

Missão prática Vamos interligar as coisas

Aluno: Rogério Geraldo

Polo: nova Ourinhos

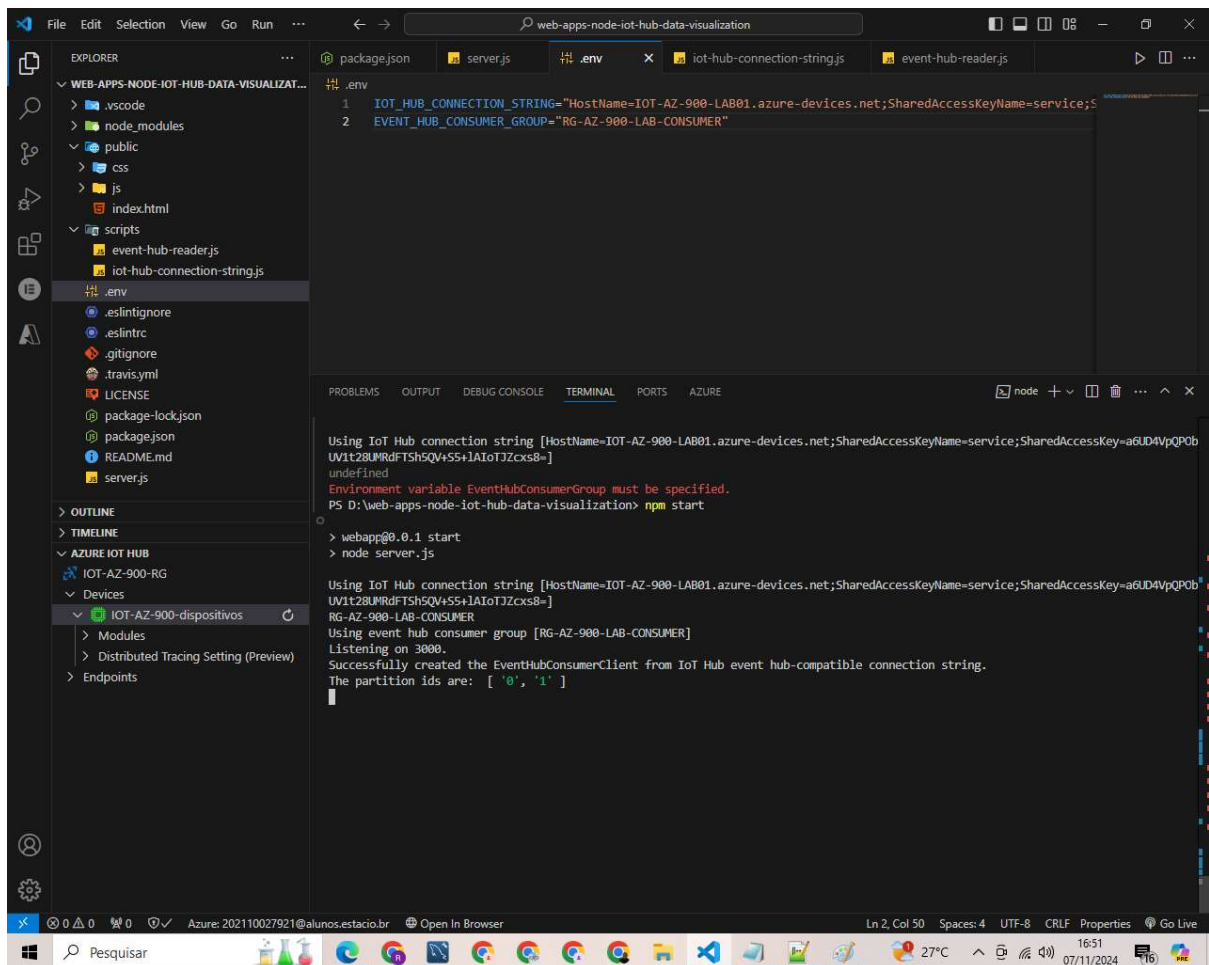
Foi descompactado os arquivos do github <https://github.com/Azure-Samples/web-apps-node-iot-hub-data-visualization>.

Após isso foi criado o grupo de consumidores ao hub IoT

Código utilizado:

```
az iot hub consumer-group create --hub-name IOT-AZ-900-LAB01 --name RG-AZ-900-LAB-CONSUMER --resource-group RG-AZ-900-LAB
```

```
PS /home/azureuser> az iot hub consumer-group create --hub-name IOT-AZ-900-LAB01 --name RG-AZ-900-LAB-CONSUMER --resource-group RG-AZ-900-LAB
{
  "etag": null,
  "id": "/subscriptions/33f2251a-5e9f-440e-8a6b-3d8e204445c1/resourceGroups/RG-AZ-900-LAB/providers/Microsoft.Devices/IotHubs/IOT-AZ-900-LAB01/eventHubs/ConsumerGroups/RG-AZ-900-LAB-CONSUMER",
  "name": "RG-AZ-900-LAB-CONSUMER",
  "properties": {
    "created": "Thu, 07 Nov 2024 18:43:18 GMT",
    "properties": {
      "name": "RG-AZ-900-LAB-CONSUMER"
    }
  },
  "resourceGroup": "RG-AZ-900-LAB",
  "type": "Microsoft.Devices/IotHubs/EventHubEndpoints/ConsumerGroups"
}
PS /home/azureuser>
```



Foi executado este comando para obter a cadeia de conexão:

```
az iot hub show-connection-string --hub-name IOT-AZ-900-LAB01 -- policy-name service
```

```
PS /home/azureuser> az iot hub connection-string show --hub-name IOT-AZ-900-LAB01 --policy-name service --resource-group IOT-AZ-900-LAB01
{
  "connectionString": "HostName=IOT-AZ-900-LAB01.azure-devices.net;SharedAccessKeyName=service;SharedAccessKey=a6UD4VpQPObUV1t28UMRdFTSh5QV+S5+lAIoTJZcxs8="
}
PS /home/azureuser>
```

No prompt de comando do Windows executei os comandos para definir as variáveis de ambiente

```
$env:DeviceId = " IOT-AZ-900-LAB01"
```

```
$env:SharedAccessKey = "
a6UD4VpQPObUV1t28UMRdFTSh5QV+S5+lAIoTJZcxs8"
```

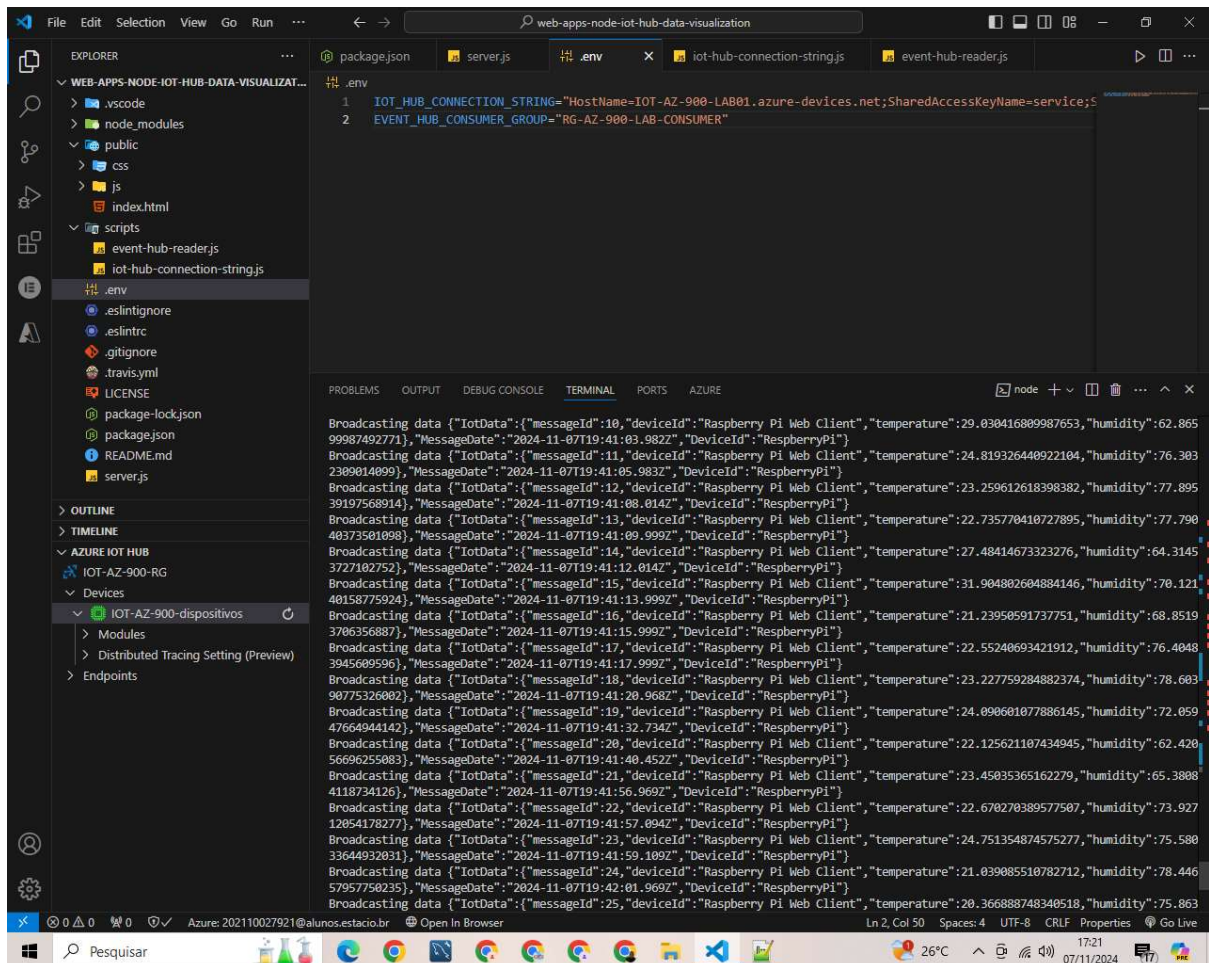
```
$env:EventHubConsumerGroup = " RG-AZ-900-LAB-CONSUMER "
```

E também criei um arquivo .env e declarei as variáveis

IOT_HUB_CONNECTION_STRING="HostName=IOT-AZ-900-LAB01.azure-devices.net;SharedAccessKeyName=service;SharedAccessKey=a6UD4VpQP
ObUV1t28UMRdFTSh5QV+S5+IAIoTJZcxs8="

EVENT_HUB_CONSUMER_GROUP= "RG-AZ-900-LAB-CONSUMER"

Coloquei o dispositivo em execução, executei npm install e npm start



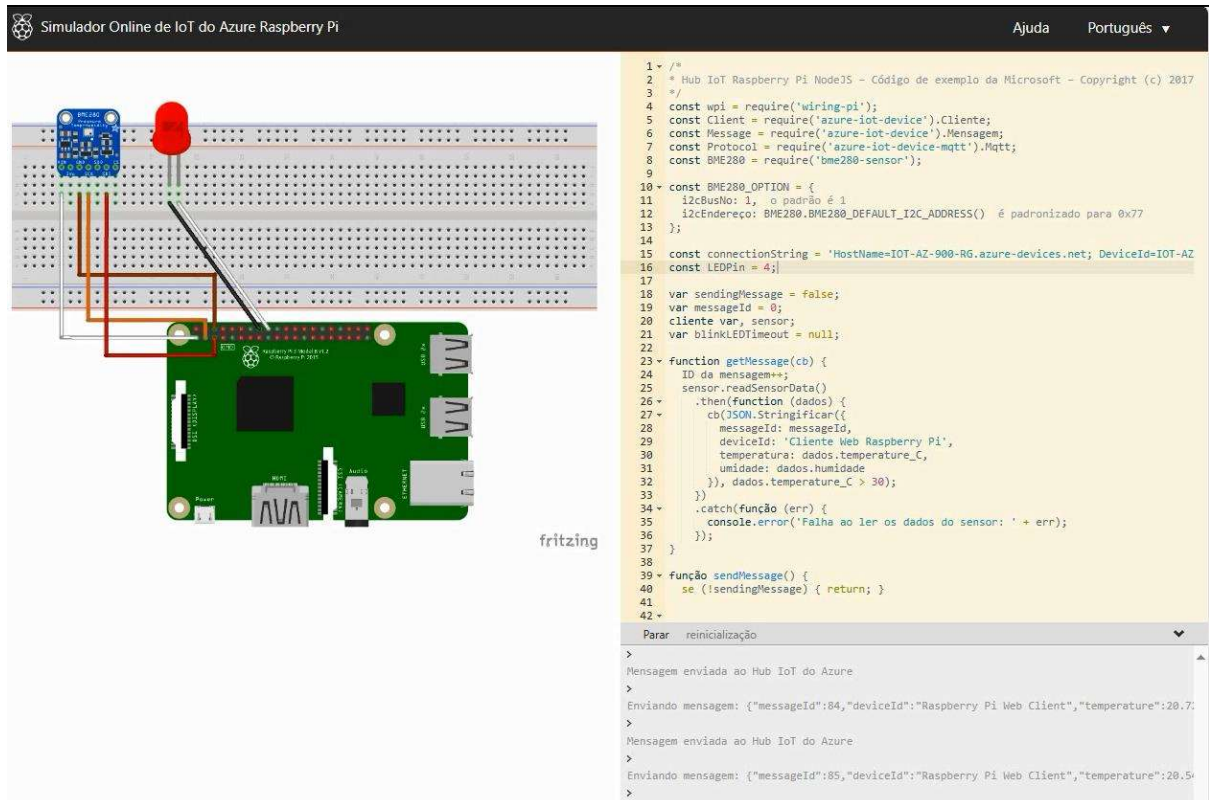
The screenshot shows a Visual Studio Code editor window with the following components:

- EXPLORER:** Displays the file structure of the project, including folders like `.vscode`, `node_modules`, `public`, `css`, `js`, `scripts`, and files like `event-hub-reader.js`, `iot-hub-connection-string.js`, `.env`, `.eslintrc`, `.gitignore`, `.travis.yml`, `LICENSE`, `package-lock.json`, `package.json`, and `README.md`.
- FILE EXPLORER:** Shows the `.env` file selected, with the following content:

```
1 IOT_HUB_CONNECTION_STRING="HostName=IOT-AZ-900-LAB01.azure-devices.net;SharedAccessKeyName=service;S
2 EVENT_HUB_CONSUMER_GROUP="RG-AZ-900-LAB-CONSUMER"
```
- TERMINAL:** Displays the output of the application, showing a series of "Broadcasting data" messages. Each message contains IoT data for a "Raspberry Pi Web Client" device, including message ID, device ID, temperature, and humidity. The messages are timestamped with the date 2024-11-07T19:41:03.982Z.

The terminal output shows the following data points (Message ID, Device ID, Temperature, Humidity):

Message ID	Device ID	Temperature	Humidity
10	Raspberry Pi Web Client	29.030416809987653	62.865
11	Raspberry Pi Web Client	24.819326440922104	76.303
12	Raspberry Pi Web Client	23.259612618398382	77.895
13	Raspberry Pi Web Client	22.735770410727895	77.790
14	Raspberry Pi Web Client	27.48414673323276	64.3145
15	Raspberry Pi Web Client	31.904802604884146	70.121
16	Raspberry Pi Web Client	21.2395059137751	68.8519
17	Raspberry Pi Web Client	22.55240693421912	76.4048
18	Raspberry Pi Web Client	23.227759284882374	78.603
19	Raspberry Pi Web Client	24.090601077886145	72.059
20	Raspberry Pi Web Client	22.125621107434945	62.420
21	Raspberry Pi Web Client	23.45035365162279	65.3808
22	Raspberry Pi Web Client	22.670270389577507	73.927
23	Raspberry Pi Web Client	24.751354874575277	75.580
24	Raspberry Pi Web Client	21.039085510782712	78.446
25	Raspberry Pi Web Client	20.366888748340518	75.863



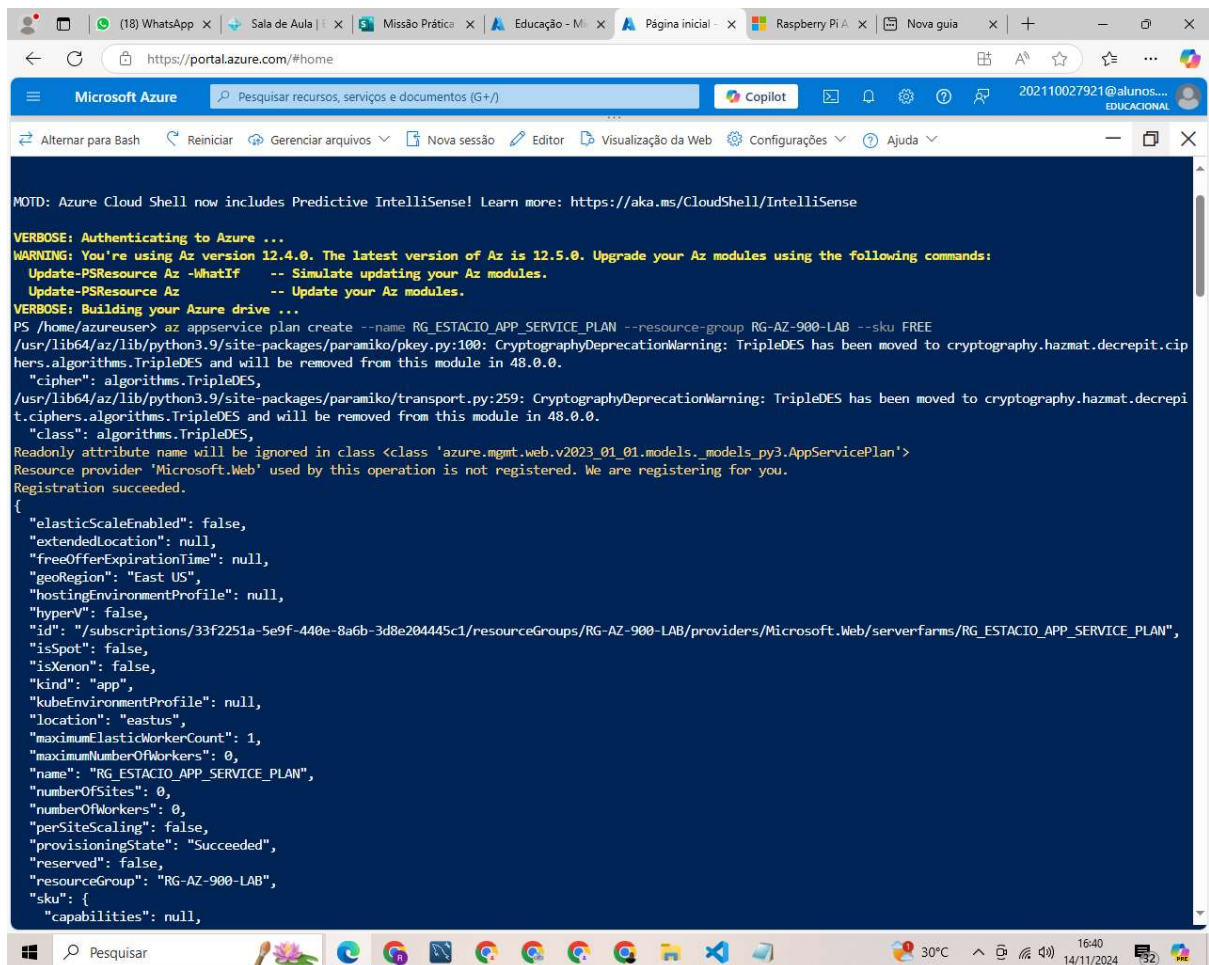
Digitei `http://localhost:3000` no meu navegador e obtive as respostas de temperatura e humidade

Agora, avançaremos para a segunda fase da Missão Prática, onde o objetivo é hospedar o servidor na nuvem Azure por meio do Serviço de Aplicativo do Azure.

Para começar criamos um plano de Serviço de Aplicativo utilizando o seguinte código:

```
az appservice plan create --name RG_ESTACIO_APP_SERVICE_PLAN --  
resource-group RG-AZ-900-LAB --sku FREE
```

Obtive está resposta:

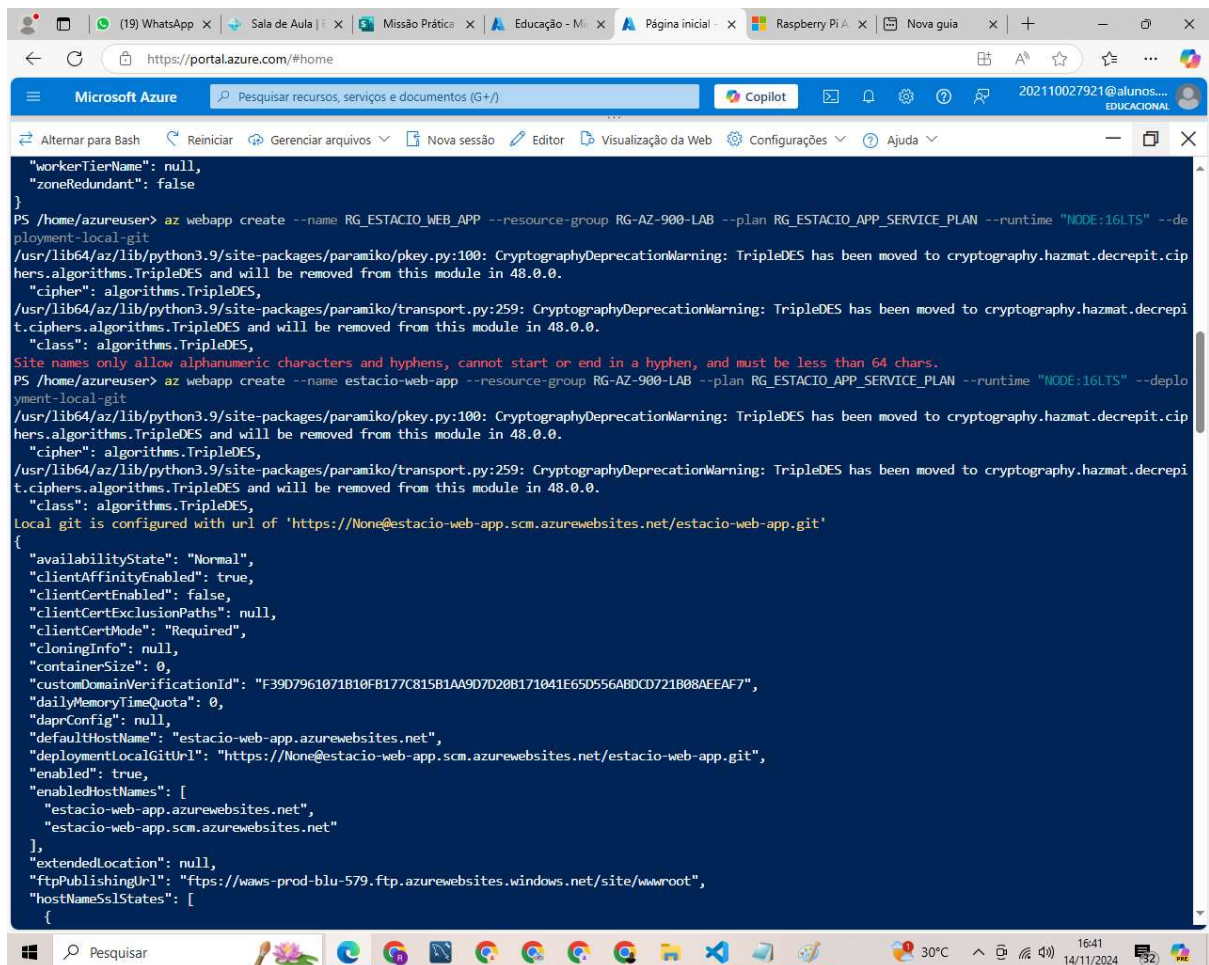


```
MOTD: Azure Cloud Shell now includes Predictive IntelliSense! Learn more: https://aka.ms/CloudShell/IntelliSense

VERBOSE: Authenticating to Azure ...
WARNING: You're using Az version 12.4.0. The latest version of Az is 12.5.0. Upgrade your Az modules using the following commands:
  Update-PSResource Az -WhatIf -- Simulate updating your Az modules.
  Update-PSResource Az -- Update your Az modules.
VERBOSE: Building your Azure drive ...
PS /home/azureuser> az appservice plan create --name RG_ESTACIO_APP_SERVICE_PLAN --resource-group RG-AZ-900-LAB --sku FREE
/usr/lib64/az/lib/python3.9/site-packages/paramiko/pkey.py:100: CryptographyDeprecationWarning: TripleDES has been moved to cryptography.hazmat.decrepit.ciphers.algorithms.TripleDES and will be removed from this module in 48.0.0.
  "cipher": algorithms.TripleDES,
/usr/lib64/az/lib/python3.9/site-packages/paramiko/transport.py:259: CryptographyDeprecationWarning: TripleDES has been moved to cryptography.hazmat.decrepit.ciphers.algorithms.TripleDES and will be removed from this module in 48.0.0.
  "class": algorithms.TripleDES,
Readonly attribute name will be ignored in class <class 'azure.mgmt.web.v2023_01_01.models._models_py3.AppServicePlan'>
Resource provider 'Microsoft.Web' used by this operation is not registered. We are registering for you.
Registration succeeded.
{
  "elasticScaleEnabled": false,
  "extendedLocation": null,
  "freeOfferExpirationTime": null,
  "geoRegion": "East US",
  "hostingEnvironmentProfile": null,
  "hyperV": false,
  "id": "/subscriptions/33f2251a-5e9f-440e-8a6b-3d8e204445c1/resourceGroups/RG-AZ-900-LAB/providers/Microsoft.Web/serverfarms/RG_ESTACIO_APP_SERVICE_PLAN",
  "isSpot": false,
  "isXenon": false,
  "kind": "app",
  "kubeEnvironmentProfile": null,
  "location": "eastus",
  "maximumElasticWorkerCount": 1,
  "maximumNumberOfWorkers": 0,
  "name": "RG_ESTACIO_APP_SERVICE_PLAN",
  "numberOfSites": 0,
  "numberOfWorkers": 0,
  "perSiteScaling": false,
  "provisioningState": "Succeeded",
  "reserved": false,
  "resourceGroup": "RG-AZ-900-LAB",
  "sku": {
    "capabilities": null,
```

Após isso foi criado o webapp em meu plano de serviço, para isso utilizei o seguinte comando:

```
az webapp create --name RG_ESTACIO_WEB_APP --resource-group RG-AZ-900-LAB --plan RG_ESTACIO_APP_SERVICE_PLAN --runtime "NODE:16LTS" --deployment-local-git
```



```
"workerTierName": null,
"zoneRedundant": false
}
PS /home/azureuser> az webapp create --name RG_ESTACIO_WEB_APP --resource-group RG-AZ-900-LAB --plan RG_ESTACIO_APP_SERVICE_PLAN --runtime "NODE:16LTS" --de
ployment-local-git
/usr/lib64/az/lib/python3.9/site-packages/paramiko/pkey.py:100: CryptographyDeprecationWarning: TripleDES has been moved to cryptography.hazmat.decrepit.cip
hers.algorithms.TripleDES and will be removed from this module in 48.0.0.
"cipher": algorithms.TripleDES,
/usr/lib64/az/lib/python3.9/site-packages/paramiko/transport.py:259: CryptographyDeprecationWarning: TripleDES has been moved to cryptography.hazmat.decrepi
t.ciphers.algorithms.TripleDES and will be removed from this module in 48.0.0.
"class": algorithms.TripleDES,
Site names only allow alphanumeric characters and hyphens, cannot start or end in a hyphen, and must be less than 64 chars.
PS /home/azureuser> az webapp create --name estacio-web-app --resource-group RG-AZ-900-LAB --plan RG_ESTACIO_APP_SERVICE_PLAN --runtime "NODE:16LTS" --depl
oyment-local-git
/usr/lib64/az/lib/python3.9/site-packages/paramiko/pkey.py:100: CryptographyDeprecationWarning: TripleDES has been moved to cryptography.hazmat.decrepit.cip
hers.algorithms.TripleDES and will be removed from this module in 48.0.0.
"cipher": algorithms.TripleDES,
/usr/lib64/az/lib/python3.9/site-packages/paramiko/transport.py:259: CryptographyDeprecationWarning: TripleDES has been moved to cryptography.hazmat.decrepi
t.ciphers.algorithms.TripleDES and will be removed from this module in 48.0.0.
"class": algorithms.TripleDES,
Local git is configured with url of 'https://None@estacio-web-app.scm.azurewebsites.net/estacio-web-app.git'
{
  "availabilityState": "Normal",
  "clientAffinityEnabled": true,
  "clientCertEnabled": false,
  "clientCertExclusionPaths": null,
  "clientCertMode": "Required",
  "cloningInfo": null,
  "containerSize": 0,
  "customDomainVerificationId": "F39D7961071B10FB177C815B1AA9D7D20B171041E65D556ABDCD721B08AEAF7",
  "dailyMemoryTimeQuota": 0,
  "daprConfig": null,
  "defaultHostName": "estacio-web-app.azurewebsites.net",
  "deploymentLocalGitUrl": "https://None@estacio-web-app.scm.azurewebsites.net/estacio-web-app.git",
  "enabled": true,
  "enabledHostNames": [
    "estacio-web-app.azurewebsites.net",
    "estacio-web-app.scm.azurewebsites.net"
  ],
  "extendedLocation": null,
  "ftpPublishingUrl": "https://www-prod-blu-579.ftp.azurewebsites.windows.net/site/wwwroot",
  "hostNameSslStates": [
  ]
}
```

Neste momento eu esqueci de configurar o deploy com o github.

Após utilizei o comando `az webapp config appsettings` para adicionar as variáveis de ambiente especificando a cadeia de conexão e grupo de consumidores

`az webapp config appsettings list -n estacio-web-app -g RG-AZ-900-LAB`

Em seguida ativei o protocolo WebSocket para o aplicativo web e o configurei para aceitar exclusivamente solicitações HTTPS utilizando os seguintes códigos:

`az webapp config set -n estacio-web-app -g RG-AZ-900-LAB --web-sockets-enabled true`

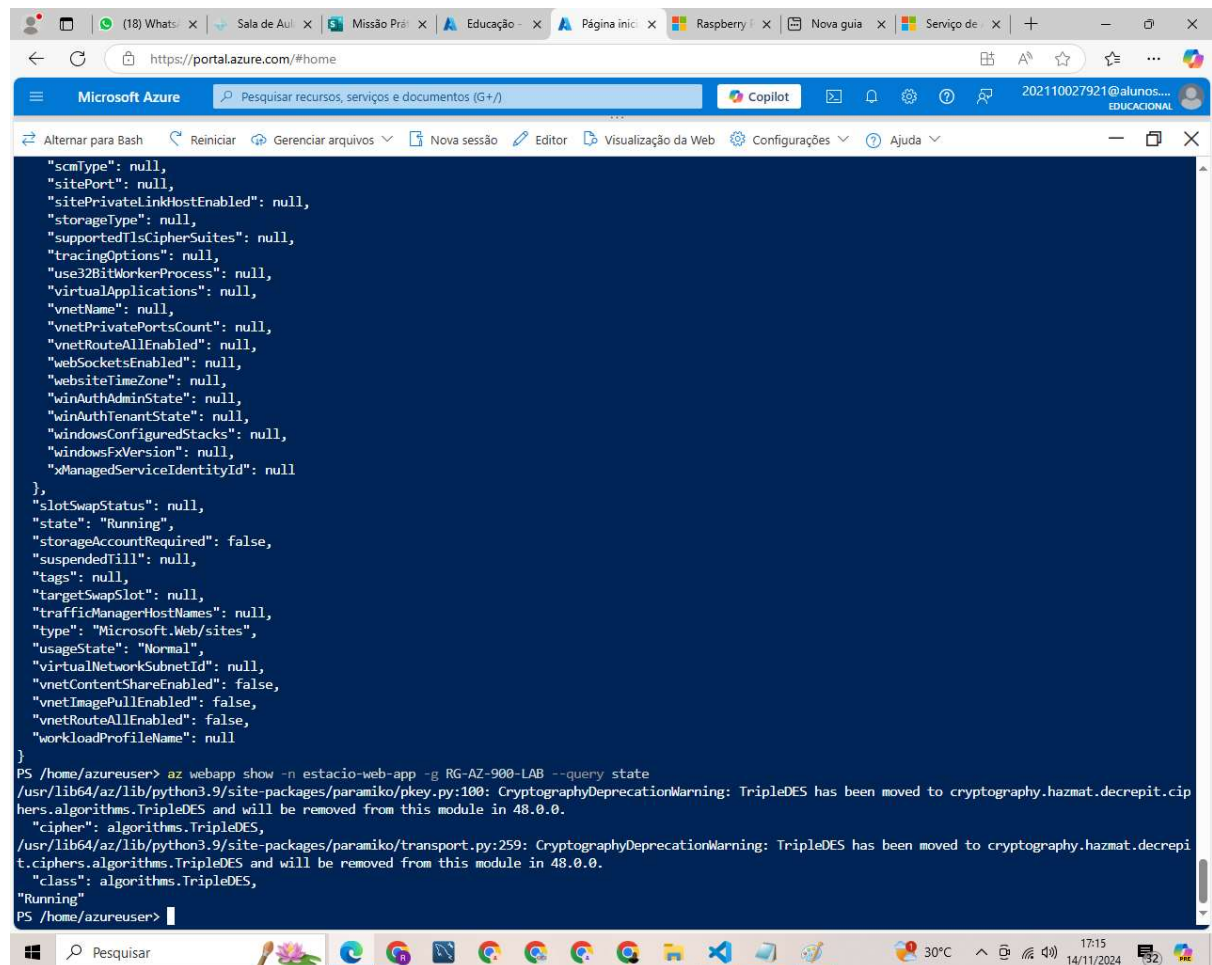
`az webapp update -n estacio-web-app -g RG-AZ-900-LAB --https-only true`

Realizei o teste executando este código

```
az webapp show -n estacio-web-app -g RG-AZ-900-LAB --query state
```

E obtive a resposta :

Running



```
"scmType": null,
"sitePort": null,
"sitePrivateLinkHostEnabled": null,
"storageType": null,
"supportedTlsCipherSuites": null,
"tracingOptions": null,
"use32BitWorkerProcess": null,
"virtualApplications": null,
"vnetName": null,
"vnetPrivatePortsCount": null,
"vnetRouteAllEnabled": null,
"webSocketsEnabled": null,
"websiteTimeZone": null,
"winAuthAdminState": null,
"winAuthTenantState": null,
"windowsConfiguredStacks": null,
"windowsFxVersion": null,
"xManagedServiceIdentityId": null
},
"slotSwapStatus": null,
"state": "Running",
"storageAccountRequired": false,
"suspendedTill": null,
"tags": null,
"targetSwapSlot": null,
"trafficManagerHostNames": null,
"type": "Microsoft.Web/sites",
"usageState": "Normal",
"virtualNetworkSubnetId": null,
"vnetContentShareEnabled": false,
"vnetImagePullEnabled": false,
"vnetRouteAllEnabled": false,
"workloadProfileName": null
}
PS /home/azureuser> az webapp show -n estacio-web-app -g RG-AZ-900-LAB --query state
/usr/lib64/az/lib/python3.9/site-packages/paramiko/pkey.py:100: CryptographyDeprecationWarning: TripleDES has been moved to cryptography.hazmat.decrepit.ciph
hers.algorithms.TripleDES and will be removed from this module in 48.0.0.
  "cipher": algorithms.TripleDES,
/usr/lib64/az/lib/python3.9/site-packages/paramiko/transport.py:259: CryptographyDeprecationWarning: TripleDES has been moved to cryptography.hazmat.decrepi
t.ciphers.algorithms.TripleDES and will be removed from this module in 48.0.0.
  "class": algorithms.TripleDES,
"Running"
PS /home/azureuser>
```

Após isso acessei a url do site criado <https://estacio-web-app.azurewebsites.net> e obtive esta pagina:

