

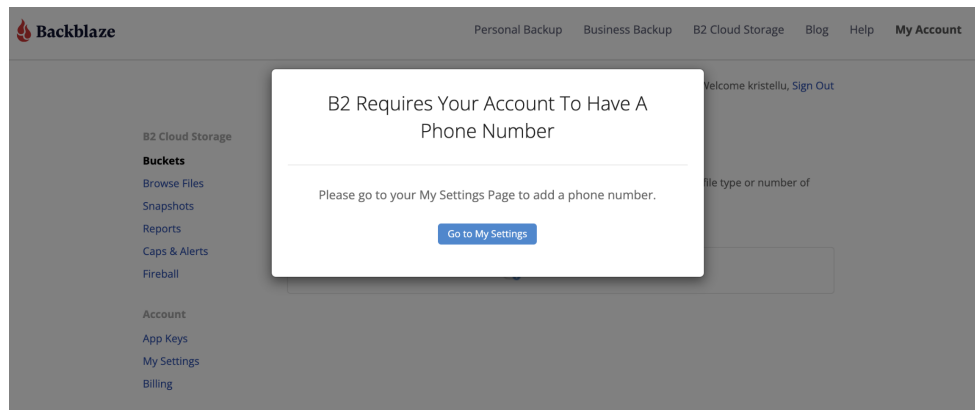
Sesión # 2 Componente Práctico

Computación en la Nube

Existen múltiples herramientas que ofrecen el almacenamiento de archivos y manejo de servicios de computación en la nube. Entre ellas BackBlaze, pionera en servicios de copia de seguridad y almacenamiento en la nube robustos y escalables de bajo costo. BackBlaze permite desde copias de seguridad personales en línea hasta soluciones de almacenamiento de datos a escala empresarial.


De acuerdo a los conceptos aprendidos en clase configuremos un servicio para almacenar nuestros archivos en la nube.

1. Crea una cuenta del servicio de almacenamiento B2 en <https://www.backblaze.com>
2. Inicia sesión
3. Configura un número de teléfono. Se te enviará un mensaje con un código de 6 dígitos a tu número celular que deberás ingresar en la página para verificar la propiedad de este.

A screenshot of the "Verify Phone Number" form. The form has a title "Verify Phone Number" and a close button. It contains the following fields and elements:

- A "Current Password" label and a text input field.
- A "Phone Number" label and a text input field with a dropdown menu showing a flag and "+1". A blue "Send Code" button is to the right of the input field.
- A label "Enter the 6-digit verification code sent to your phone" above a text input field.
- At the bottom, there are two buttons: "Verify" (blue) and "Cancel" (gray).
- At the very bottom, there is a small disclaimer: "You will receive messages to verify your phone number and authenticate your login (if you choose that option.) Messages will come from 89722 in the U.S. and 10-digit numbers for other countries and resends. 1 message per request. Message & data rates may apply." followed by a link to "Terms of Service & Privacy Policy".

4. Obtén una key de tu cuenta
 - Accede a My Account / App Keys

Personal BackupBusiness BackupB2 Cloud StorageBlogHelpMy Account

Welcome kristellu, [Sign Out](#)

B2 Cloud Storage

- Buckets
- Browse Files
- Snapshots
- Reports
- Caps & Alerts
- Fireball

Account

- App Keys
- My Settings
- Billing

Application Keys

Application keys are used as a pair: Key ID and Application Key. This allows B2 to communicate securely with different devices or apps. Once you generate your Master Application Key, this key has full capabilities. Create your own Application Keys to limit features like read/write. [Learn more.](#)

Master Application Key

keyID:	29bb34d409c1
keyName:	Master Application Key
bucketName:	-
capabilities:	bypassGovernance, listKeys, writeKeys, deleteKeys, listBucketNames, listBuckets, readBuckets, writeBuckets, deleteBuckets, readBucketEncryption, readBucketRetentions, writeBucketEncryption, writeBucketRetentions, listFiles, readFiles, shareFiles, writeFiles, deleteFiles, readFileRetentions, readFileLegalHolds, writeFileRetentions, writeFileLegalHolds

- Genera una Master Application Key

Master Application Key

keyID:	29bb34d409c1
keyName:	Master Application Key
bucketName:	-
capabilities:	bypassGovernance, listKeys, writeKeys, deleteKeys, listBucketNames, listBuckets, readBuckets, writeBuckets, deleteBuckets, readBucketEncryption, readBucketRetentions, writeBucketEncryption, writeBucketRetentions, listFiles, readFiles, shareFiles, writeFiles, deleteFiles, readFileRetentions, readFileLegalHolds, writeFileRetentions, writeFileLegalHolds
expiration:	Never
namePrefix:	(none)

[Generate New Master Application Key](#)

Warning: Generating a new key will cancel the old key.

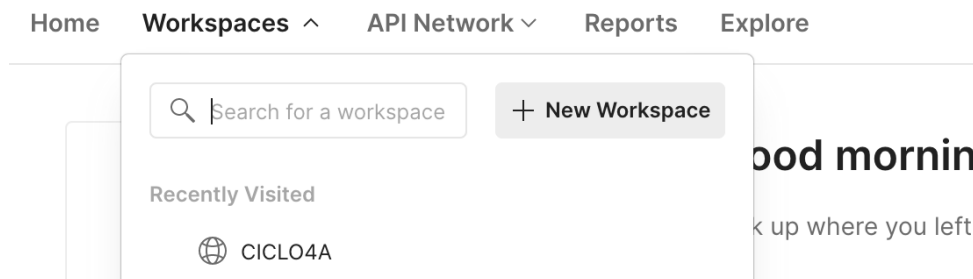
5. Guarda la información de tu llave generada en un lugar seguro.

Success! Your new application key has been created. **It will only appear here once.**

keyID:	29bb34d409c1
keyName:	Master Application Key
applicationKey:	0027eaf4bb62cf7d0575be860155f51f6d4f383995

[Copy to Clipboard](#)

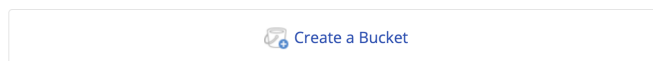
6. Guarda tu key id y applicationKey en un archivo txt para usarlos posteriormente
7. Accede a [Postman](https://www.postman.com/) (https://www.postman.com/) y crea una cuenta
8. Crea un nuevo workspace para tus peticiones, lo usaremos más adelante



9. Accede a My Account/Buckets y crea un nuevo bucket con el nombre 'sesion2-test' o el de tu preferencia. Un bucket es un contenedor de objetos. Un objeto es un archivo y cualquier metadato que describa ese archivo.

B2 Cloud Storage Buckets

With Backblaze B2 Cloud Storage you can store data in the Backblaze Cloud. Any size, file type or number of files. New to B2 Cloud Storage? Check out the [B2 Starter Guide](#).



Create a Bucket

A bucket is a container that holds files that are uploaded into B2 Cloud Storage. The bucket name must be unique and must have a minimum of 6 characters. A limit of 100 buckets may be created per account. An unlimited number of files may be uploaded into a bucket.

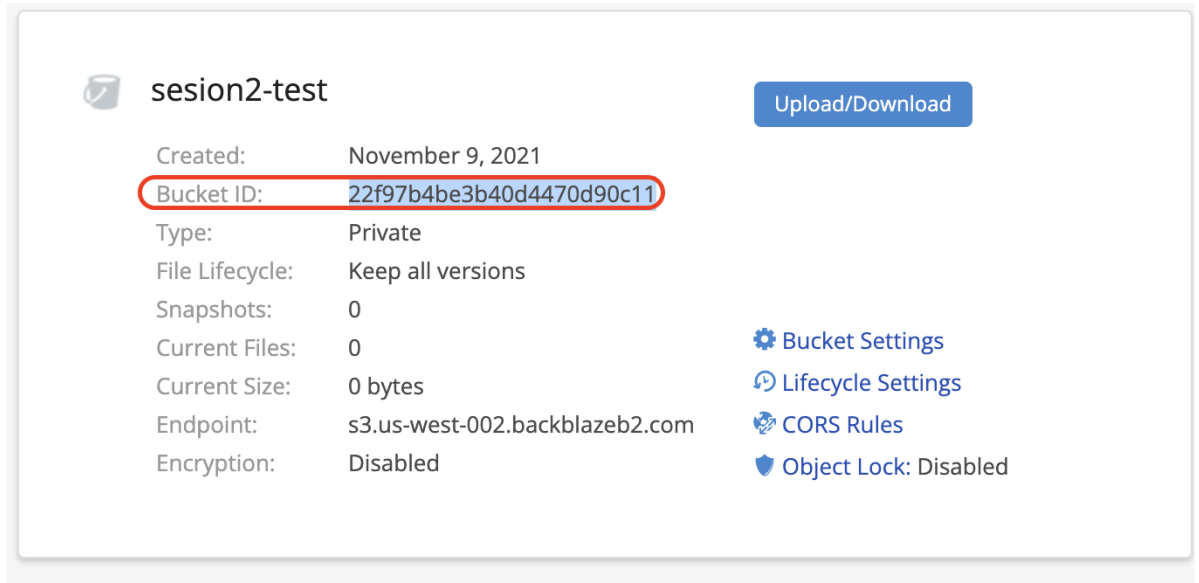
Bucket Unique Name:

Files in Bucket are: ☒ Private
☐ Public
Email verification required - [verify now](#). [Learn more](#).

Default Encryption: ☒ Disable
☐ Enable
Backblaze B2 key (SSE-B2), an encryption key that Backblaze creates, manages and uses for you.

Object Lock: A security feature that can provide data immutability by restricting a file from being modified or deleted for a specified period of time. [Learn more](#).
☒ Disable
☐ Enable

10. Una vez creado el bucket, guarda su bucket id en algún lugar, para usarlo más adelante. Ejemplo:



The screenshot shows the details of a B2 bucket named 'sesion2-test'. The 'Bucket ID' is highlighted with a red circle and is '22f97b4be3b40d4470d90c11'. Other details include: Created: November 9, 2021; Type: Private; File Lifecycle: Keep all versions; Snapshots: 0; Current Files: 0; Current Size: 0 bytes; Endpoint: s3.us-west-002.backblazeb2.com; Encryption: Disabled. There are links for 'Bucket Settings', 'Lifecycle Settings', 'CORS Rules', and 'Object Lock: Disabled'. An 'Upload/Download' button is also visible.

Created:	November 9, 2021
Bucket ID:	22f97b4be3b40d4470d90c11
Type:	Private
File Lifecycle:	Keep all versions
Snapshots:	0
Current Files:	0
Current Size:	0 bytes
Endpoint:	s3.us-west-002.backblazeb2.com
Encryption:	Disabled

[Bucket Settings](#)
[Lifecycle Settings](#)
[CORS Rules](#)
[Object Lock: Disabled](#)

11. Crea el Authorization Header para tus peticiones. Para ello,

- Une tu application key id y key en un string ejemplo:

```
"applicationKeyId:applicationKey"  
29bb34d409c1:002ef41fac05584446b564a456606eda489507f051
```

- Copia el string creado y conviértelo en base64 [aquí](#)

Encode to Base64 format

Simply enter your data then push the encode button.

29bb34d409c1:002ef41fac05584446b564a456606eda489507f051

To encode binaries (like images, documents, etc.) use the file upload form a little further down on this page.

UTF-8 ▼ Destination character set.

LF (Unix) ▼ Destination newline separator.

☐ Encode each line separately (useful for when you have multiple entries).

☐ Split lines into 76 character wide chunks (useful for MIME).

☐ Perform URL-safe encoding (uses Base64URL format).

Live mode OFF Encodes in real-time as you type or paste (supports only the UTF-8 character set).

> ENCODE < Encodes your data into the area below.

MjliYjM0ZDQwOWMxOjAwMmVmNDFmYWwNTU4NDQ0NmI1NjRhNDU2NjA2ZWRhNDg5NTA3ZjA1MQ==

- Copia y guarda en un archivo txt el encode generado, este será el string que usaremos para la conexión

12. Realiza una solicitud de autorización (HTTP basic auth). En postman crea una petición de tipo GET y con url https://api.backblazeb2.com/b2api/v2/b2_authorize_account y Header **Autorization: Basic *string_encode***

Ejemplo:

The screenshot shows a Postman interface with the following details:

- Environment:** No Environment
- URL:** `https://api.backblazeb2.com/b2api/v2/b2_authorize_account`
- Method:** GET
- Headers (6):**

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> Authorization	Basic MjliYjM0ZDQwOWMxOjAwMmVmNDFmYWwNTU4NDQ0NmI1NjRhNDU2NjA2ZWRhNDg5NTA3ZjA1MQ==	
Key		Description
- Body:** Empty
- Response:** 401 Unauthorized, 443 ms, 340 B

Presiona el botón Send, debes obtener una respuesta como esta:

```
{
  "absoluteMinimumPartSize": 5000000,
  "accountId": "29bb34d409c1",
  "allowed": {
    "bucketId": null,
    "bucketName": null,
    "capabilities": [
      "writeBucketEncryption",
      "listKeys",
      "readBuckets",
      "writeBucketRetentions",
      "writeKeys",
      "deleteBuckets",
      "writeFileRetentions",
      "readFiles",
      "deleteFiles",
      "readBucketEncryption",
      "bypassGovernance",
      "listFiles",
      "listAllBucketNames",
      "readFileRetentions",
      "readFileLegalHolds",
      "deleteKeys",
      "writeBuckets",
      "writeFiles",
      "writeFileLegalHolds",
      "listBuckets",
      "readBucketRetentions",
      "shareFiles"
    ],
    "namePrefix": null
  },
  "apiUrl": "https://api002.backblazeb2.com",
  "authorizationToken": "4_00229bb34d409c100000000000_01a032ce-ca718a-acct-Tf8eK3i__YyZstoBNieuoewseNY=",
  "downloadUrl": "https://f002.backblazeb2.com",
  "recommendedPartSize": 100000000,
  "s3ApiUrl": "https://s3.us-west-002.backblazeb2.com"
}
```

[Más documentación de este endpoint](#)

13. Crea un archivo txt con la frase 'Este es un archivo de prueba' y guardalo con nombre test.txt
14. Obtén el enlace para realizar cargue de archivos a nuestro Bucket. Cuando se sube un archivo a B2, hay que llamar primero a [b2_get_upload_url](#) para obtener la URL de subida y luego [b2_upload_file](#) para cargar su archivo.
 - De la petición realizada en el punto 12 copia el contenido de authorizationToken
 - Crea una nueva petición en Postman de tipo POST con url https://api002.backblazeb2.com/b2api/v2/b2_get_upload_url a esta petición la llamaremos Upload url.

- Añade a la petición los Headers Authorization = authorizationToken copiado y Content-Type = application/json de la siguiente manera

https://api002.backblazeb2.com/b2api/v2/b2_get_upload_url

POST https://api002.backblazeb2.com/b2api/v2/b2_get_upload_url

Params Authorization Headers (9) Body Pre-request Script Tests Settings

Headers 7 hidden

KEY	VALUE	DESCRIPTION	...	Bulk Edit	Presets
<input checked="" type="checkbox"/> Authorization	4_00229bb34d409c10000000000_01a032ce-ca71...				
<input checked="" type="checkbox"/> Content-Type	application/json				
Key	Value	Description			

- Añade un body de tipo JSON que contenga "bucketId": "22f97b4be3b40d4470d90c11", aquí debes reemplazar el id por el del bucket que creaste en el paso 10.

https://api002.backblazeb2.com/b2api/v2/b2_get_upload_url

POST https://api002.backblazeb2.com/b2api/v2/b2_get_upload_url

Params Authorization Headers (9) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```

1 {
2   "bucketId": "22f97b4be3b40d4470d90c11"
3 }

```

- Presiona send para comprobar la petición y obtener un resultado como el siguiente:

Body Cookies Headers (6) Test Results

Status: 200 OK Time: 1044 ms Size: 491 B Save Response

Pretty Raw Preview Visualize JSON

```

1 {
2   "authorizationToken": "4_00229bb34d409c10000000000_01a032e8_ae6399_upId_89xkQrxdUL0dgKNe6CJk0rGcJ7I=",
3   "bucketId": "22f97b4be3b40d4470d90c11",
4   "uploadUrl": "https://pod-000-1114-04.backblaze.com/b2api/v2/b2_upload_file/22f97b4be3b40d4470d90c11/c002_v0001114_t0021"
5 }

```

- Ahora, copia el uploadUrl obtenido y crea una nueva petición de tipo POST con este enlace

El authorizationToken se debe usar cuando deseamos subir archivos al bucket. Este token es válido durante 24 horas o hasta que el endpoint/petición uploadUrl rechace una subida. A esta petición la llamaremos Upload file.

- Añade la petición Upload file los siguientes headers:

Authorization: authorizationToken obtenido en la petición Upload url

Content-type: application/octet-stream

Content-Lenght: 68

X-Bz-File-Name: nombre del archivo creado en punto 13

X-Bz-Content-Sha1: hash generado en

https://emn178.github.io/online-tools/sha1_checksum.html

(para generar el hash debes subir el archivo de prueba

creado en punto 13)

Overview | New ... | GET Auth... | POST Up!... | POST htt... | + | No Environment

https://pod-000-1114-04.backblaze.com/b2api/v2/b2_upload_file/22f97b4be3b40d4470d90c11/ | Save | Edit | Comments

POST | https://pod-000-1114-04.backblaze.com/b2api/v2/b2_upload_file/22f97b4be3b40d4470d90c11/ | Send

Params | Authorization | Headers (11) | Body | Pre-request Script | Tests | Settings | Cookies

Headers | 6 hidden

	KEY	VALUE	DESCRIPT	...	Bulk Edit	Presets
<input checked="" type="checkbox"/>	Authorization	4_00229bb34d409c1000000000_01a0...				
<input checked="" type="checkbox"/>	Content-Type	application/octet-stream				
<input checked="" type="checkbox"/>	Content-Lenght	68				
<input checked="" type="checkbox"/>	X-Bz-File-Name	test.txt				
<input checked="" type="checkbox"/>	X-Bz-Content-Sha1	6bae65394ade1f46fb999539316bef62c...				
	Key	Value	Description			

- Sube en el Body de la petición nuestro archivo de prueba. Sección Body / binary

https://pod-000-1114-04.backblaze.com/b2api/v2/b2_upload_file/22f97b4be3b40d4470d90c11/ | Save | Edit | Comments

POST | https://pod-000-1114-04.backblaze.com/b2api/v2/b2_upload_file/22f97b4be3b40d4470d90c11/ | Send

Params | Authorization | Headers (11) | Body | Pre-request Script | Tests | Settings | Cookies

● none ● form-data ● x-www-form-urlencoded ● raw ● binary ● GraphQL

Select File

- Envía la petición y debes obtener un resultado como el siguiente

POST | https://pod-000-1114-04.backblaze.com/b2api/v2/b2_upload_file/22f97b4be3b40d4470d90c11/ | Send


Params | Authorization | Headers (12) | Body | Pre-request Script | Tests | Settings | Cookies

Body | Cookies | Headers (6) | Test Results | 200 OK 658 ms 965 B | Save Response

Pretty | Raw | Preview | Visualize | JSON |

```
1  {
2    "accountId": "29bb34d409c1",
3    "action": "upload",
4    "bucketId": "22f97b4be3b40d4470d90c11",
5    "contentLength": 28,
6    "contentMd5": "d02d34b2ce0b71c766dd105fe4d8f85d",
7    "contentSha1": "6bae65394ade1f46fb999539316bef62c4deff00",
8    "contentType": "application/octet-stream",
9    "fileId": "4_z22f97b4be3b40d4470d90c11_f104b0d325094f7f7_d20211109_m163923_c002_v0001114_t0056",
10   "fileInfo": {},
11   "fileName": "test.txt",
12   "fileRetention": {
13     "isClientAuthorizedToRead": true,
14     "value": {
15       "mode": null,
16       "retainUntilTimestamp": null
17     }
18   },
19   "legalHold": {
```


15. Vuelve a BackBlaze y válida en My Account / Buckets que se haya cargado el archivo. Como puedes notar, en Current Files cambió de 0 a 1. Lo que indica que se subió exitosamente.

 **sesion2-test** [Upload/Download](#)

Created:

November 9, 2021

Bucket ID:

22f97b4be3b40d4470d90c11

Type:

Private

File Lifecycle:

Keep all versions

Snapshots:

0

Current Files:

1

Current Size:


28 bytes


Endpoint:


s3.us-west-002.backblazeb2.com


Encryption:


Disabled


 [Bucket Settings](#)

 [Lifecycle Settings](#)

 [CORS Rules](#)

 [Object Lock: Disabled](#)

 [Make Full Bucket Snapshot](#)

 [Unfinished Large Files](#)

16. En My Account / Browse Files, selecciona el bucket donde almacenamos el archivo. Aquí podrás ver todos los archivos que se suban.

Personal Backup Business Backup B2 Cloud Storage Blog Help **My Account**

Welcome kristellu, [Sign Out](#)

Browse Files

B2 Cloud Storage

Buckets

Browse Files

Snapshots

Reports

Caps & Alerts

Fireball


Account


App Keys


My Settings


Billing


[Buckets / sesion2-test](#)

 Upload


 Download

 New Folder

 Delete

 Snapshot

Selected: 0 Files: 0 bytes

<input type="checkbox"/>	Name	Size	Uploaded	
<input type="checkbox"/>	 test.txt	28.0 bytes	11/09/2021 11:39	