

A thick dark green vertical bar is positioned on the left side of the slide. A green arrow-shaped banner points to the right from this bar, containing the date. Below the banner, several thin, curved lines in dark green and light gray sweep upwards from the bottom left corner.

10-12-2021

# Respaldo y restauración de una máquina virtual en la nube

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Desarrollo de Sistemas Distribuidos

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# Introducción

Se deberá crear una máquina virtual en la nube de Azure y realizar los siguientes procedimientos que vimos en clase:

1. Habilitar el respaldo de la máquina virtual.
2. Iniciar un respaldo completo.
3. Restaurar la máquina virtual.
4. Eliminar el proceso de respaldo.

# Desarrollo

## Creación de la máquina virtual

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal. The page is titled 'Create a virtual machine' and includes a brief description of the process. The 'Project details' section shows the subscription 'Azure for Students' and the resource group '(New) 82019630143\_group'. The 'Instance details' section shows the virtual machine name '82019630143', the region '(US) East US', the availability options 'No infrastructure redundancy required', the security type 'Standard', and the image 'Ubuntu Server 18.04 LTS - Gen1'. The 'Azure Spot instance' checkbox is unchecked. The 'Review + create' button is visible at the bottom of the form.

Sistema y datos básicos

Slack | Jerzy Guerra | Menu x Create a virtual machine - Micro x +

portal.azure.com/#create/Microsoft.VirtualMachine

Microsoft Azure Search resources, services, and docs (G+)

Home > Virtual machines >

## Create a virtual machine

Size \*  See all sizes

Administrator account

Authentication type ☐ SSH public key ☒ Password

Username \*  ✓

Password \*  ✓

Confirm password \*  ✓

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports \* ☐ None ☒ Allow selected ports

Select inbound ports \*  ✓

⚠ This will allow all IP addresses to access your virtual machine. This is only

[Review + create](#) < Previous Next: Disks >

Contraseña y usuario

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portal.azure.com/#create/Microsoft.VirtualMachine

Microsoft Azure Search resources, services, and docs (G+)

Home > Virtual machines >

## Create a virtual machine

Basics Disks Networking Management Advanced Tags Review + create

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. [Learn more](#)

Disk options

OS disk type \*  Choose Premium SSD disks for lower latency, higher IOPS and bandwidth, and bursting. Single instance virtual machines with Premium SSD disks qualify for the 99.9% connectivity SLA. [Learn more](#)

Encryption type \*  ✓

Enable Ultra Disk compatibility ☐ Ultra disk is supported in Availability Zone(s) 1,2,3 for the selected VM size Standard\_B1s.

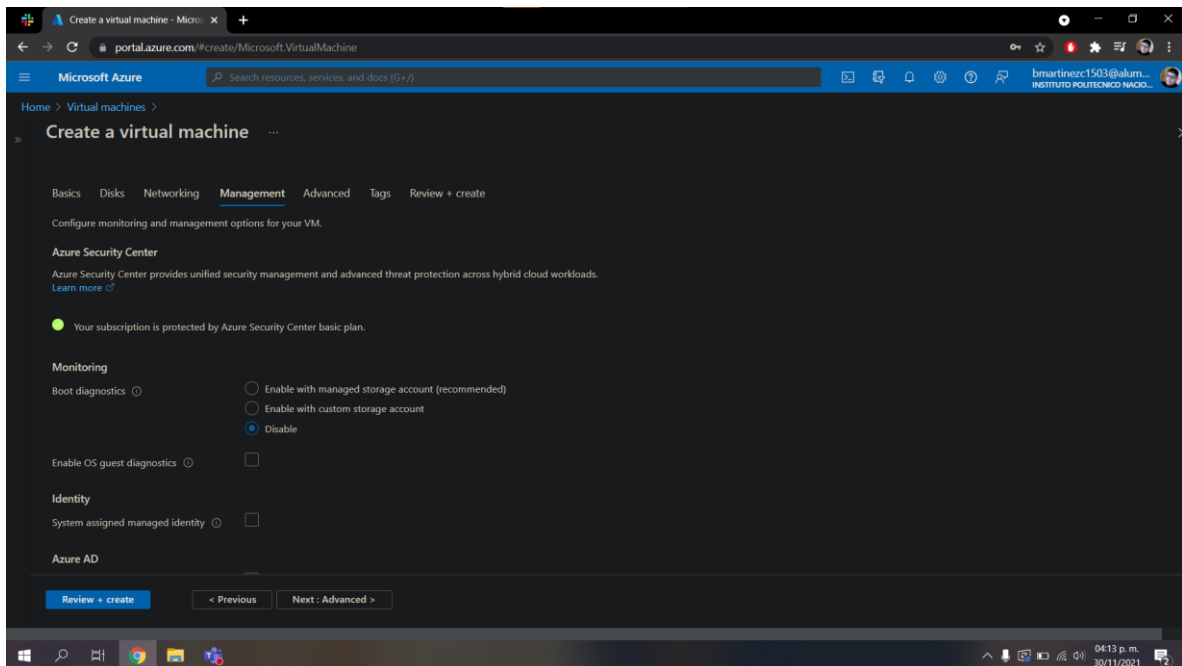
Data disks

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

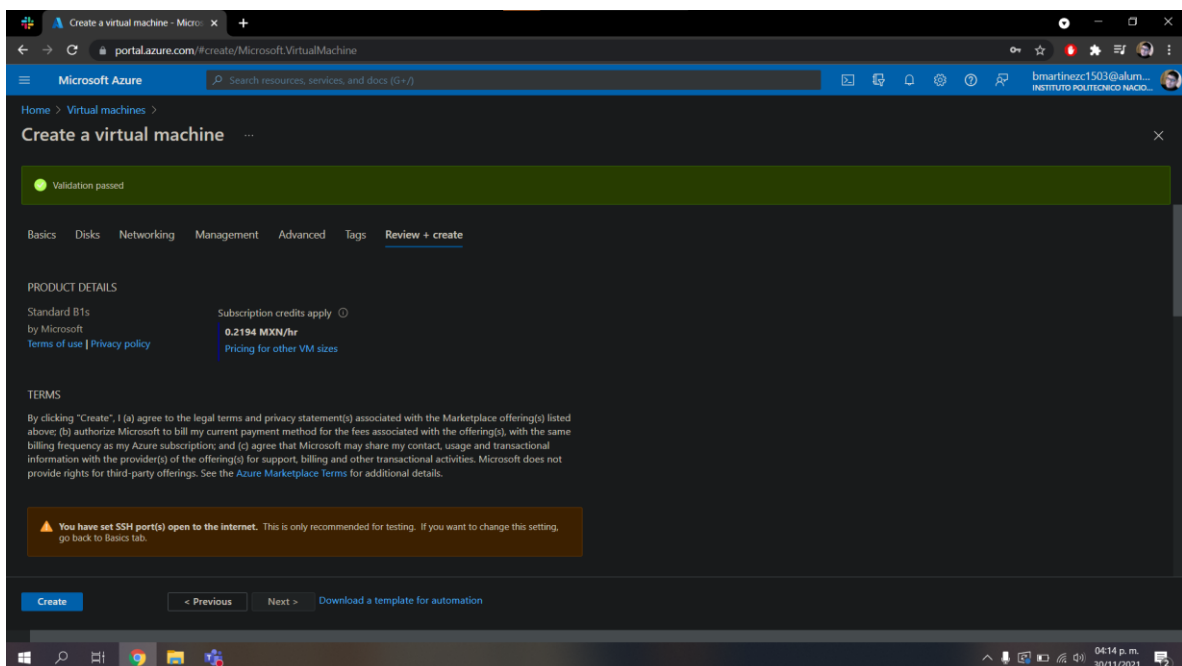
LUN	Name	Size (GiB)	Disk type	Host caching
Create and attach a new disk Attach an existing disk				

[Review + create](#) < Previous Next: Networking >

Disco HDD

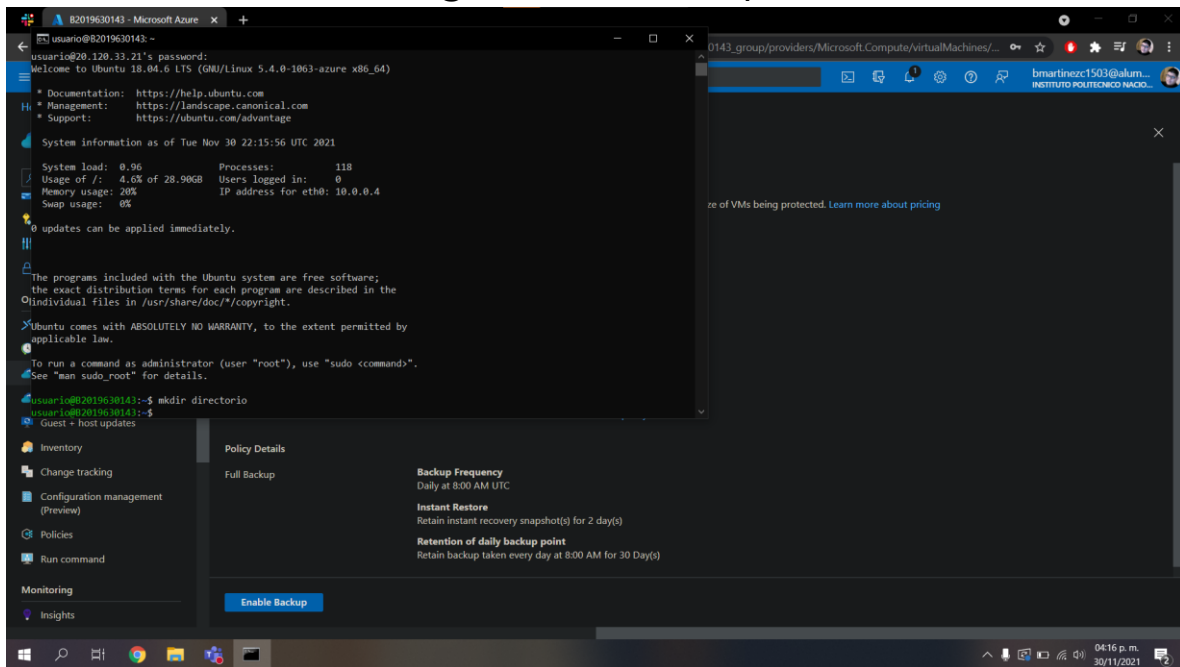


Deshabilitado de los diagnósticos al comenzar

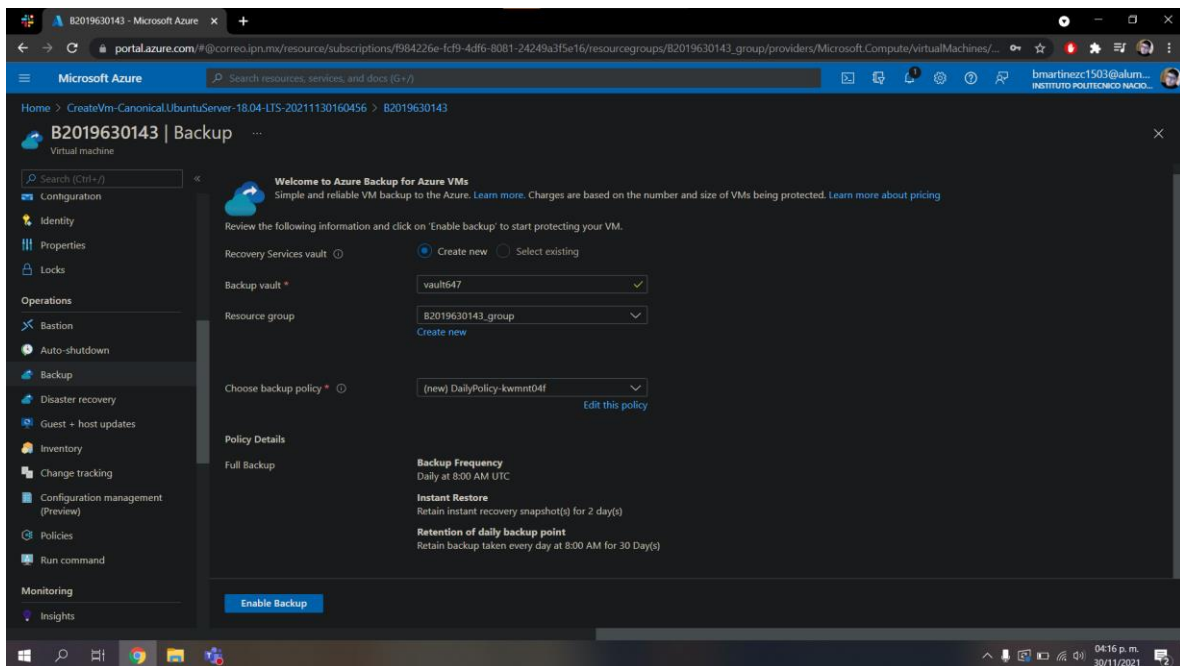


Precio y revisión de la creación

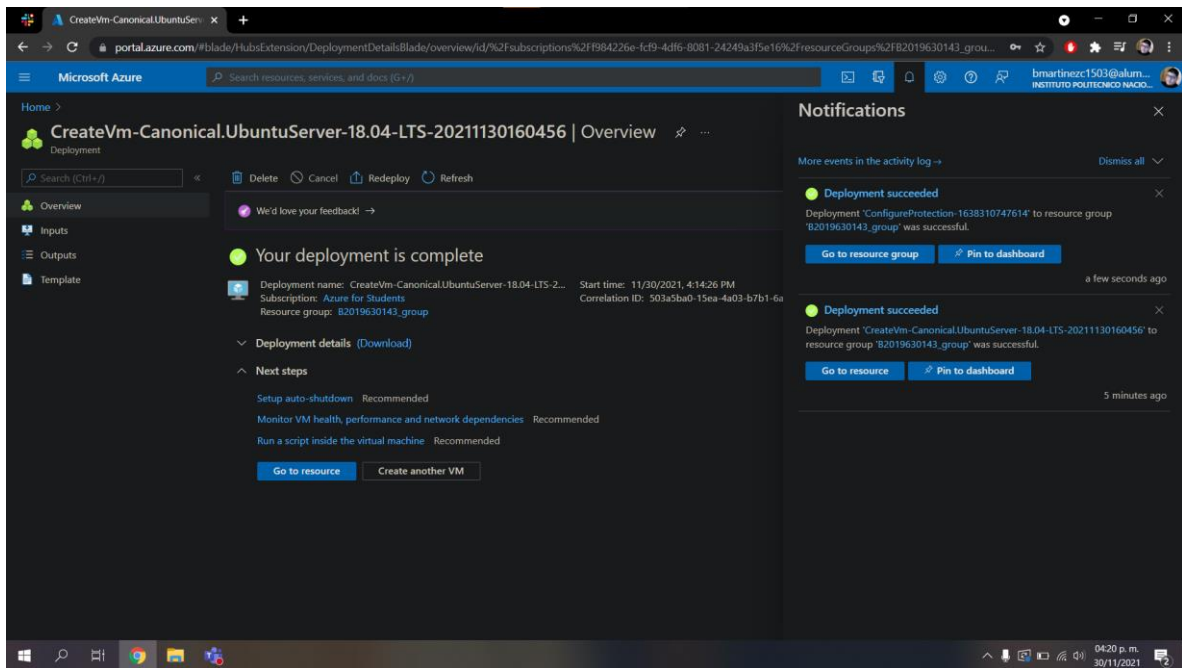
# Configuración del respaldo



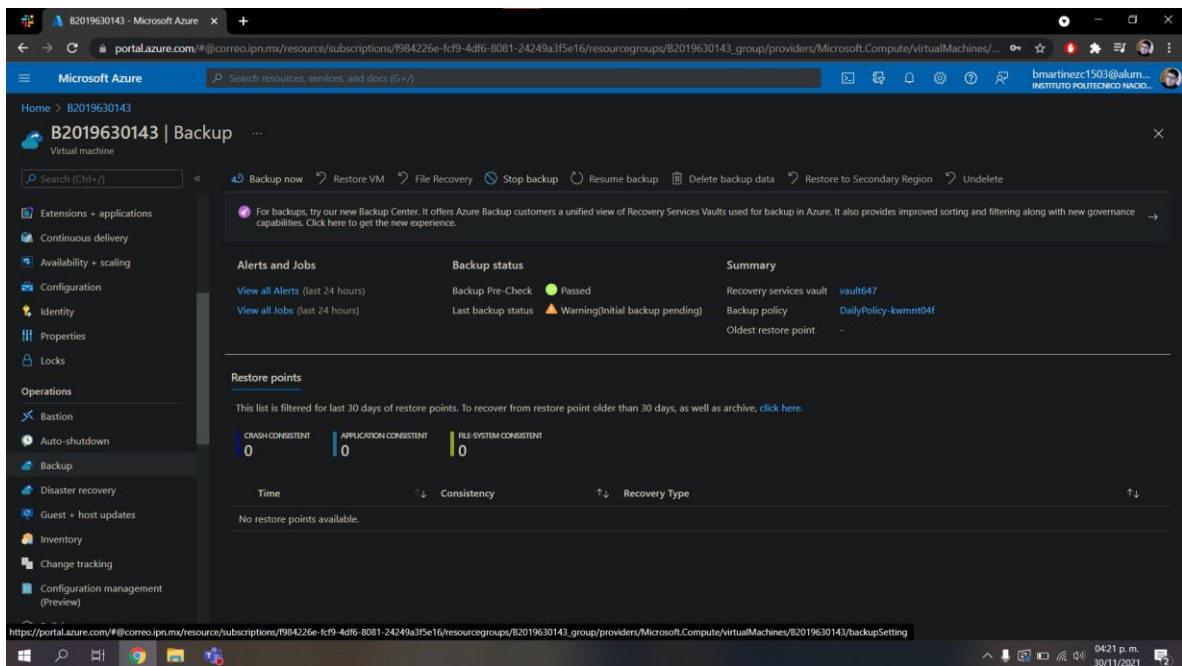
Hacemos un directorio para que se note en el Backup



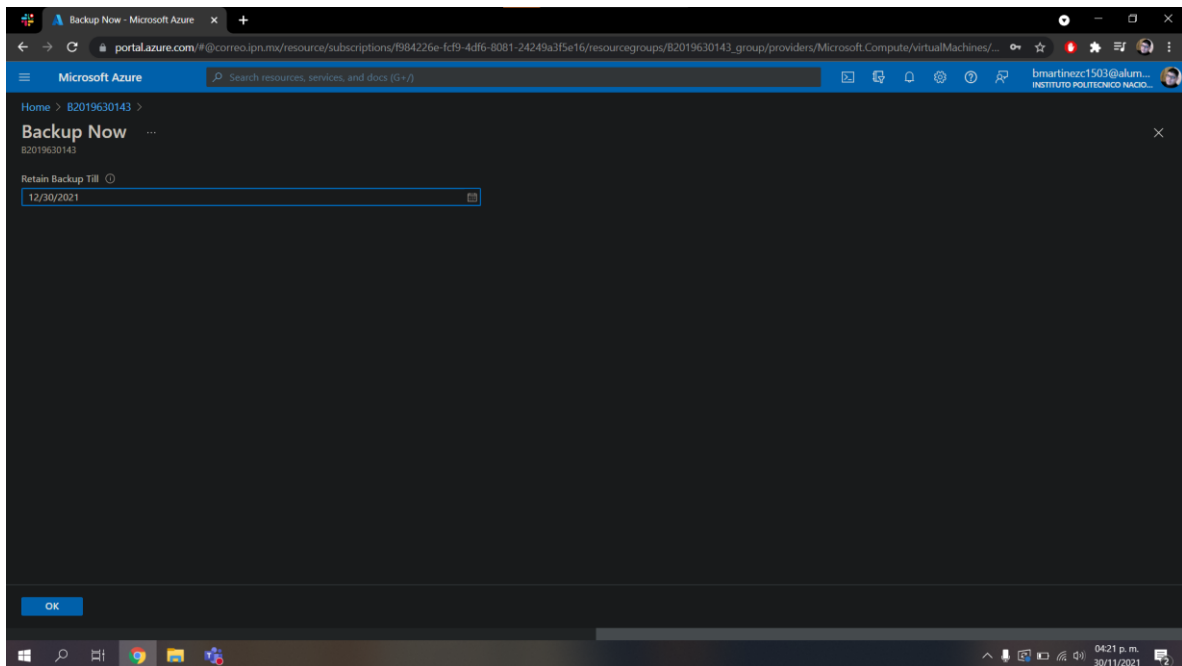
Se crea el proceso para el Backup



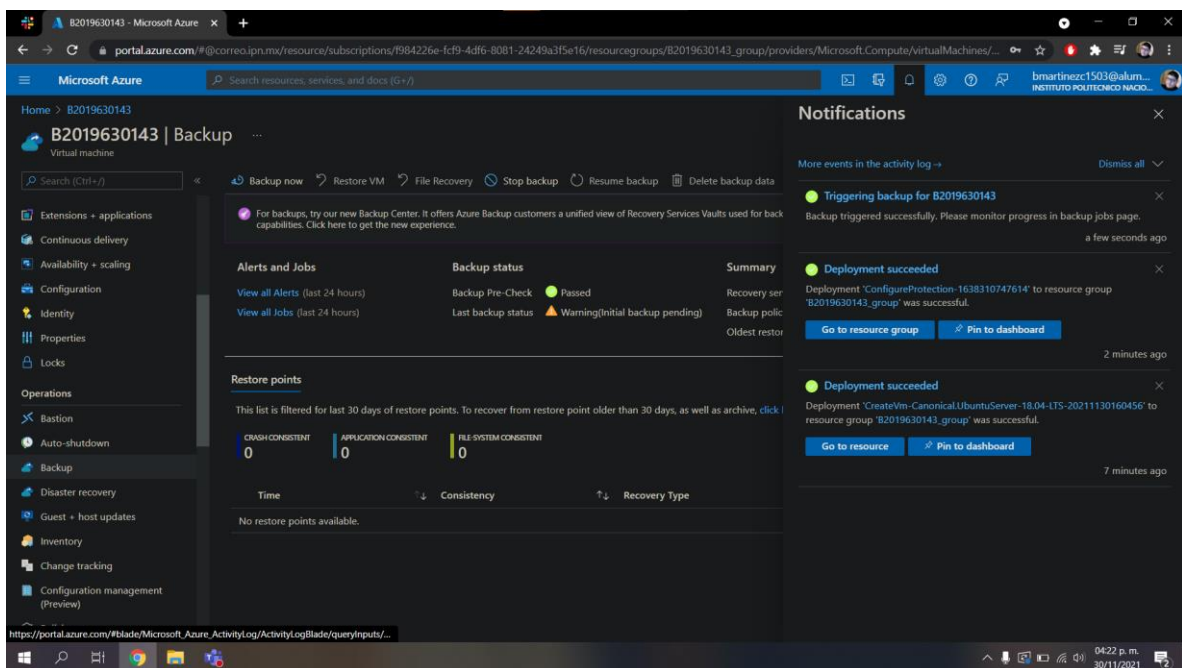
Se termina de crear



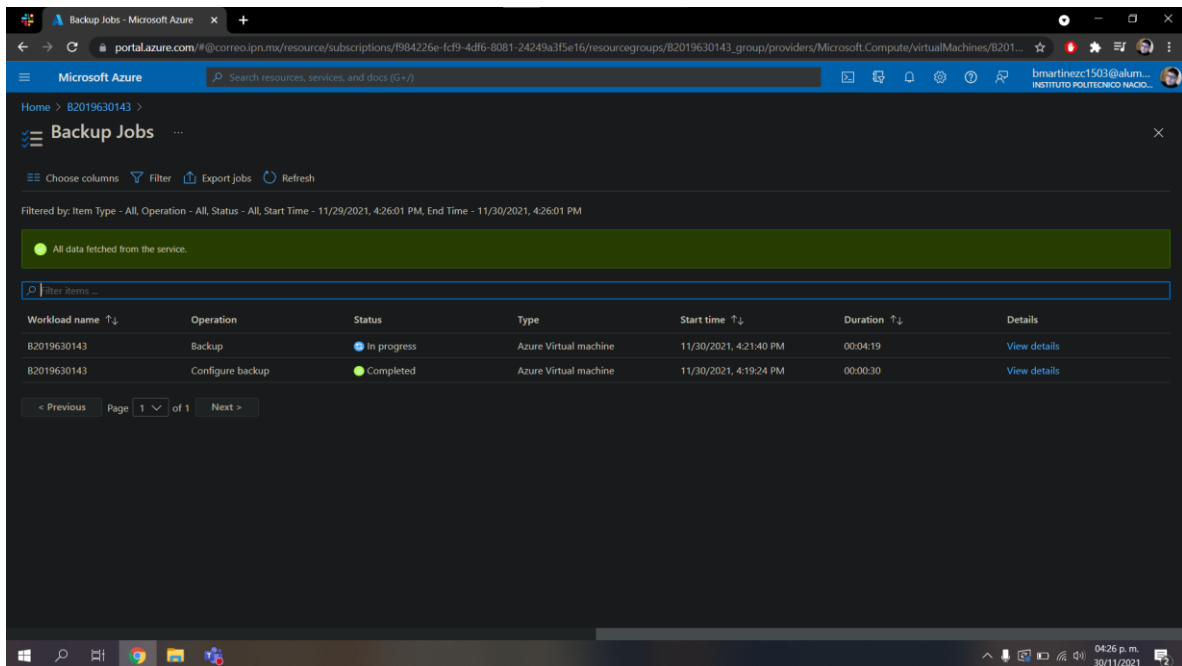
Vista general de los Backups



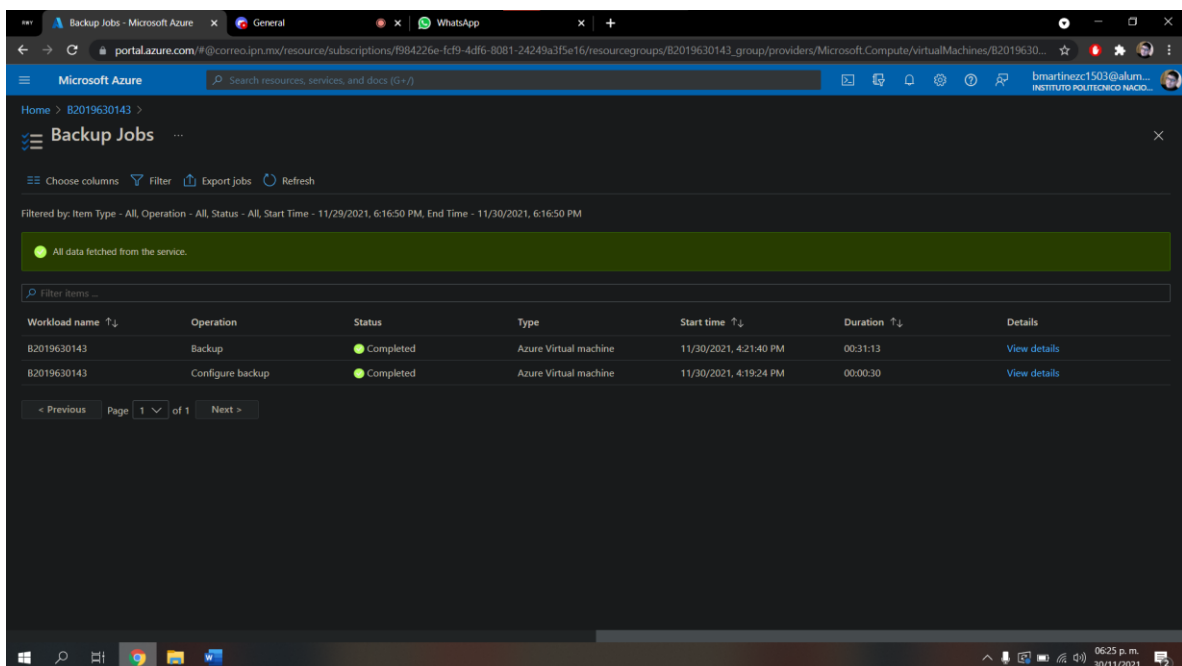
Comenzamos el Backup ahora mismo



Nos notifica que ya se ha comenzado



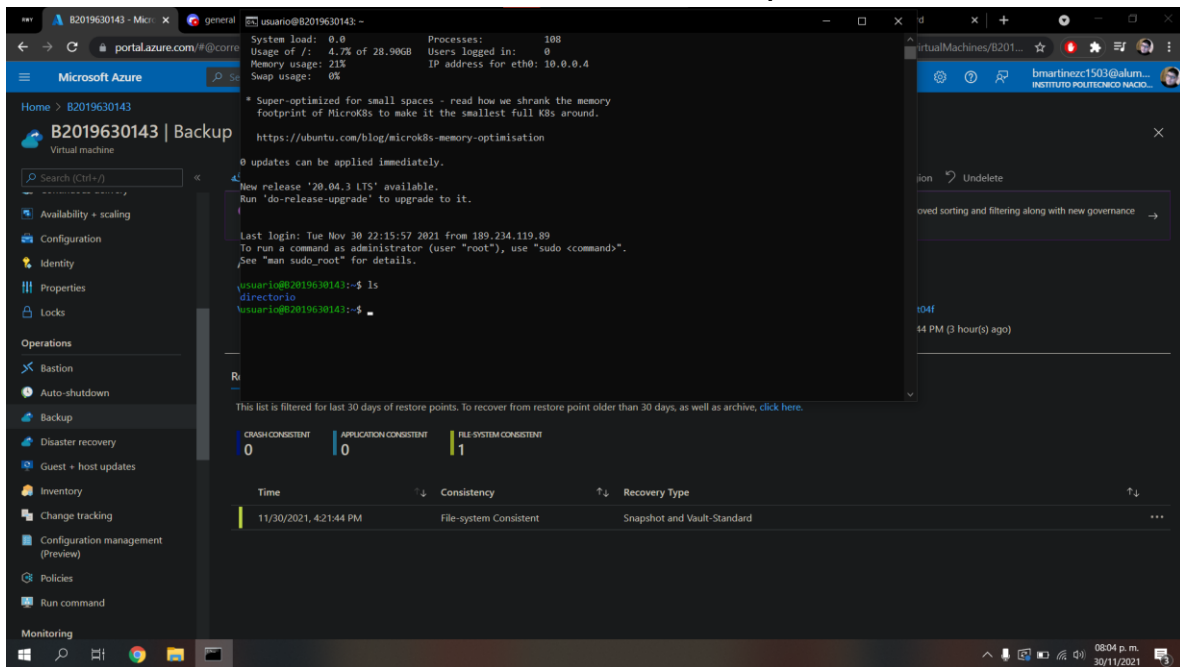
Hora de comienzo 4:26



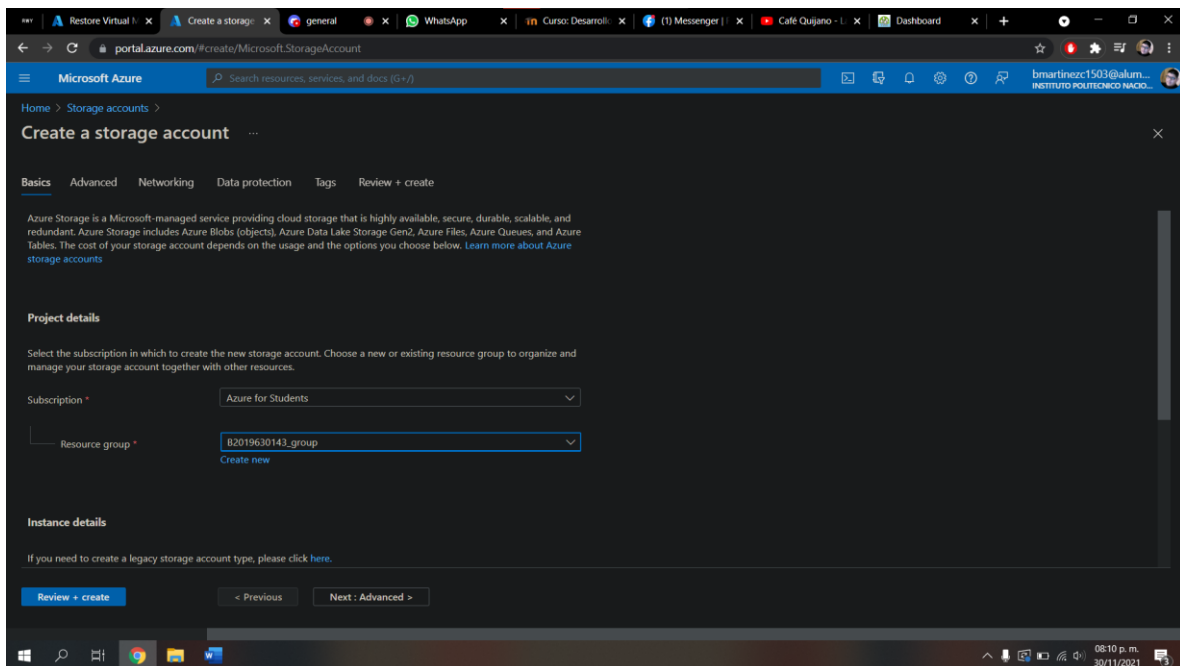
Duró media hora en terminar el Backup



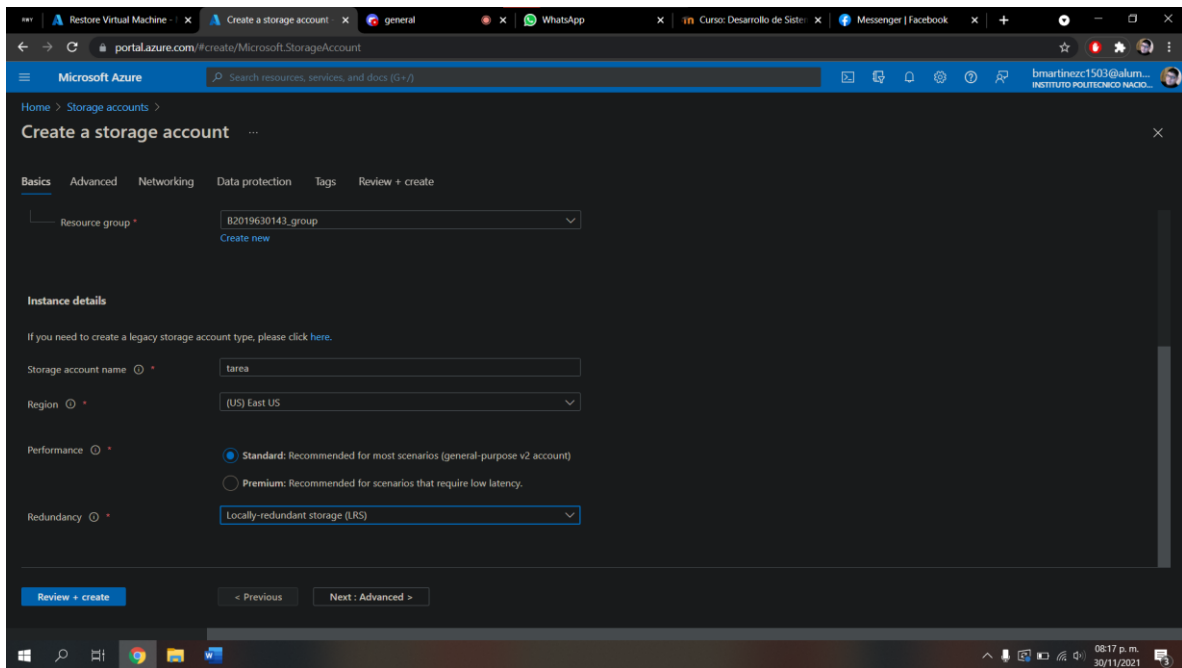
# Restauración de la máquina



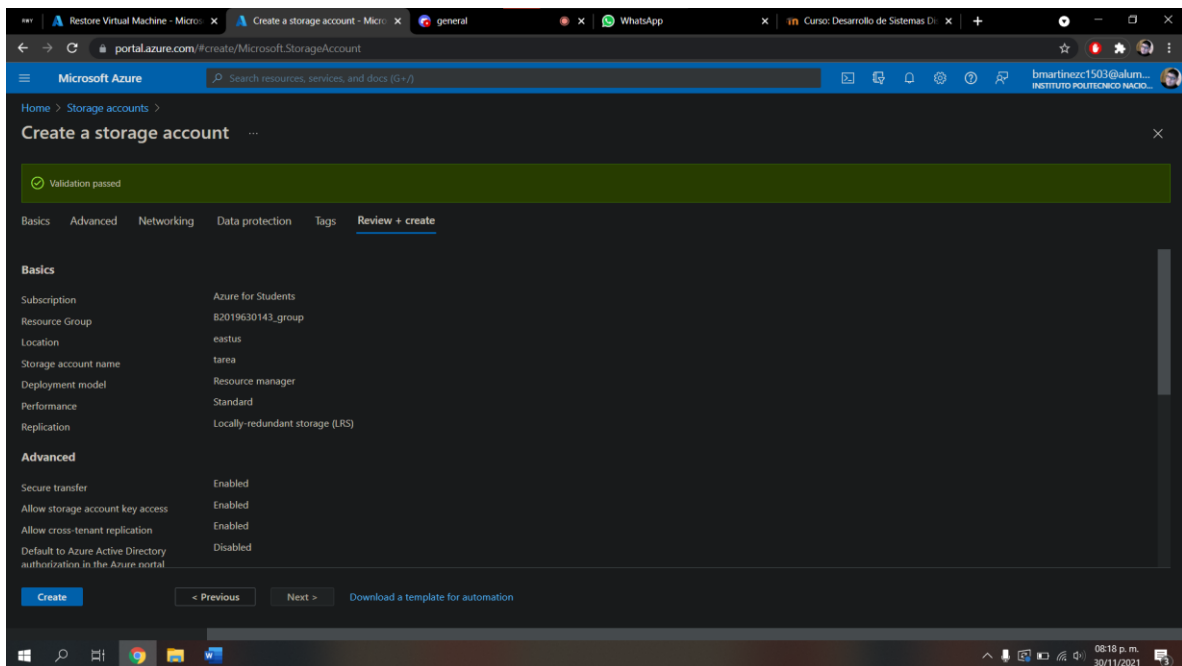
Directorio que sí está en el Backup



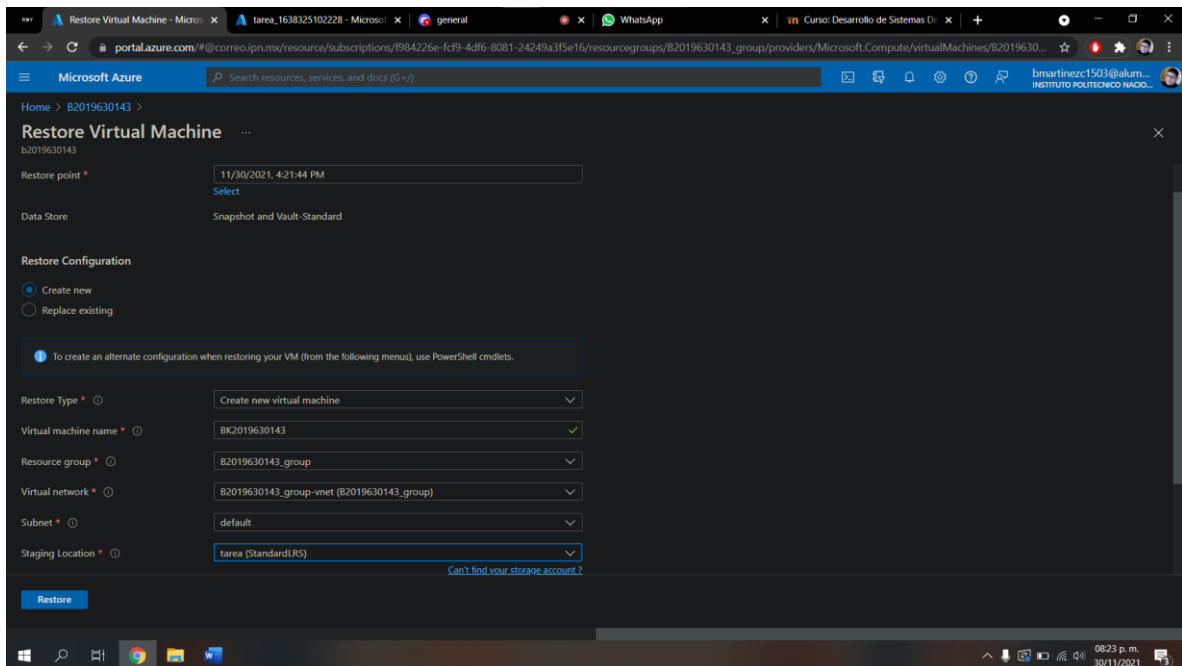
Creamos una cuenta de almacenamiento



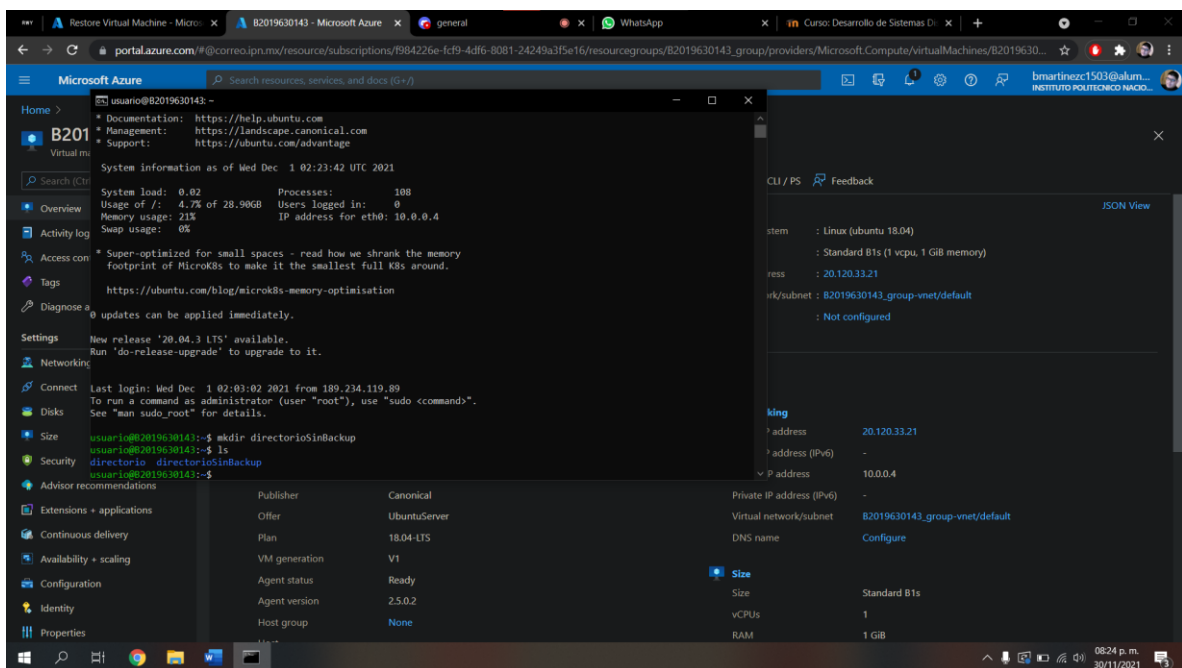
Uso del LRS



Se realizó de forma exitosa



Comenzamos la restauración



Hacemos otro directorio que no va a estar en el Backup

The screenshot shows the Microsoft Azure portal interface. The main heading is "B2019630143 | Backup". Below it, there are tabs for "Backup now", "Restore VM", "File Recovery", "Stop backup", "Resume backup", and "Delete backup data". A message states: "For backups, try our new Backup Center. It offers Azure Backup customers a unified view of Recovery Services Vaults used for back capabilities. Click here to get the new experience." The "Alerts and Jobs" section has links for "View all Alerts (last 24 hours)" and "View all Jobs (last 24 hours)". The "Backup status" section shows "Backup Pre-Check" as "Passed" and "Last backup status" as "Success 11/30/2021, 4:21:40 PM". The "Summary" section lists "Recovery ser...", "Backup polic...", and "Oldest restor...". The "Restore points (1)" section includes a filter for the last 30 days and a table of restore points.

Time	Consistency	Recovery Type
11/30/2021, 4:21:44 PM	File-system Consistent	Snapshot and Vault-Standard

The right sidebar shows a notification: "Triggering restore for B2019630143" with status "Running" and "Trigger restore in progress." dated "a few seconds ago".

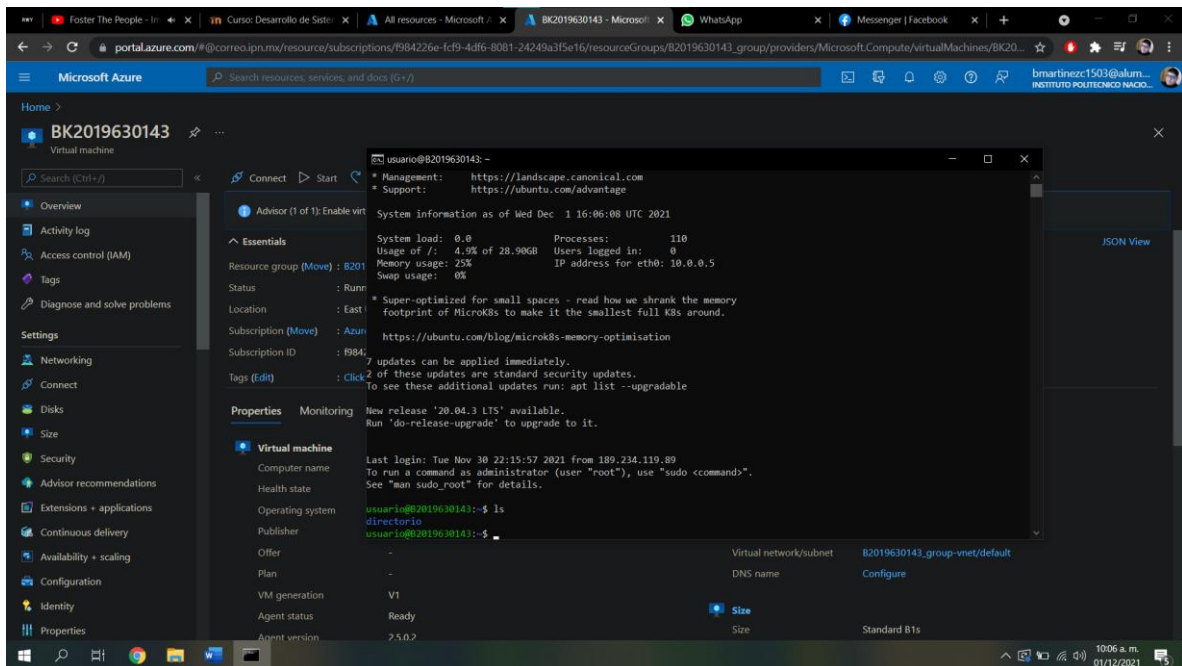
Nos indica que lo está comenzando (el proceso de restauración)

The screenshot shows the "Backup Jobs" page in the Microsoft Azure portal. It includes a filter bar with "Filtered by: Item Type - All, Operation - All, Status - All, Start Time - 11/29/2021, 8:25:34 PM, End Time - 11/30/2021, 8:25:34 PM". A green bar indicates "All data fetched from the service." Below is a table of backup jobs.

Workload name	Operation	Status	Type	Start time	Duration	Details
B2019630143	Restore	In progress	Azure Virtual machine	11/30/2021, 8:24:21 PM	00:01:11	<a href="#">View details</a>
B2019630143	Backup	Completed	Azure Virtual machine	11/30/2021, 4:21:40 PM	00:31:13	<a href="#">View details</a>
B2019630143	Configure backup	Completed	Azure Virtual machine	11/30/2021, 4:19:24 PM	00:00:30	<a href="#">View details</a>

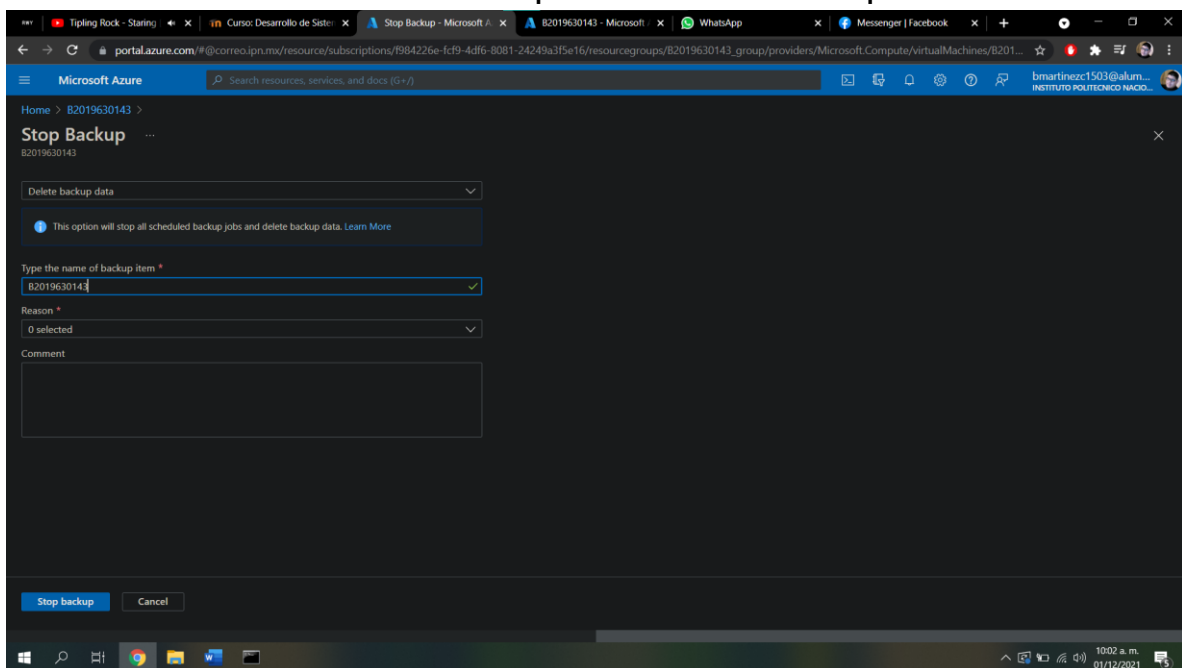
At the bottom, there is a pagination bar showing "Page 1 of 1".

Comienza a las 8:25



En la máquina restaurada, vemos que solo está el directorio que sí está en Backup

## Borrado del proceso de Backup



Se selecciona detener el proceso de Backup

The screenshot shows the Microsoft Azure portal interface. The main content area is titled "B2019630143 | Backup". It includes a left sidebar with navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Networking, Connect, Disks, Size, Security, Advisor recommendations, Extensions + applications, Continuous delivery, Availability + scaling, Configuration, and Identity. The main content area has a top bar with "Backup now", "Restore VM", "File Recovery", "Stop backup", "Resume backup", and "Delete backup data". Below this, there are sections for "Alerts and Jobs", "Backup status", and "Summary". The "Backup status" section shows "Backup Pre-Check" as "Passed" and "Last backup status" as "Success 12/1/2021, 3:40:54 AM". The "Summary" section lists "Recovery serv", "Backup policy", and "Oldest restore". The "Restore points (2)" section shows a table of restore points:

Time	Consistency	Recovery Type
12/1/2021, 3:40:57 AM	File-system Consistent	Snapshot and Vault-Standard
11/30/2021, 4:21:44 PM	File-system Consistent	Snapshot and Vault-Standard

On the right side, there is a "Notifications" panel showing a message: "Stopping backup and deleting backup data for B2019630143. Successfully completed the operation. a few seconds ago".

Azure nos notifica que se detiene el proceso

The screenshot shows the Microsoft Azure portal interface for a Recovery Services vault named "vault647". The left sidebar shows navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Identity, Private endpoint connections, Properties, Locks, Getting started, Backup, Site Recovery, Protected items, Backup items, and Replicated items. The main content area has a top bar with "Backup", "Enable Site Recovery", "Delete", and "Refresh". Below this, there are sections for "Overview", "Backup", and "Site Recovery". The "Overview" section shows "What's new" with links to various Azure services. On the right side, there is a "Vault deletion error" message:

**Vault deletion error**  
Recovery Services vault cannot be deleted as there are backup items in soft deleted state in the vault. The soft deleted items are permanently deleted after 14 days of delete operation. Please try vault deletion after the backup items are permanently deleted and there is no item in soft deleted state left in the vault. For more information, refer <https://aka.ms/SoftDeleteCloudWorkloads>. The registered items are : B2019630143. Please ensure all containers have been unregistered from the vault and all private endpoints associated with the vault have been deleted, and retry operation. For more details, see <https://aka.ms/AB-AA4ecq5>

Al intentar borrar todo nos dice que no se puede eliminar el Vault

## Conclusiones

Aunque sencillo, este proceso es sumamente importante, no parece tan lógico, aunque gracias a las instrucciones ahora lo puedo aplicar. Muchas ocasiones mis profesores, sobre todo, en seguridad informática, me han contado sobre los casos en donde los propios trabajadores se aprovechan de tener las claves y se quedan con los datos para chantajear a la compañía a cambio de dinero. No tomó más de treinta minutos realizar todo un Backup, tan solo ese pequeño tiempo es lo que les hubiera tomado a muchas empresas, que además, no es caro el servicio. Con eso se hubieran ahorrado muy malos tiempos y tener que pagar por su propia información.