Vamos interligar as coisas com a nuvem

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Objetivo da Prática

- Como criar um Hub IoT do Azure;

- Como registrar um novo dispositivo no Hub IoT;

- Adicionando extensão Hub IoT do Azure para Visual Studio Code;

- Gerenciando e interagindo com o Hub IoT.

Implantação:

Obs.: apesar de ter nomeado como n4, essa atividade é corresponente ao nível 5.

Criação de grupo de consumidores:

```
az iot hub consumer-group create --hub-name n4-mundo4-fullstack
--name fullstack_consumer
```

```
VERBOSE: Authenticating to Azure ...
VERBOSE: Building your Azure drive ...
PS /home/maiara> az iot hub consumer-group create --hub-name n4-mundo4-fullstack  --name fullstack_consumer
{
  "etag": null,
  "id": "/subscriptions/9728144e-f197-40c0-aebc-af48da7c118f/resourceGroups/n4-mundo4-mai/providers/Microsoft.Devices/IotHubs/n4-mundo4-fullstack/eventHubEndpoints/events/ConsumerGroups/fullstack_consumer",
  "name": "fullstack_consumer",
  "properties": {
    "created": "Sat, 09 Mar 2024 17:20:37 GMT",
    "properties": {
      "name": "fullstack_consumer"
    }
  },
  "resourceGroup": "n4-mundo4-mai",
  "type": "Microsoft.Devices/IotHubs/EventHubEndpoints/ConsumerGroups"
}
PS /home/maiara> []
```

Obter uma cadeia de conexão para o hub IoT:

```
az iot hub show-connection-string --hub-name n4-mundo4-fullstack
--policy-name service
```

```
PS /home/maiara> az iot hub show-connection-string --hub-name n4-mundo4-fullstack --policy-name service
This command has been deprecated and will be removed in a future release. Use 'IoT Extension (azure-iot) connection-string command (az iot hub connection-string show)' instead.
[Warning] This output may compromise security by showing the following secrets: connectionString. Learn more at: https://go.microsoft.com/fwlink/?linkid=2258669
{
  "connectionString": "HostName=n4-mundo4-fullstack.azure-devices.net;SharedAccessKeyName=service;SharedAccessKey=wx46Y3gEbXVzn4iBpVKh3MN7xMAarCmEuAIoTFH+pxo="
}
PS /home/maiara>
```

Dados coletados:
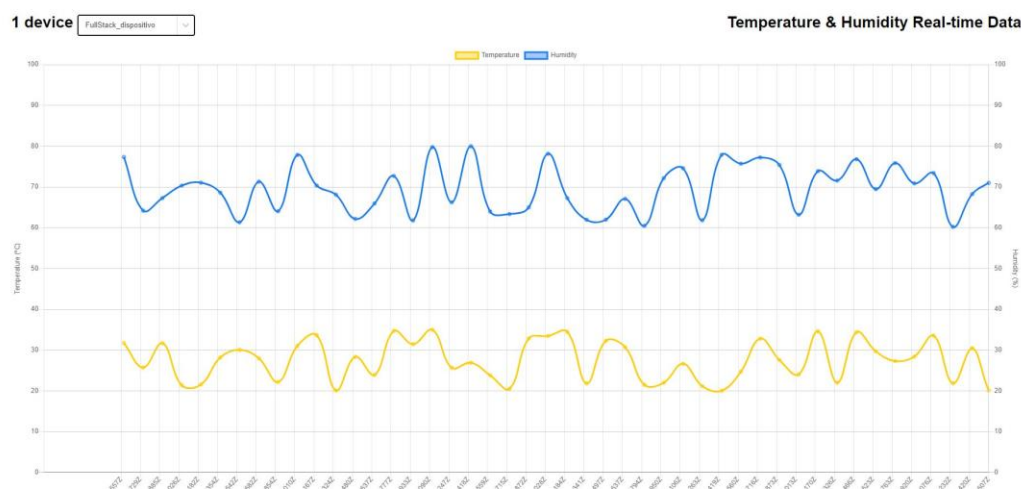
Criando novo plano de serviço de aplicativo:

```
az appservice plan create --name n5-mundo4-fullstack --resource-
group n4-mundo4-mai --sku FREE
```

https://docs.microsoft.com/en-US/cli/azure/appservice/plan#az_appservice_plan_create
Read more about taz appservice plan create --name n5-mundo4-fullstack --resource-group n4-mundo4-mai --sku FREE
Readonly attribute name will be ignored in class <class 'azure.mgmt.web.v2023_01_01.models._models_py3.AppServicePlan'>0000000000 -PermissionId 5f8c59db-677d-491f-a6b8-5f174b11ec1d
Resource provider 'Microsoft.Web' used by this operation is not registered. We are registering for you.
^C   az appservice plan create --name n5-mundo4-fullstack --resource-group n4-mundo4-mai --sku FREE
Readonly attribute name will be ignored in class <class 'azure.mgmt.web.v2023_01_01.models._models_py3.AppServicePlan'>0000000000 -PermissionId 5f8c59db-677d-491f-a6b8-5f174b11ec1d
{
  "elasticScaleEnabled": false,
  "extendedLocation": null,
  "freeOfferExpirationTime": null,
  "geoRegion": "Brazil South",
  "hostingEnvironmentProfile": null,
  "hyperV": false,
  "id": "/subscriptions/9728144e-f197-40c0-aebc-af48da7c118f/resourceGroups/n4-mundo4-mai/providers/Microsoft.Web/serverfarms/n5-mundo4-fullstack",
  "isSpot": false,
  "isXenon": false,
  "kind": "app",
  "kubeEnvironmentProfile": null,
  "location": "brazilsouth",
  "maximumElasticWorkerCount": 1,
  "maximumNumberOfWorkers": 0,
  "name": "n5-mundo4-fullstack",
  "numberOfSites": 0,
  "numberOfWorkers": 0,
  "perSiteScaling": false,
  "provisioningState": "Succeeded",
  "reserved": false,
  "resourceGroup": "n4-mundo4-mai",
  "sku": {
    "capabilities": null,
    "capacity": 0,
    "family": "F",
    "locations": null,
    "name": "F1",
    "size": "F1",
    "skuCapacity": null,
    "tier": "Free"
  },
  "spotExpirationTime": null,
  "status": "Ready",
```

## Provisionando um app web:

```
az webapp create -n n5-mundo4-fullstackwebapp -g n4-mundo4-mai -
p n5-mundo4-fullstack --runtime "NODE:16LTS" --deployment-local-
git
```

PS /home/maiara> az webapp create -n n5-mundo4-fullstackwebapp -g n4-mundo4-mai -p n5-mundo4-fullstack --runtime "NODE:16LTS" --deployment-local-git
Local git is configured with url of 'https://None@n5-mundo4-fullstackwebapp.scm.azurewebsites.net/n5-mundo4-fullstackwebapp.git'
{
  "availabilityState": "Normal",
  "clientAffinityEnabled": true,
  "clientCertEnabled": false,
  "clientCertExclusionPaths": null,
  "clientCertMode": "Required",
  "cloningInfo": null,
  "containerSize": 0,
  "customDomainVerificationId": "EBF224B15E3F21C619D273DF10121896C432435857BAEE8183D3BB7800DEA5FD",
  "dailyMemoryTimeQuota": 0,
  "daprConfig": null,
  "defaultHostName": "n5-mundo4-fullstackwebapp.azurewebsites.net",
  "deploymentLocalGitUrl": "https://None@n5-mundo4-fullstackwebapp.scm.azurewebsites.net/n5-mundo4-fullstackwebapp.git",
  "enabled": true,
  "enabledHostNames": [
    "n5-mundo4-fullstackwebapp.azurewebsites.net",
    "n5-mundo4-fullstackwebapp.scm.azurewebsites.net"
  ],
  "extendedLocation": null,
  "ftpPublishingUrl": "ftps://waws-prod-cq1-047.ftp.azurewebsites.windows.net/site/wwwroot",
  "hostNameSslStates": [
    {
      "certificateResourceId": null,
      "hostType": "Standard",
      "ipBasedSslResult": null,
      "ipBasedSslState": "NotConfigured",
      "name": "n5-mundo4-fullstackwebapp.azurewebsites.net",
      "sslState": "Disabled",
      "thumbprint": null,
      "toUpdate": null,
      "toUpdateIpBasedSsl": null,
      "virtualIPv6": null,
      "virtualIp": null
    },
    {
      "certificateResourceId": null,
      "hostType": "Repository",
```

Configurações de aplicativo:

```
az webapp config appsettings set -n n5-mundo4-fullstackwebapp -g
n4-mundo4-mai                                              --settings
EventHubConsumerGroup=fullstack_consumer
IotHubConnectionString="HostName=n4-mundo4-fullstack.azure-
devices.net;SharedAccessKeyName=service;SharedAccessKey=wx46Y3gE
bXVzn4iBpVKh3MN7xMAarCmEuAIoTFH+pxo="
```

```
App settings have been redacted. Use `az webapp/logicapp/functionapp config appsettings list` to view.
[
  {
    "name": "WEBSITE_NODE_DEFAULT_VERSION",
    "slotSetting": false,
    "value": null
  },
  {
    "name": "EventHubConsumerGroup",
    "slotSetting": false,
    "value": null
  },
  {
    "name": "IotHubConnectionString",
    "slotSetting": false,
    "value": null
  }
]
```

Ativando o protocolo WebSocket:

```
az webapp config set -n n5-mundo4-fullstackwebapp -g n4-mundo4-
mai --web-sockets-enabled true
```

```
PS /home/maiara> az webapp config set -n n5-mundo4-fullstackwebapp -g n4-mundo4-mai --web-sockets-enabled true
{
  "acrUseManagedIdentityCreds": false,
  "acrUserManagedIdentityId": null,
  "alwaysOn": false,
  "apiDefinition": null,
  "apiManagementConfig": null,
  "appCommandLine": "",
  "appSettings": null,
  "autoHealEnabled": false,
  "autoHealRules": null,
  "autoSwapSlotName": null,
  "azureStorageAccounts": {},
  "connectionStrings": null,
  "cors": null,
  "defaultDocuments": [
    "Default.htm",
    "Default.html",
    "Default.asp",
    "index.htm",
    "index.html",
    "iisstart.htm",
    "default.aspx",
    "index.php",
    "hostingstart.html"
  ],
  "detailedErrorLoggingEnabled": false,
  "documentRoot": null,
  "elasticWebAppScaleLimit": 0,
  "experiments": {
    "rampUpRules": []
  },
  "ftpsState": "FtpsOnly",
  "functionAppScaleLimit": null,
  "functionsRuntimeScaleMonitoringEnabled": false,
  "handlerMappings": null,
  "healthCheckPath": null,
```

Configurando webapp para aceitar exclusivamente solicitações HTTPS:

```
az webapp update -n n5-mundo4-fullstackwebapp -g n4-mundo4-mai -
-https-only true
```

```
PS /home/maiara> az webapp update -n n5-mundo4-fullstackwebapp -g n4-mundo4-mai --https-only true
{
  "availabilityState": "Normal",
  "clientAffinityEnabled": true,
  "clientCertEnabled": false,
  "clientCertExclusionPaths": null,
  "clientCertMode": "Required",
  "cloningInfo": null,
  "containerSize": 0,
  "customDomainVerificationId": "EBF224B15E3F21C619D273DF10121896C432435857BAEE8183D3BB7800DEA5FD",
  "dailyMemoryTimeQuota": 0,
  "daprConfig": null,
  "defaultHostName": "n5-mundo4-fullstackwebapp.azurewebsites.net",
  "enabled": true,
  "enabledHostNames": [
    "n5-mundo4-fullstackwebapp.azurewebsites.net",
    "n5-mundo4-fullstackwebapp.scm.azurewebsites.net"
  ],
  "extendedLocation": null,
  "hostNameSslStates": [
    {
      "certificateResourceId": null,
      "hostType": "Standard",
      "ipBasedSslResult": null,
      "ipBasedSslState": "NotConfigured",
      "name": "n5-mundo4-fullstackwebapp.azurewebsites.net",
      "sslState": "Disabled",
      "thumbprint": null,
      "toUpdate": null,
      "toUpdateIpBasedSsl": null,
      "virtualIPv6": null,
      "virtualIp": null
    },
    {
      "certificateResourceId": null,
      "hostType": "Repository",
      "ipBasedSslResult": null,
```

Consultando status:

```
az webapp show -n n5-mundo4-fullstackwebapp -g n4-mundo4-mai --
query state
```

```
PS /home/maiara> az webapp show -n n5-mundo4-fullstackwebapp -g n4-mundo4-mai --query state
"Running"
```