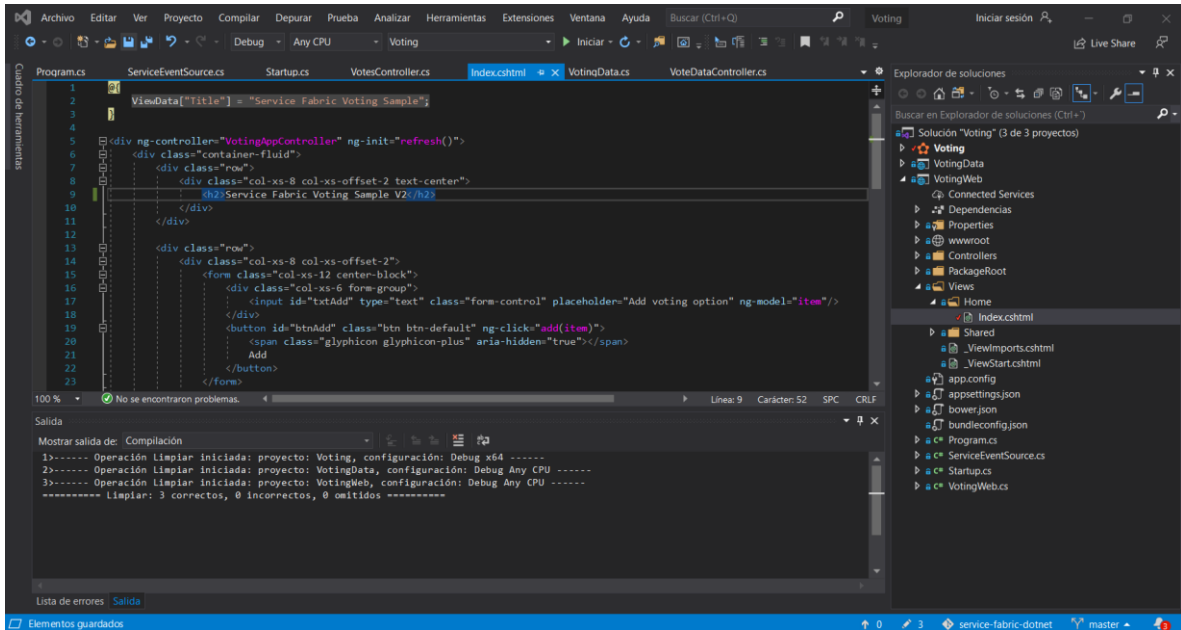
#### APPLICATIONS

Search listReset All

Name	Application Type	Version	Health State	Status
fabric/Voting	VotingType	1.0.0	OK	Ready
fabric/VotingType	VotingType	1.0.0	OK	Ready

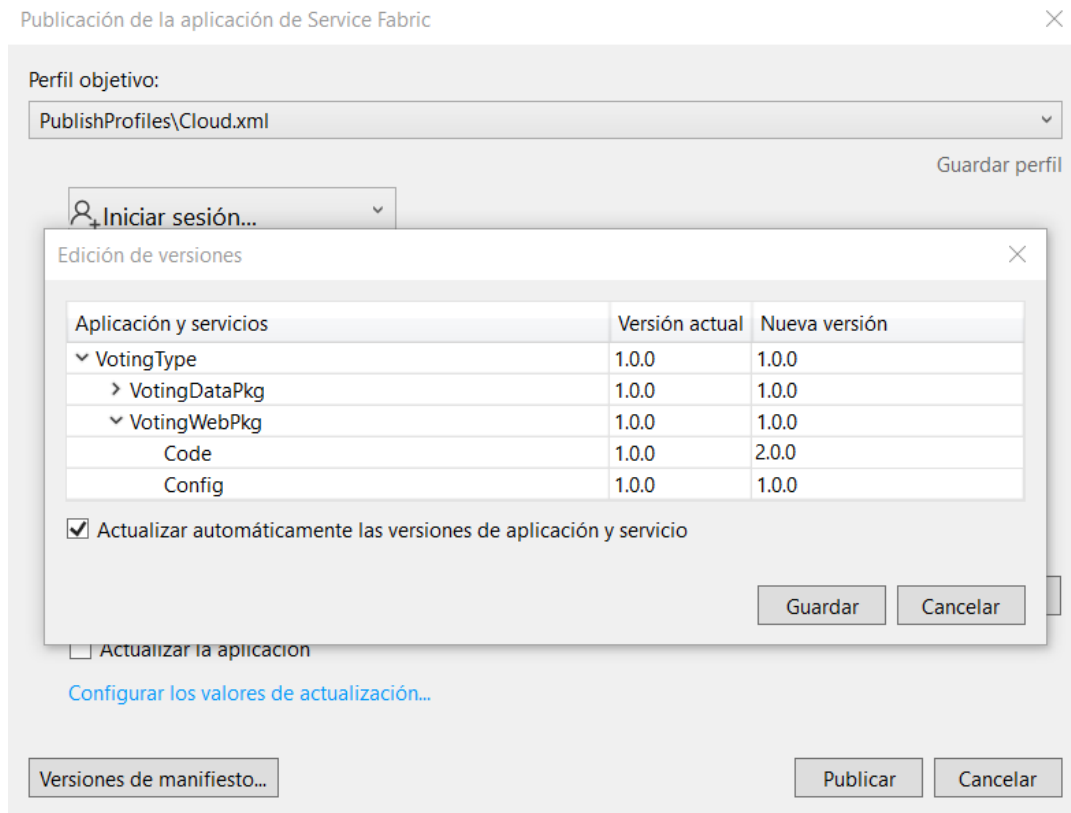
- Perform a rolling application upgrade

Realizamos un cambio en el titulo de la app a v2



Cambiamos la version del manifiesto antes de publicar






Realizamos los respectivos cambios del perfil objetivo, seleccionamos el checkbox de actualizar aplicación y publicar.

Publicación de la aplicación de Service Fabric ✕

Perfil objetivo:


PublishProfiles\Local.5Node.xml ▼

[Guardar perfil](#)

 Iniciar sesión... ▼

[¿No hay ninguna cuenta? Créela.](#)

Punto de conexión:

Clúster local ▼ 

[Crear clúster...](#)

☒ Parámetros de conexión avanzada

[Configuración de conexiones seguras](#)

Archivo de parámetros de aplicación:

ApplicationParameters\Local.5Node.xml ▼ Editar...

☒ Actualizar la aplicación

[Configurar los valores de actualización...](#)

Versiones de manifiesto... Publicar Cancelar

Vamos al servic fabric y observamos que ya empieza la actualización nodo por nodo

Microsoft Azure Service Fabric Explorer

REFRESH RATE 15s OFF FAST

To enter beta (click here)

OK Warning Error

Search Cluster

Cluster

Applications

VotingType

+ fabric/Voting

Nodes

> \_Node\_0 (Seed Node)

> \_Node\_1 (Seed Node)

> \_Node\_2 (Seed Node)

+ fabric/Voting

> \_Node\_3

> \_Node\_4

> System

### Applications

ALL APPLICATIONS UPGRADES IN PROGRESS 1 EVENTS

Search list Reset All

Application Type	Current Version	Target Version	Progress by Upgrade Domain		Upgrade State
./Voting VotingType	1.0.0	2.0.0	0	1	RollingForwardInProgress
			2	3	
			4		

Vamos observando como progresivamente esta actualizando cada uno de los nodos

localhost:19080/Explorer/index.html#/apps/tab/upgrades

Microsoft Azure Service Fabric Explorer

REFRESH RATE 15s OFF FAST

To enter beta (click here)

OK Warning Error

Search Cluster

Cluster

Applications

VotingType

+ fabric/Voting

Nodes

\_Node\_0 (Seed Node)

\_Node\_1 (Seed Node)

\_Node\_2 (Seed Node)

+ fabric/Voting

\_Node\_3

\_Node\_4

System

### Applications

ALL APPLICATIONS UPGRADES IN PROGRESS 1 EVENTS

Search list Reset All

Application Type	Current Version	Target Version	Progress by Upgrade Domain	Upgrade State
./Voting VotingType	1.0.0	2.0.0	<div>0</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div>	RollingForwardInProgress

Finalmente ya con todos los nodos actualizados

Microsoft Azure Service Fabric Explorer

REFRESH RATE 15s OFF FAST

To enter beta (click here)

OK Warning Error

Search Cluster

Cluster

Applications

VotingType

+ fabric/Voting

Nodes

System

### Application fabric:/Voting

ESSENTIALS DETAILS DEPLOYMENTS MANIFEST EVENTS

Name: fabric/Voting Application Type: VotingType

Health State: OK Version: 2.0.0

Status: Ready

#### LATEST UPGRADE STATE

Target Version	Start Timestamp Utc	Upgrade Duration	Upgrade Domain Duration	Upgrade Mode	Upgrade State
2.0.0	Sun, 30 Aug 2020 19:52:37 GMT	0.00:01:41.503	0.00:00:00.0	UnmonitoredAuto	RollingForwardCompleted

#### PROGRESS BY UPGRADE DOMAIN

0	1	2	3	4
---	---	---	---	---

#### UPGRADE PARAMETERS

Parameters

Key	Value
VotingData_MinReplicaSetSize	3
VotingData_PartitionCount	1
VotingData_TargetReplicaSetSize	3
VotingWeb_InstanceCount	1
Upgrade Replica Set Check Timeout In Seconds	1
Instance Close Delay Duration In Seconds	4294967295
Force Restart	false

Ya entrando a la aplicación de nuevo visualizamos el cambio

localhost:8080

## Service Fabric Voting Sample V2

+ Add

Click to vote

Team A

1 Votes

✕ Remove

Team B

1 Votes

✕ Remove