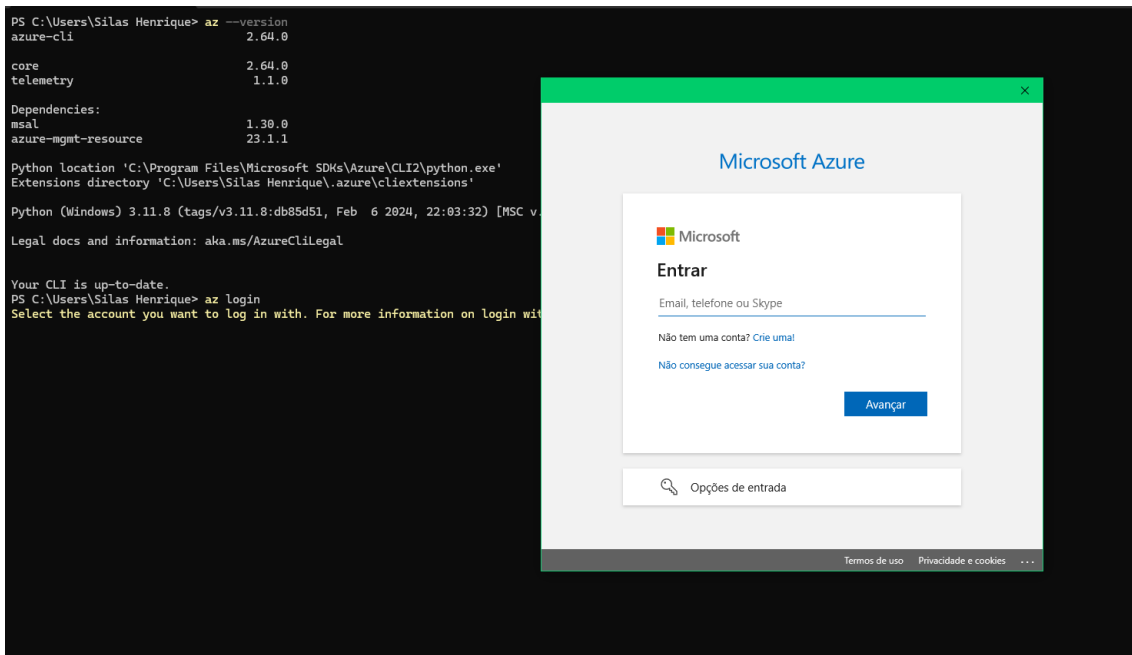


FIAP

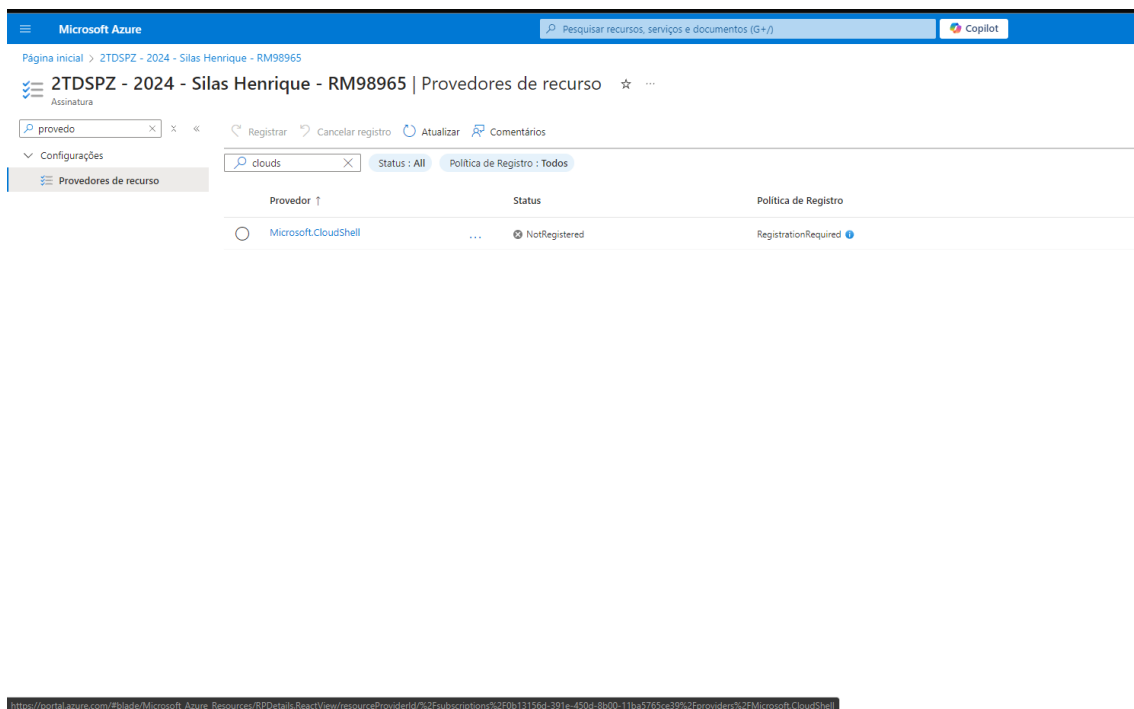
Silas Henrique da Silva Oliveira – RM: 98965

CHECK POINT 4 – AZURE CLI

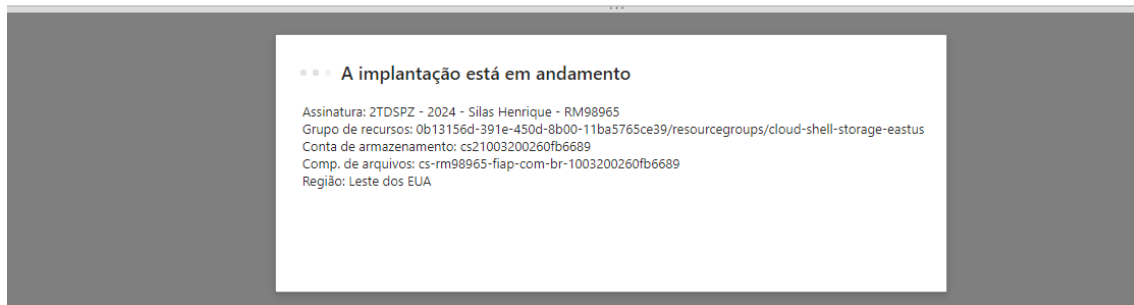
SÃO PAULO/SP – 2024



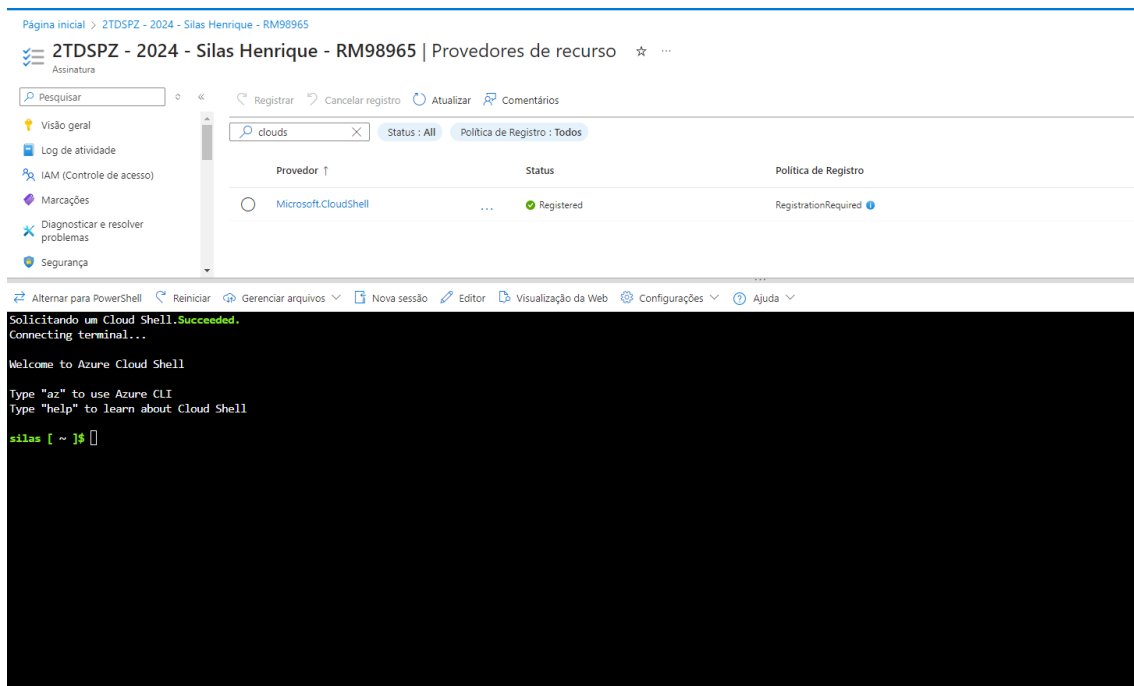
Esta imagem mostra a execução do comando `az login` no Azure CLI, onde a interface gráfica de autenticação da Microsoft aparece, solicitando o email, telefone ou Skype para login.



Esta imagem exibe a página "Provedores de Recurso" no portal do Microsoft Azure. O recurso `Microsoft.CloudShell` está destacado, com o status "NotRegistered" e uma política de registro indicando que o registro é necessário.



Nesta imagem, há uma notificação de que a implantação está em andamento. A assinatura associada é 2TDSPZ - 2024, o grupo de recursos é cloud-shell-storage-eastus, e a região de implantação é "Leste dos EUA". A conta de armazenamento e o caminho do arquivo também são exibidos.



A imagem confirma que o Cloud Shell foi registrado com sucesso e está pronto para ser utilizado para executar comandos no Azure.

```
Solicitando um Cloud Shell.Succeeded.
Connecting terminal...

Welcome to Azure Cloud Shell

Type "az" to use Azure CLI
Type "help" to learn about Cloud Shell

silas [ ~ ]$ az help

Group
  az

Subgroups:
  account      : Manage Azure subscription information.
  acr          : Manage private registries with Azure Container Registries.
  ad           : Manage Microsoft Entra ID (formerly known as Azure Active Directory,
                Azure AD, AAD) entities needed for Azure role-based access control
                (Azure RBAC) through Microsoft Graph API.
  advisor      : Manage Azure Advisor.
  afd          : Manage Azure Front Door Standard/Premium.
  ai-examples [Preview] : Add AI powered examples to help content.
  aks          : Manage Azure Kubernetes Services.
  ams          : Manage Azure Media Services resources.
  apim         : Manage Azure API Management services.
  appconfig    : Manage App Configurations.
  appservice   : Manage App Service plans.
  aro          : Manage Azure Red Hat OpenShift clusters.
  backup       : Manage Azure Backups.
  batch        : Manage Azure Batch.
  bicep        : Bicep CLI command group.
  billing      : Manage Azure Billing.
  bot          : Manage Microsoft Azure Bot Service.
  cache        : Commands to manage CLI objects cached using the `--defer` argument.
  capacity     : Manage capacity.
  cdn          : Manage Azure Content Delivery Networks (CDNs).
  cloud        : Manage registered Azure clouds.
  cognitiveservices : Manage Azure Cognitive Services accounts.
  compute-recommender : Manage sku/zone/region recommender info for compute resources.
  config [Experimental] : Manage Azure CLI configuration.
  connection   : Commands to manage Service Connector local connections which allow local
                environment to connect Azure Resource. If you want to manage connection
                for compute service, please run 'az webapp/containerapp/spring
                connection'.
```

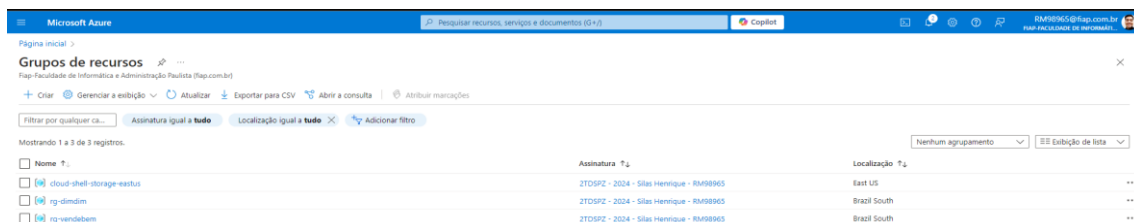
Nesta imagem, podemos ver que o status está registrado e o terminal do Azure está instanciado diretamente. Isso significa que você está pronto para começar a usar o Azure Cloud Shell.

```

silas [ ~ ]$ az vm list
[]
silas [ ~ ]$ az webapp list
[]
silas [ ~ ]$ az group list
[
  {
    "id": "/subscriptions/0b13156d-391e-450d-8b00-11ba5765ce39/resourceGroups/cloud-shell-storage-eastus",
    "location": "eastus",
    "managedBy": null,
    "name": "cloud-shell-storage-eastus",
    "properties": {
      "provisioningState": "Succeeded"
    },
    "tags": null,
    "type": "Microsoft.Resources/resourceGroups"
  }
]

```

Nesta etapa observamos alguns comandos do Azure CLI mostrando as VM's, WebApp's e Group's.



Nome	Assinatura	Localização
cloud-shell-storage-eastus	27D592 - 2024 - Silas Henrique - RM98965	East US
rg-dimdim	27D592 - 2024 - Silas Henrique - RM98965	Brazil South
rg-vendebem	27D592 - 2024 - Silas Henrique - RM98965	Brazil South

Nesta etapa foi criado novos resources groups.

```

silas [ ~ ]$ az group list --output table
Name                                Location    Status
-----
rg-dimdim                           brazilsouth Succeeded
rg-vendebem                         brazilsouth Succeeded
cloud-shell-storage-eastus          eastus      Succeeded
silas [ ~ ]$

```

Nesta imagem vemos o através de um comando os Group's cadastrados.

```

silas [ ~ ]$ echo "Entre com o nome do grupo de recursos:"
Entre com o nome do grupo de recursos:
silas [ ~ ]$ echo "Entre com o nome do grupo de recursos:"
read rg_dimdim
az group show --name $rg_dimdim
Entre com o nome do grupo de recursos:
rg-dimdim
{
  "id": "/subscriptions/0b13156d-391e-450d-8b00-11ba5765ce39/resourceGroups/rg-dimdim",
  "location": "brazilsouth",
  "managedBy": null,
  "name": "rg-dimdim",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": {},
  "type": "Microsoft.Resources/resourceGroups"
}

```

```

silas [ ~ ]$ echo "Entre com o Nome do Grupo de Recursos:" && \
read rg_vendebeem && \
echo "Entre com a localização (ex: brazilsouth):" && \
read location && \
az group create --name $rg_vendebeem --location $location
Entre com o Nome do Grupo de Recursos:
rg-vendebeem
Entre com a localização (ex: brazilsouth):
brazilsouth
{
  "id": "/subscriptions/0b13156d-391e-450d-8b00-11ba5765ce39/resourceGroups/rg-vendebeem",
  "location": "brazilsouth",
  "managedBy": null,
  "name": "rg-vendebeem",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
}
silas [ ~ ]$

```

Neste momento é observado que podemos acessar os groups digitando seu nome ou o da sua localização.

```

silas [ ~ ]$ az group list
[
  {
    "id": "/subscriptions/0b13156d-391e-450d-8b00-11ba5765ce39/resourceGroups/rg-dimdim",
    "location": "brazilsouth",
    "managedBy": null,
    "name": "rg-dimdim",
    "properties": {
      "provisioningState": "Succeeded"
    },
    "tags": {},
    "type": "Microsoft.Resources/resourceGroups"
  },
  {
    "id": "/subscriptions/0b13156d-391e-450d-8b00-11ba5765ce39/resourceGroups/cloud-shell-storage-eastus",
    "location": "eastus",
    "managedBy": null,
    "name": "cloud-shell-storage-eastus",
    "properties": {
      "provisioningState": "Succeeded"
    },
    "tags": null,
    "type": "Microsoft.Resources/resourceGroups"
  }
]
silas [ ~ ]$ az group list --output table
Name                                Location    Status
-----
rg-dimdim                          brazilsouth Succeeded
cloud-shell-storage-eastus         eastus      Succeeded
silas [ ~ ]$

```

Microsoft Azure

Grupos de recursos

Filtra por qualquer campo

Assinatura igual a tudo

Localização igual a tudo

Adicionar filtro

Mostrando 1 a 2 de 2 registros.

Nome	Assinatura	Localização
<input type="checkbox"/> cloud-shell-storage-eastus	2TDSPZ - 2024 - Silas Henrique - RM98965	East US
<input type="checkbox"/> rg-dimdim	2TDSPZ - 2024 - Silas Henrique - RM98965	Brazil South

```

silas [ ~ ]$ for i in $(az group list -o tsv --query "[].name"); do
  if [ "$(az resource list -g $i -o tsv)" ]; then
    echo "$i não está vazio"
  else
    az group delete -n $i -y --no-wait
  fi
done
cloud-shell-storage-eastus não está vazio
silas [ ~ ]$ az group list --output table
Name                                Location    Status
-----
rg-dimdim                          brazilsouth Deleting
cloud-shell-storage-eastus         eastus      Succeeded
silas [ ~ ]$

```

Nesta etapa observamos uma das formas de deletar um Resource Group via comando no terminal.

```

silas [ ~ ]$ az account list
[
  {
    "cloudName": "AzureCloud",
    "homeTenantId": "11dbbfe2-89b8-4549-be10-cec364e59551",
    "id": "0b13156d-391e-450d-8b00-11ba5765ce39",
    "isDefault": true,
    "managedByTenants": [],
    "name": "2TDSMZ - 2024 - Silas Henrique - RM98965",
    "state": "Enabled",
    "tenantId": "11dbbfe2-89b8-4549-be10-cec364e59551",
    "user": {
      "cloudShellID": true,
      "name": "RM98965@fiap.com.br",
      "type": "user"
    }
  }
]

```

Através do comando `az account list` podemos observar qual o usuário do Azure e todas as suas informações.

```

silas [ ~ ]$ az account list-locations --output table > datacenters.txt
silas [ ~ ]$

```

		datacenters.txt		
ARQUIVOS		1 DisplayName	Name	RegionalDisplayName
<ul style="list-style-type: none"> ▶ azure ▶ clouddrive .bash_history .bash_logout .bash_profile .bashrc .tmux.conf .zshrc datacenters.txt 		2 -----		
		3 East US	eastus	(US) East US
		4 South Central US	southcentralus	(US) South Central US
		5 West US 2	westus2	(US) West US 2
		6 West US 3	westus3	(US) West US 3
		7 Australia East	australiaeast	(Asia Pacific) Australia East
		8 Southeast Asia	southeastasia	(Asia Pacific) Southeast Asia
		9 North Europe	northeurope	(Europe) North Europe
		10 Sweden Central	swedencentral	(Europe) Sweden Central
		11 UK South	uksouth	(Europe) UK South
		12 West Europe	westeurope	(Europe) West Europe
		13 Central US	centralus	(US) Central US
		14 South Africa North	southafricanorth	(Africa) South Africa North
		15 Central India	centralindia	(Asia Pacific) Central India
		16 East Asia	eastasia	(Asia Pacific) East Asia
		17 Japan East	japaneast	(Asia Pacific) Japan East
		18 Korea Central	koreacentral	(Asia Pacific) Korea Central
		19 Canada Central	canadacentral	(Canada) Canada Central
		20 France Central	francecentral	(Europe) France Central
		21 Germany West Central	germanywestcentral	(Europe) Germany West Central
		22 Italy North	italynorth	(Europe) Italy North
		23 Norway East	norwayeast	(Europe) Norway East
		24 Poland Central	polandcentral	(Europe) Poland Central
		25 Spain Central	spaincentral	(Europe) Spain Central
		26 Switzerland North	switzerlandnorth	(Europe) Switzerland North
		27 Mexico Central	mexicocentral	(Mexico) Mexico Central
		28 UAE North	uaenorth	(Middle East) UAE North
		29 Brazil South	brazilsouth	(South America) Brazil South
		30 Israel Central	israelcentral	(Middle East) Israel Central
		31 Qatar Central	qatarcentral	(Middle East) Qatar Central
		32 Central US (Stage)	centralusstage	(US) Central US (Stage)
		33 East US (Stage)	eastusstage	(US) East US (Stage)
		34 East US 2 (Stage)	eastus2stage	(US) East US 2 (Stage)

Nesta etapa observamos que para iniciar a criação de uma máquina virtual existem princípios básico e um deles é a localização


```
silas [ ~ ]$ az vm image list --all -p canonical -f UbuntuServer --output table > vmsubuntu.txt
silas [ ~ ]$
```

vmsubuntu.txt						
004	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.201911220	19.04.201911
005	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.201911260	19.04.201911
006	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.201911270	19.04.201911
007	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.201911280	19.04.201911
008	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.201912040	19.04.201912
009	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.201912130	19.04.201912
010	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.201912170	19.04.201912
011	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.201912180	19.04.201912
012	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.202001060	19.04.202001
013	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.202001080	19.04.202001
014	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.202001090	19.04.202001
015	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.202001140	19.04.202001
016	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.202001150	19.04.202001
017	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.202001210	19.04.202001
018	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.202001220	19.04.202001
019	x64	Canonical:UbuntuServer	Canonical	19.04-daily-gen2	Canonical:UbuntuServer:19.04-daily-gen2:19.04.202001230	19.04.202001
020	x64	Canonical:UbuntuServer	Canonical	19.04-gen2	Canonical:UbuntuServer:19.04-gen2:19.04.20190210	19.04.201902
021	x64	Canonical:UbuntuServer	Canonical	19.04-gen2	Canonical:UbuntuServer:19.04-gen2:19.04.201910030	19.04.201910
022	x64	Canonical:UbuntuServer	Canonical	19.04-gen2	Canonical:UbuntuServer:19.04-gen2:19.04.201911000	19.04.201911
023	x64	Canonical:UbuntuServer	Canonical	19.04-gen2	Canonical:UbuntuServer:19.04-gen2:19.04.201911131	19.04.201911
024	x64	Canonical:UbuntuServer	Canonical	19.04-gen2	Canonical:UbuntuServer:19.04-gen2:19.04.202001220	19.04.202001
025	x64	Canonical:UbuntuServer	Canonical	19.10-daily-gen2	Canonical:UbuntuServer:19.10-daily-gen2:19.10.202005110	19.10.202005
026	x64	Canonical:UbuntuServer	Canonical	19.10-daily-gen2	Canonical:UbuntuServer:19.10-daily-gen2:19.10.202005200	19.10.202005
027	x64	Canonical:UbuntuServer	Canonical	19.10-daily-gen2	Canonical:UbuntuServer:19.10-daily-gen2:19.10.202007030	19.10.202007
028	x64	Canonical:UbuntuServer	Canonical	19.10-daily-gen2	Canonical:UbuntuServer:19.10-daily-gen2:19.10.202007070	19.10.202007
029	x64	Canonical:UbuntuServer	Canonical	19.10-daily-gen2	Canonical:UbuntuServer:19.10-daily-gen2:19.10.202007080	19.10.202007
030	x64	Canonical:UbuntuServer	Canonical	19.10-daily-gen2	Canonical:UbuntuServer:19.10-daily-gen2:19.10.202007090	19.10.202007
031	x64	Canonical:UbuntuServer	Canonical	19.10-daily-gen2	Canonical:UbuntuServer:19.10-daily-gen2:19.10.202007100	19.10.202007
032						

Observado no passo anterior, além da localização outro atributo imprescindível é a imagem da máquina virtual.

```
silas [ ~ ]$ az vm list-sizes -l brazilsouth --output table > vmsizes.txt
silas [ ~ ]$
```

vmsizes.txt						
	1	MaxDataDiskCount	MemoryInMB	Name	NumberOfCores	OsDiskSizeInMB
2	2					ResourceDiskSizeInMB
3	12	114688	Standard_NC6s_v3	6	1047552	753664
4	24	229376	Standard_NC12s_v3	12	1047552	1507376
5	32	458752	Standard_NC24rs_v3	24	1047552	3018752
6	32	458752	Standard_NC24s_v3	24	1047552	3018752
7	2	2048	Standard_A1_v2	1	1047552	10240
8	4	16384	Standard_A2s_v2	2	1047552	20480
9	4	4096	Standard_A2_v2	2	1047552	20480
10	8	32768	Standard_A4s_v2	4	1047552	40960
11	8	8192	Standard_A4_v2	4	1047552	40960
12	16	65536	Standard_A8s_v2	8	1047552	81920
13	16	16384	Standard_A8_v2	8	1047552	81920
14	2	512	Standard_B1ls	1	1047552	4096
15	2	2048	Standard_B1ms	1	1047552	4096
16	2	1024	Standard_B1s	1	1047552	4096
17	4	8192	Standard_B2ms	2	1047552	16384
18	4	4096	Standard_B2s	2	1047552	8192
19	8	16384	Standard_B4ms	4	1047552	32768
20	16	32768	Standard_B8ms	8	1047552	65536
21	16	49152	Standard_B12ms	12	1047552	98304
22	32	65536	Standard_B16ms	16	1047552	131072
23	32	81920	Standard_B20ms	20	1047552	163840
24	4	8192	Standard_D04s_v4	2	1047552	76800
25	8	16384	Standard_D08s_v4	4	1047552	153600
26	16	32768	Standard_D16s_v4	8	1047552	307200
27	32	65536	Standard_D32s_v4	16	1047552	614400
28	32	131072	Standard_D32ds_v4	32	1047552	1228800
29	32	196608	Standard_D48ds_v4	48	1047552	1843200
30	32	262144	Standard_D64ds_v4	64	1047552	2457600
31	8	8192	Standard_D04s_v5	2	1047552	76800
32	8	16384	Standard_D08s_v5	4	1047552	153600
33	16	32768	Standard_D16s_v5	8	1047552	307200
34	32	65536	Standard_D32ds_v5	16	1047552	614400

Por último é listada o tamanho da memória da máquina, concluindo assim as informações principais para montar uma máquina.

```

silas [ ~ ]$ az group create --name rg-vmubuntu --location brazilsouth
{
  "id": "/subscriptions/0b13156d-391e-450d-8b00-11ba5765ce39/resourceGroups/rg-vmubuntu",
  "location": "brazilsouth",
  "managedBy": null,
  "name": "rg-vmubuntu",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
}

```

nesta etapa é realizada o primeiro passo já para criação da máquina que é a localização anteriormente escolhida.

```

silas [ ~ ]$ az vm create \
  --resource-group rg-vmubuntu \
  --name vm-ubuntu \
  --image Canonical:UbuntuServer:19_04-gen2:19.04.201908230 \
  --size Standard_B2s \
  --vnet-name nnet-linux \
  --nsg nsgsr-linux \
  --public-ip-address pip-ubuntu \
  --authentication-type password \
  --admin-username admlnx \
  --admin-password Fiap@2tdsvms
Consider upgrading security for your workloads using Azure Trusted Launch VMs. To know more about Trusted Launch, please visit https://aka.ms/TrustedLaunch.
{
  "fqdns": "",
  "id": "/subscriptions/0b13156d-391e-450d-8b00-11ba5765ce39/resourceGroups/rg-vmubuntu/providers/Microsoft.Compute/virtualMachines/vm-ubuntu",
  "location": "brazilsouth",
  "macAddress": "00-00-3A-C1-B6-8E",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "191.232.190.144",
  "resourceGroup": "rg-vmubuntu",
  "zones": ""
}

```

Com o comando Create e seus parâmetros preenchidos é instanciada a máquina virtual no Azure.

Máquina virtual	
Nome do computador	vm-ubuntu
Sistema operacional	Linux (ubuntu 19.04)
Geração de VM	V2
Arquitetura de VM	x64
Status do agente	Ready
Versão do agente	2.11.1.12
Hibernação	Desabilitado
Grupo de hosts	-
Host	-
Grupo de posicionamento por proximidade	-
Status de Colocalização	N/D
Grupo de reserva de capacidade	-
Tipo de controlador de disco	SCSI
Azure Spot	
Azure Spot	-
Política de remoção do Azure	-
Spot	-
Disponibilidade + dimensionamento	
Zona de disponibilidade	-
(editar)	
Conjunto de disponibilidade	-
Conjunto de Dimensionamento	-
Rede	
Endereço IP público	191.232.190.144 (Interface de rede vm-ubuntuVMNic)
Endereço IP público (IPv6)	-
Endereço IP privado	10.0.0.4
Endereço IP privado (IPv6)	-
Rede virtual/sub-rede	nnet-Linux/vm-ubuntuSubnet
Nome DNS	Configurar
Tamanho	
Tamanho	Standard B2s
vCPUs	2
RAM	4 GiB
Detalhes de imagens de origem	
Fornecedor de imagens de origem	Canonical
Oferta de imagens de origem	UbuntuServer
Plano de imagens de origem	19_04-gen2
Disco	
Disco de SO	vm-ubuntu_disk1_f7a5b3cb4f51431096ea0a1949c76f5c
Criptografia no host	Desabilitado
Azure Disk Encryption	Não habilitado
Disco efêmero do SO	N/D
Discos de dados	0
Desligamento automático	

Ao se dirigir ao Azure e procurar em máquinas virtuais é observado todos os dados pré-determinados anteriormente.

```
silas [ ~ ]$ az network nsg rule create \
--resource-group rg-vmubuntu \
--nsg-name nsgsr-linux \
--name port_80 \
--protocol tcp \
--priority 1010 \
--destination-port-range 80
{
  "access": "Allow",
  "destinationAddressPrefix": "*",
  "destinationAddressPrefixes": [],
  "destinationPortRange": "80",
  "destinationPortRanges": [],
  "direction": "Inbound",
  "etag": "W/\"f985298f-ee56-4d44-b656-9d6c86bbe0f9\"",
  "id": "/subscriptions/0b13156d-391e-450d-8b00-11ba5765ce39/resourceGroups/rg-vmubuntu/providers/Microsoft.Network/networkSecurityGroups/nsgsr-linux/securityRules/port_80",
  "name": "port_80",
  "priority": 1010,
  "protocol": "tcp",
  "provisioningState": "Succeeded",
  "resourceGroup": "rg-vmubuntu",
  "sourceAddressPrefix": "*",
  "sourceAddressPrefixes": [],
  "sourcePortRange": "*",
  "sourcePortRanges": [],
  "type": "Microsoft.Network/networkSecurityGroups/securityRules"
}
```

Nesta etapa, o comando acima determina qual porta estará aberta para execução da VM.

```
silas [ ~ ]$ ssh adm1nx@191.232.190.144
The authenticity of host '191.232.190.144 (191.232.190.144)' can't be established.
ED25519 key fingerprint is SHA256:VOTe/eNwYMW0I5voKwWItDrUecV3bhPj3v0hWmq/MNk.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '191.232.190.144' (ED25519) to the list of known hosts.
adm1nx@191.232.190.144's password:
Permission denied, please try again.
adm1nx@191.232.190.144's password:
Welcome to Ubuntu 19.04 (GNU/Linux 5.0.0-1016-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Tue Sep 10 04:00:00 UTC 2024

System load:  0.0               Processes:           128
Usage of /:   4.3% of 28.90GB   Users logged in:    0
Memory usage: 6%               IP address for eth0: 10.0.0.4
Swap usage:   0%

0 updates can be installed immediately.
0 of these updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

adm1nx@vm-ubuntu:~$
```

Em seguida, como último passo ver a máquina virtual já instanciada, executamos o comando acima e no final iremos ver já o terminal da máquina virtual funcionando perfeitamente.

```

silas [ ~ ]$ echo "Entre com o nome do Grupo de Recursos:" &&
read resourceGroupName &&
echo "Informe o nome da VM:" &&
read vmname &&
echo "Número da porta a ser aberta:" &&
read vmopenportx &&
az vm open-port --resource-group $resourceGroupName --name $vmname --port $vmopenportx --priority $((RANDOM%4096+100))
Entre com o nome do Grupo de Recursos:
rg-vmubuntu
Informe o nome da VM:
ve-ubuntu
Número da porta a ser aberta:
8080
{
  "defaultSecurityRules": [
    {
      "access": "Allow",
      "description": "Allow inbound traffic from all VMs in VNET",
      "destinationAddressPrefix": "VirtualNetwork",
      "destinationAddressPrefixes": [],
      "destinationPortRange": "*",
      "destinationPortRanges": [],
      "direction": "Inbound",
      "etag": "W/\"62ca071b-ff7d-4362-9edc-ba521cd5747e\"",
      "id": "/subscriptions/0613156d-391e-458d-8b00-11ba5765ce39/resourceGroups/rg-vmubuntu/providers/Microsoft.Network/networkSecurityGroups/nsgsr-linux/defaultSecurityRules/AllowVnetInBound",
      "name": "AllowVnetInBound",
      "priority": 65000,
      "protocol": "*",
      "provisioningState": "Succeeded",
      "resourceGroup": "rg-vmubuntu",
      "sourceAddressPrefix": "VirtualNetwork",
      "sourceAddressPrefixes": [],
    }
  ]
}

```

Nesta etapa observamos alguns comandos automatizados onde o podemos determinar o Grupo de recursos, o nome da máquina virtual e o tamanho dela.

```

silas [ ~ ]$ touch abrePorta.sh

nano abrePorta.sh
silas [ ~ ]$ echo "Informe o nome da VM para o Gerenciamento:" &&

read vmnamex &&

echo "Informe o nome do Grupo de Recursos:" &&

read groupx &&

select funcao in "Parar" "Desalocar" "Iniciar"; do
    case $funcao in
        "Parar") export funcao=stop ;;
        "Desalocar") export funcao=deallocate ;;
        "Iniciar") export funcao=start ;;
    esac
    break
done &&

az vm $funcao --name $vmnamex --resource-group $groupx
Informe o nome da VM para o Gerenciamento:
vm-ubuntu
Informe o nome do Grupo de Recursos:
rg-vmubuntu
1) Parar
2) Desalocar
3) Iniciar
#? 1
About to power off the specified VM...
It will continue to be billed. To deallocate a VM, run: az vm deallocate.
silas [ ~ ]$ █

```

Nesse script podemos observar o gerenciamento de uma máquina virtual de forma simples, onde existem as opções no final de Parar, Desalocar ou iniciar a máquina, tornando uma experiência mais intuitiva.

```

silas [ ~ ]$ ## Variáveis do Script

rg="rg-app-quiz" &&
location="brazilsouth" &&
appServicePlanName="plan-app-quiz" &&
webAppName="appquizrm98965" &&
codigoFonte="https://github.com/profjoaomenk/jsQuiz.git" &&
sku="F1" &&

## Cria um novo Grupo de Recursos

az group create --name $rg --location $location &&

## Cria um novo Plano de Serviço para o App

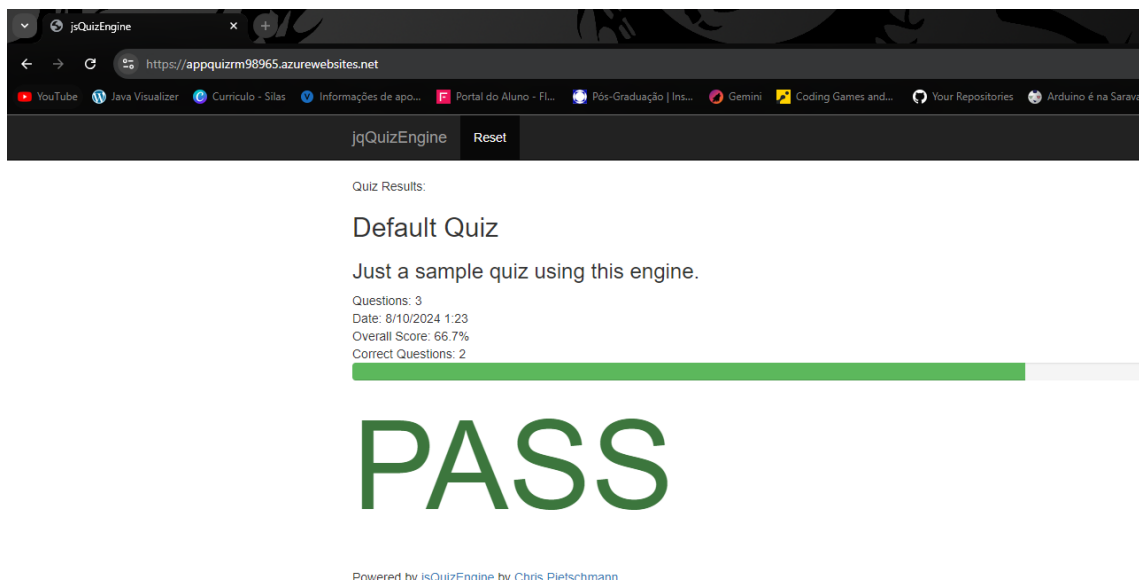
az appservice plan create --name $appServicePlanName \
--location $location \
--resource-group $rg \
--sku $sku &&

## Cria um novo Serviço de Aplicativo

az webapp create -g $rg \
-p $appServicePlanName \
-n $webAppName \
--deployment-source-url $codigoFonte
{
  "id": "/subscriptions/0b13156d-391e-450d-8b00-11ba5765ce39/resourceGroups/rg-app-quiz",
  "location": "brazilsouth",
  "managedBy": null,
  "name": "rg-app-quiz",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
}
Readonly attribute name will be ignored in class <class 'azure.mgmt.web.v2023_01_01.models._models_py3.AppServicePlan'>

```

Nesta etapa é feita através de um único script a criação de um web app, mostrando a versatilidade do código onde através de informações setadas obteremos uma interface interessante.



E como resultado do código anterior obtemos a tela acima no navegador onde gerou um web app de QUIZ.

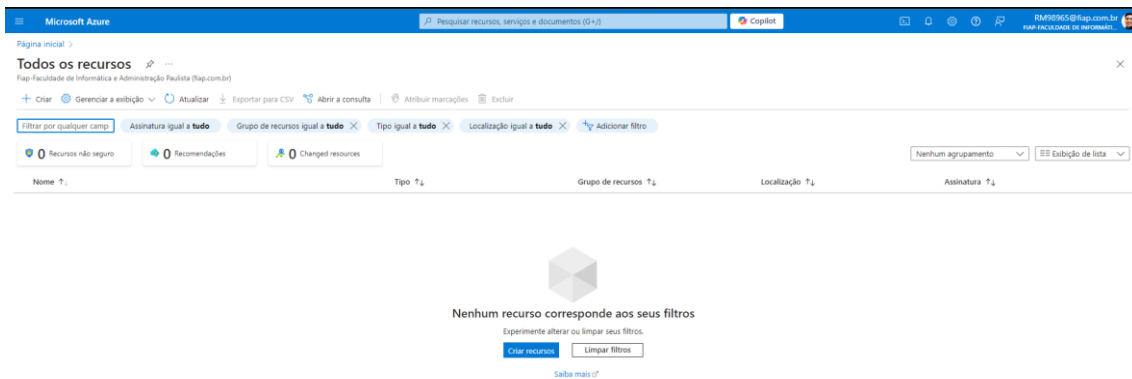
```
silas [ ~ ]$ az group delete --name rg-vmubuntu -y

az group delete --name NetworkWatcherRG -y

az group delete --name rg-lnx-new-tech -y

az group delete --name rg-app-quiz -y

az group delete --name cloud-shell-storage-eastus -y
silas [ ~ ]$ az group list
[]
silas [ ~ ]$
```



Nesta etapa para não deixar os Resources Groups e as máquinas virtuais instanciadas gastando dinheiro, os RG são excluídos por meio do terminal e no final também visualizado no Azure.