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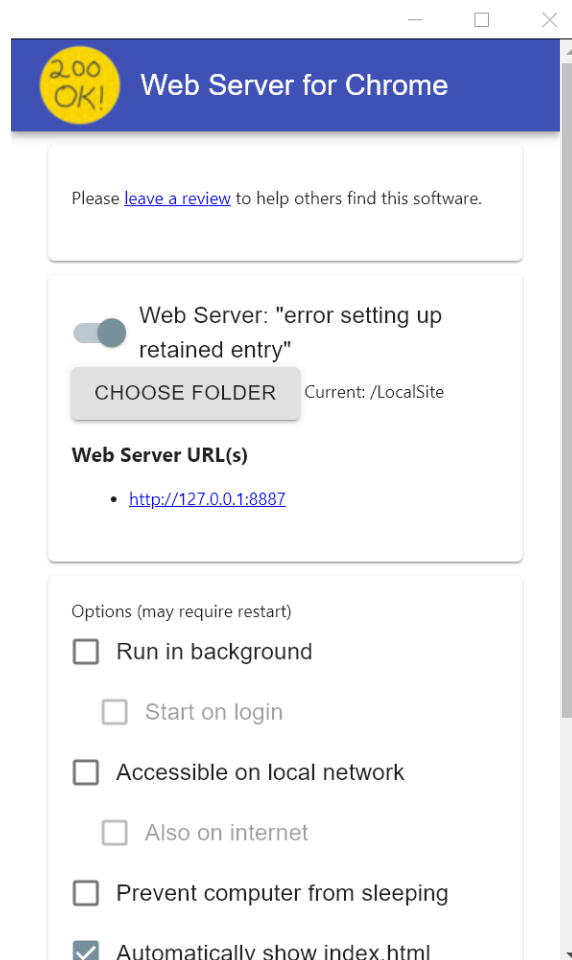
E-mail: nayan.rajani@blazeclan.com

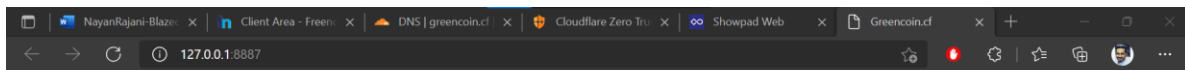
Assignment: Cloudflare for Teams Implementation

Cloudflare Access (10 points)

1. Connect a web application to Cloudflare network with Cloudflare Tunnel and share a screenshot output showing that the tunnel is active

Answer: For this we need a local application/webpage, we are using extension which is **Web server for chrome** in which we are going to provide the folder name where we have stored our local application. We will get a localhost address as well <http://127.0.0.1:8887> and our website as well.





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SIMPLE WEB PAGE

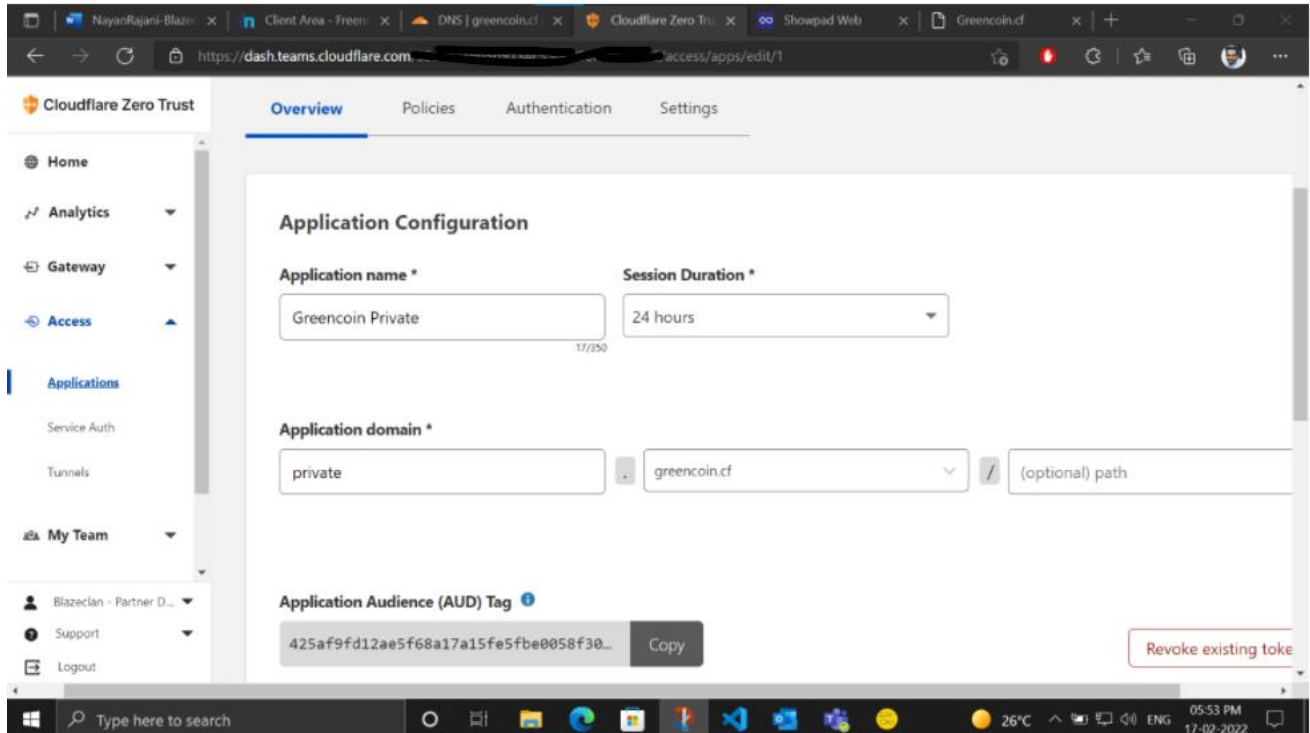
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- Now we have installed cloudflared software to run and connect our local application through a Cloudflare tunnel and execute with Cloudflare Access.
- We will create an application in **Teams Dashboard**



- Adding a @cloudflare.com and @blazeclan.com users only

The screenshot shows the Cloudflare Zero Trust dashboard. On the left is a navigation menu with options like Home, Analytics, Gateway, Access, Applications, Service Auth, Tunnels, My Team, Logs, and Settings. The main area is titled 'Access' and shows a policy configuration for 'Cloudflare and Blazeclan users'. The 'Action' is set to 'Allow' and 'Session duration' is 'Same as application session timeout'. Under 'Assign a group', a search bar is present, and a table lists 'LabGroup' with a 'DEFAULT' rule type. Below this, the 'Create additional rules' section allows adding rules. Under the 'Include' tab, three rules are listed: '@blazeclan.com', '@cloudflare.com', and '@domain.com'. At the bottom, there are links to '+ Add include', '+ Add exception', and '+ Add require'.

- Now we will execute some commands to connect with our Domain in Cloudflare via CMD

```
cloudflared version 2022.2.0 (built 2022-02-04-1113 UTC)
cloudflared tunnel login
A browser window should have opened at the following URL:
https://dash.cloudflare.com/argotunnel?callback=https%3A%2F%2Flogin.cloudflareaccess.c...
If the browser failed to open, please visit the URL above directly in your browser.
2022-02-17T12:53:09Z INF Waiting for login...
You have successfully logged in.
If you wish to copy your credentials to a server, they have been saved to:
C:\Users\nayan.rajani\.cloudflared\cert.pem
```

Success

Cloudflared has installed a certificate allowing your origin to create a Tunnel on this zone.

You may now close this window and start your Cloudflare Tunnel!

- Final Commands

```
Command Prompt - cloudflared tunnel --config C:\Users\nayan.rajani\cloudflared\config.yml --origin-ca-pool C:\Users\nayan.rajani\cloudflared\cert.pem run GreencoinLocal

C:\Users\nayan.rajani\Development\Cloudflare\Zero Trust\CIS\Cloudflared_Tunnel>cloudflared tunnel create GreencoinLocal
Tunnel credentials written to C:\Users\nayan.rajani\cloudflared\2231a3fd-4b37-431c-8f3f-22153d375ba4.json. cloudflared chose this file based on where your origin certificate was found. Keep this file secret. To revoke these credentials, delete the tunnel.

Created tunnel GreencoinLocal with id 2231a3fd-4b37-431c-8f3f-22153d375ba4

C:\Users\nayan.rajani\Development\Cloudflare\Zero Trust\CIS\Cloudflared_Tunnel>cloudflared tunnel list
You can obtain more detailed information for each tunnel with 'cloudflared tunnel info <name/uuid>'
ID      NAME      CREATED      CONNECTIONS
2231a3fd-4b37-431c-8f3f-22153d375ba4 GreencoinLocal 2022-02-17T12:57:32Z
6574701d-ce31-4f3a-ac68-485a62474427 PrivateCaptain 2022-02-17T08:00:11Z 2xBOm, 2xSiN
54023bdd-bb3d-4c14-9a78-9ee26c9b1d00 chromeweb 2022-02-09T05:57:51Z
28b4c9d2-6e4c-450e-8bf3-371f547ac815 ultrachromeweb 2022-02-08T10:50:35Z 2xBOm, 2xSiN

C:\Users\nayan.rajani\Development\Cloudflare\Zero Trust\CIS\Cloudflared_Tunnel>cloudflared tunnel route dns GreencoinLocal private.greencoin.cf
2022-02-17T13:02:12Z INF Added CNAME private.greencoin.cf which will route to this tunnel tunnelID=2231a3fd-4b37-431c-8f3f-22153d375ba4

C:\Users\nayan.rajani\Development\Cloudflare\Zero Trust\CIS\Cloudflared_Tunnel>cloudflared tunnel --config C:\Users\nayan.rajani\cloudflared\config.yml --origin-ca-pool C:\Users\nayan.rajani\cloudflared\cert.pem run GreencoinLocalcloudflared tunnel --config C:\Users\nayan.rajani\cloudflared\config.yml --origin-ca-pool C:\Users\nayan.rajani\cloudflared\cert.pem run GreencoinLocal^Z^Z^Z^Z^Z^X

C:\Users\nayan.rajani\Development\Cloudflare\Zero Trust\CIS\Cloudflared_Tunnel>cloudflared tunnel --config C:\Users\nayan.rajani\cloudflared\config.yml --origin-ca-pool C:\Users\nayan.rajani\cloudflared\cert.pem run GreencoinLocal
2022-02-17T13:02:15Z INF Version 2022.2.0
2022-02-17T13:02:15Z INF GOOS: windows, GOVersion: go1.17.5, GoArch: amd64
2022-02-17T13:02:15Z INF Settings: map[config:C:\Users\nayan.rajani\cloudflared\config.yml cred-file:C:\Users\nayan.rajani\cloudflared\2231a3fd-4b37-431c-8f3f-22153d375ba4.json credentials-file:C:\Users\nayan.rajani\cloudflared\2231a3fd-4b37-431c-8f3f-22153d375ba4.json origin-ca-pool:C:\Users\nayan.rajani\cloudflared\cert.pem]
2022-02-17T13:02:15Z INF Generated Connector ID: 6baf0ef6-a512-4cf1-82cc-efa391946d1d
2022-02-17T13:02:15Z INF cloudflared will not automatically update on Windows systems.
2022-02-17T13:02:15Z INF Initial protocol http2
2022-02-17T13:02:15Z INF Starting metrics server on 127.0.0.1:49537/metrics
2022-02-17T13:02:15Z INF cloudflared does not support loading the system root certificate pool on Windows. Please use --origin-ca-pool <PATH> to specify the path to the certificate pool
2022-02-17T13:02:16Z INF Connection 5cbe3dbd-dc81-40c8-a4de-2e01e3ce2e60 registered connIndex=0 location=SiN
2022-02-17T13:02:17Z INF Connection e4123efe-d180-4490-bed5-72569d157665 registered connIndex=1 location=BOm
2022-02-17T13:02:18Z INF Connection 89f0c281-aa9c-49d3-806a-6bd485811ab6 registered connIndex=2 location=SiN
2022-02-17T13:02:19Z INF Connection 5b13cbcc-f96a-48d1-aa43-25e0652761ad registered connIndex=3 location=BOm
```

- Config.yml file

```
File Edit Selection View Go Run Terminal Help
config.yml - Visual Studio Code

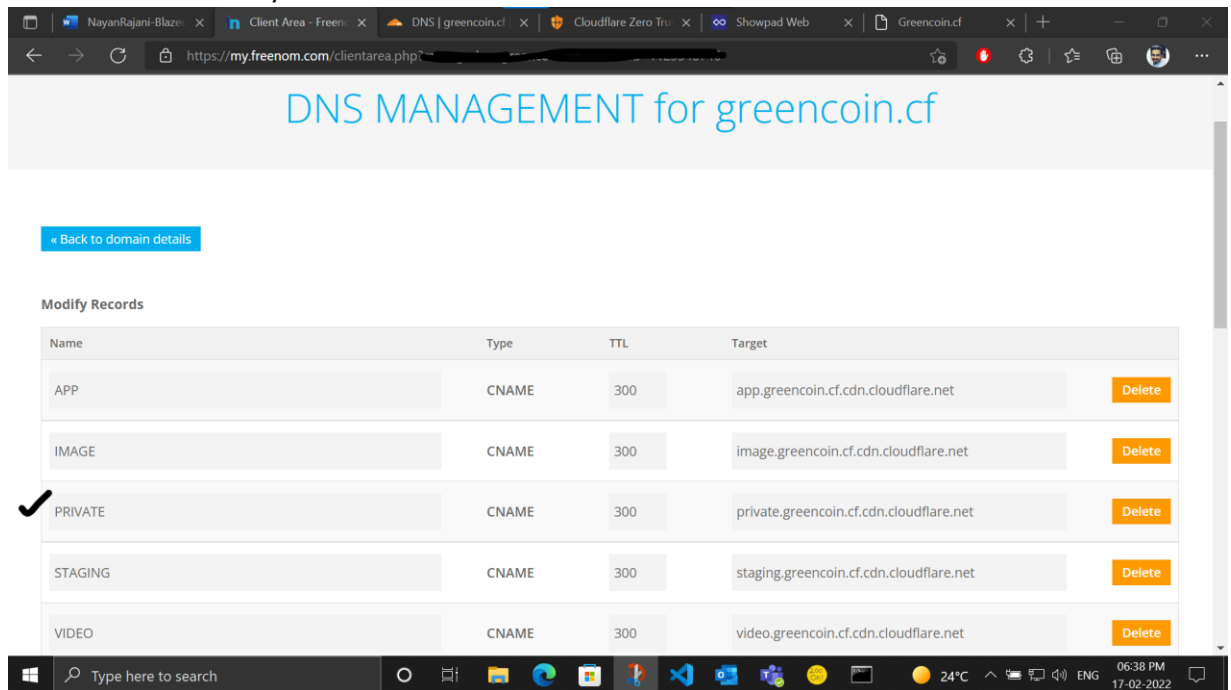
! config.yml x
C:\Users\nayan.rajani>cloudflared>! config.yml
1 # url: http://localhost:8887
2 tunnel: 2231a3fd-4b37-431c-8f3f-22153d375ba4
3 credentials-file: C:\Users\nayan.rajani\cloudflared\2231a3fd-4b37-431c-8f3f-22153d375ba4.json
4
5 ingress:
6   - hostname: private.greencoin.cf
7     service: http://localhost:8887
8   - service: http_status:404
```

- DNS Record in Cloudflare dashboard

Cloudflare dashboard screenshot showing DNS records for greencoin.cf. The records are as follows:

Type	Name	Content	Proxy status	TTL	Actions
A	spectrum	spectrum.greencoin.cf	Proxied	Auto	Edit
A	app	35.180.201.15	Proxied	Auto	Edit
A	staging	35.234.81.115	Proxied	Auto	Edit
A	web	35.180.201.15	Proxied	Auto	Edit
A	www	35.234.81.115	Proxied	Auto	Edit
A	yup	35.234.81.115	Proxied	Auto	Edit
CNAME	image	cloudflare-nayan-app.s3-w...	Proxied	Auto	Edit
CNAME	private	2231a3fd-4b37-431c-8f3f-...	Proxied	Auto	Edit
CNAME	video	cloudflare-nayan-app1.s3-...	Proxied	Auto	Edit

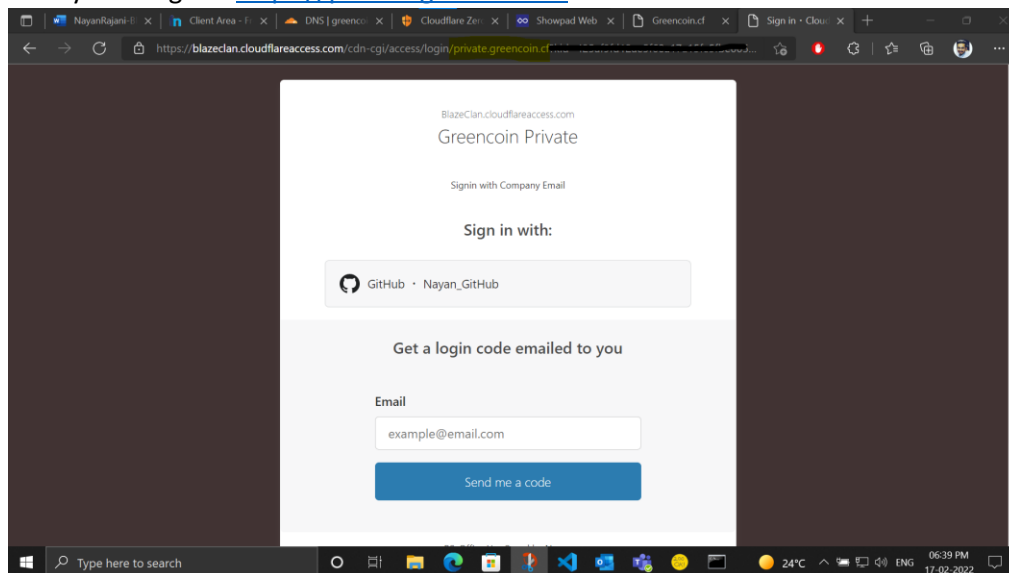
- Freenom CNAME entry



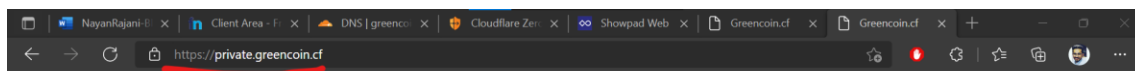
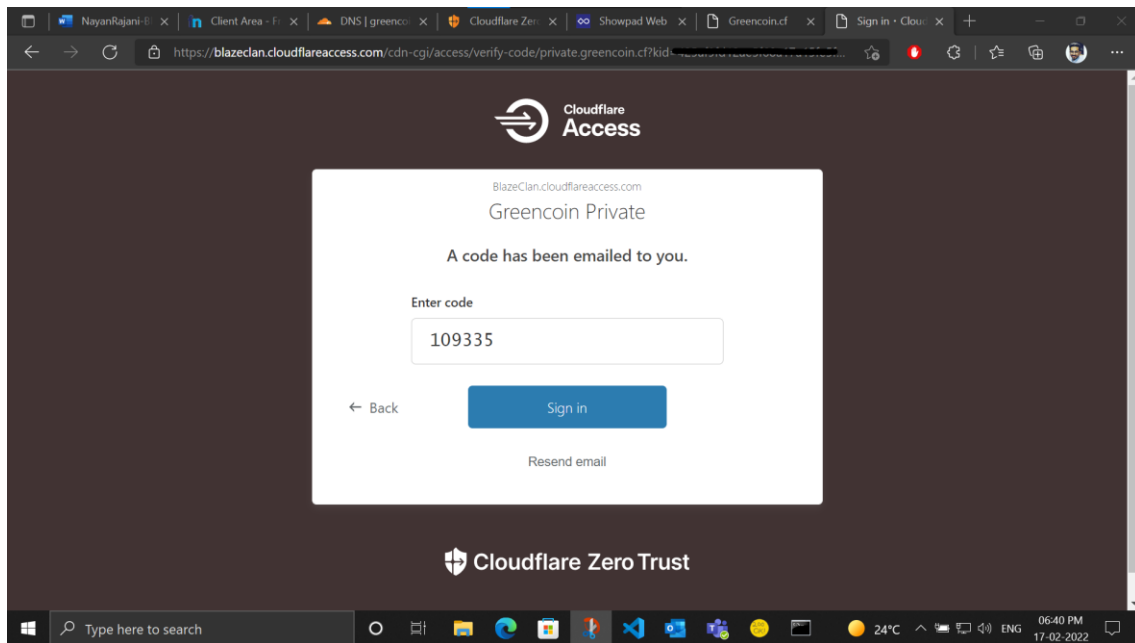
The screenshot shows the 'DNS MANAGEMENT for greencoin.cf' interface. At the top, there's a header with the domain name. Below it, a button labeled 'Back to domain details' is visible. The main section is titled 'Modify Records' and contains a table of DNS records. The table has four columns: Name, Type, TTL, and Target. There are five records listed: APP, IMAGE, PRIVATE (checked with a green checkmark), STAGING, and VIDEO. Each record is of type CNAME with a TTL of 300. The targets are app.greencoin.cf.cdn.cloudflare.net, image.greencoin.cf.cdn.cloudflare.net, private.greencoin.cf.cdn.cloudflare.net, staging.greencoin.cf.cdn.cloudflare.net, and video.greencoin.cf.cdn.cloudflare.net. Each record has a 'Delete' button to its right. The browser's address bar shows the URL 'https://my.freenom.com/clientarea.php?'. The Windows taskbar at the bottom shows the time as 06:38 PM on 17-02-2022.

Name	Type	TTL	Target	Action
APP	CNAME	300	app.greencoin.cf.cdn.cloudflare.net	Delete
IMAGE	CNAME	300	image.greencoin.cf.cdn.cloudflare.net	Delete
✓ PRIVATE	CNAME	300	private.greencoin.cf.cdn.cloudflare.net	Delete
STAGING	CNAME	300	staging.greencoin.cf.cdn.cloudflare.net	Delete
VIDEO	CNAME	300	video.greencoin.cf.cdn.cloudflare.net	Delete

- Finally running the <https://private.greencoin.cf>



The screenshot shows the login page for 'Greencoin Private' on the domain 'BlazeClan.cloudflareaccess.com'. The page has a dark background with a white login form in the center. The form includes the text 'Sign in with Company Email' and 'Sign in with:'. Below this, there's a GitHub logo and the text 'Nayan_GitHub'. Further down, it says 'Get a login code emailed to you' and 'Email'. There's an input field with the placeholder 'example@email.com' and a blue button labeled 'Send me a code'. The browser's address bar shows the URL 'https://blazeclan.cloudflareaccess.com/cdn-cgi/access/login/private.greencoin.cf'. The Windows taskbar at the bottom shows the time as 06:39 PM on 17-02-2022.



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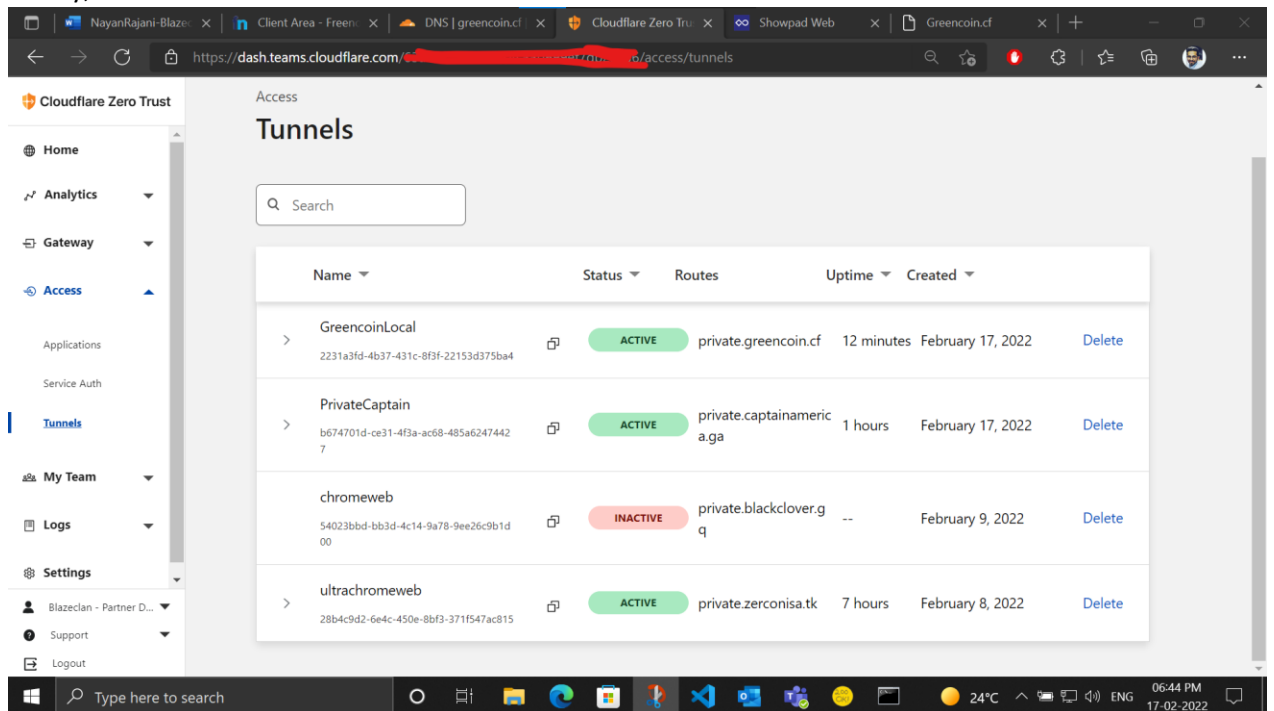
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- Finally, the Tunnel is **ACTIVE**

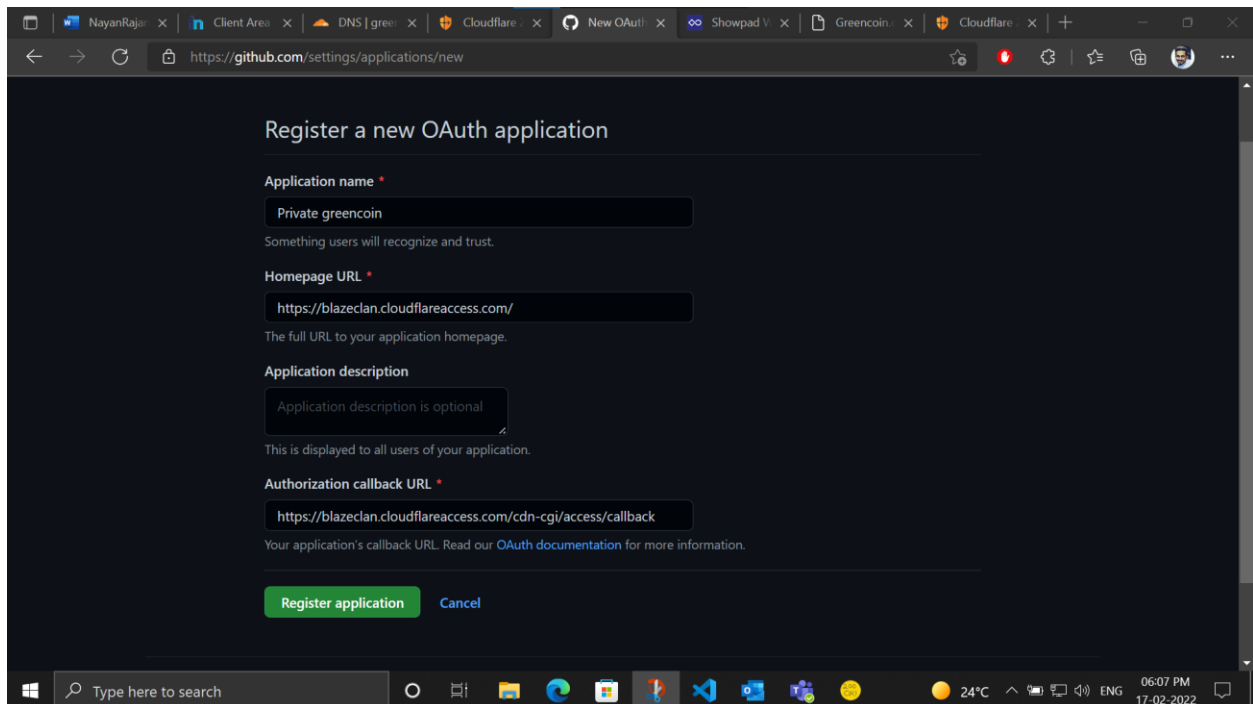


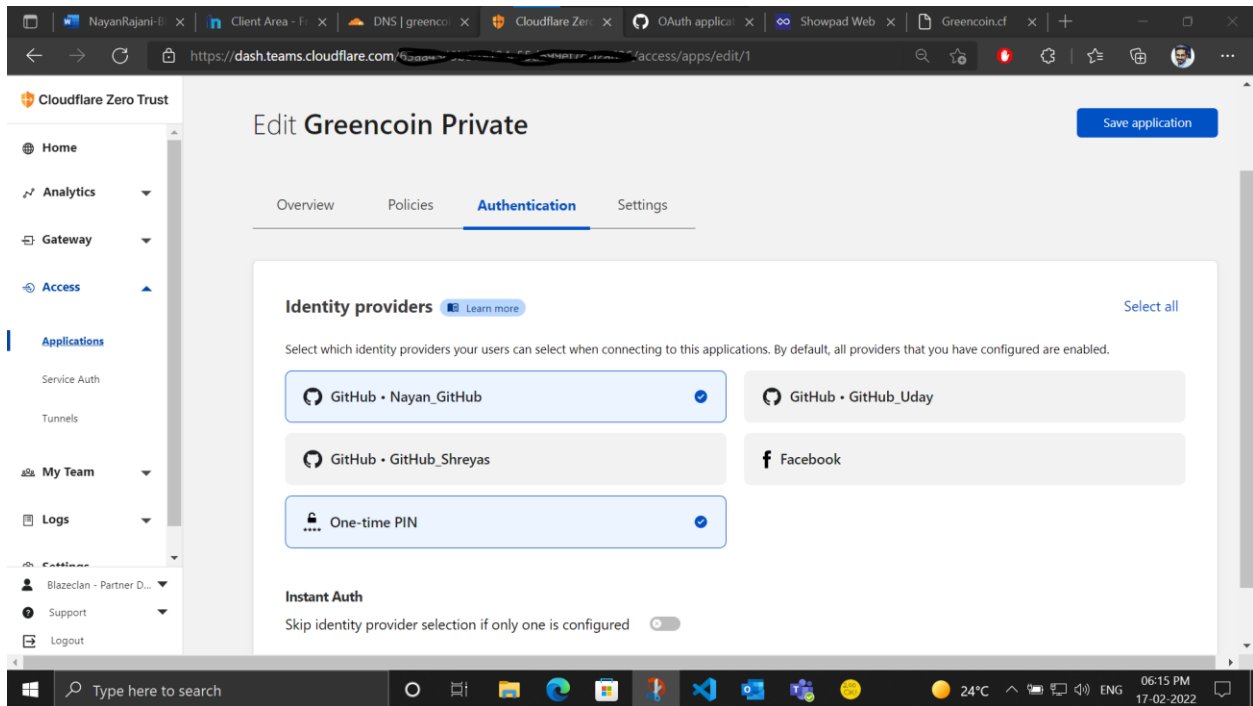
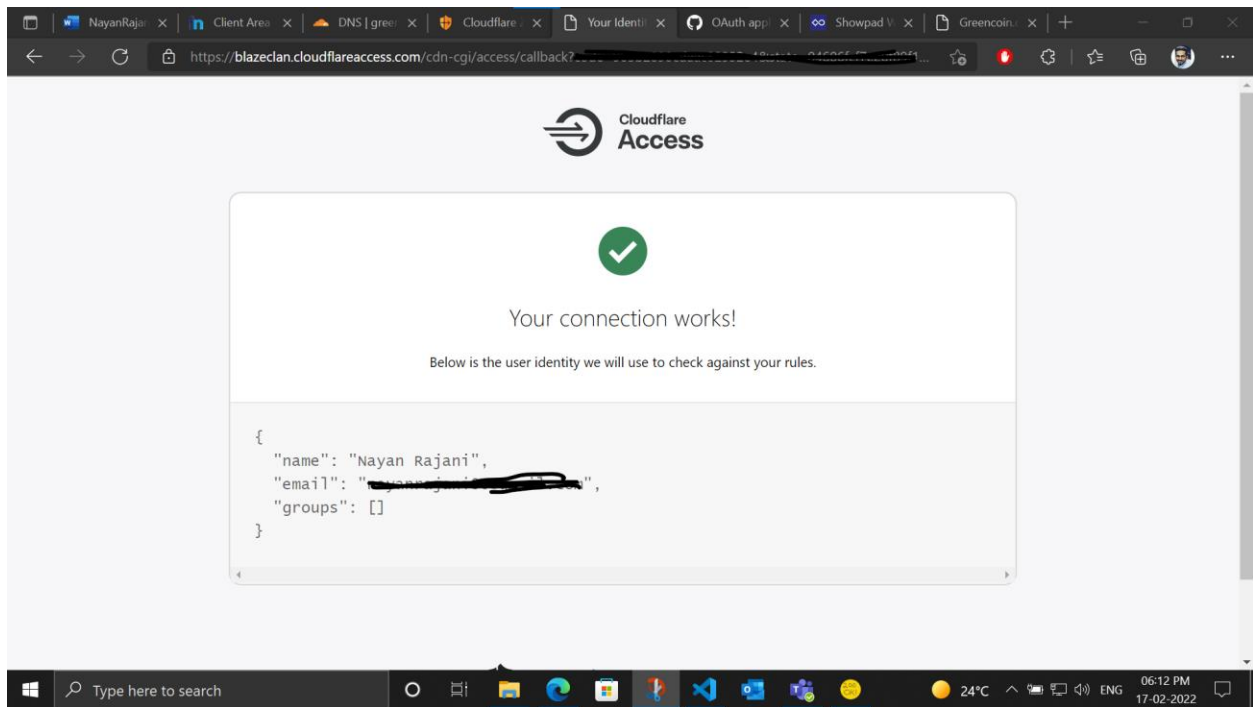
2. Configure Github or Google as the Identity Provider

Answer: Registering an IDP i.e., Github

Got to- Settings-> Authentication-> Login methods-> Add new -> Followed the Instruction

Note: Just to check our own IDP, we have individually configured our own.

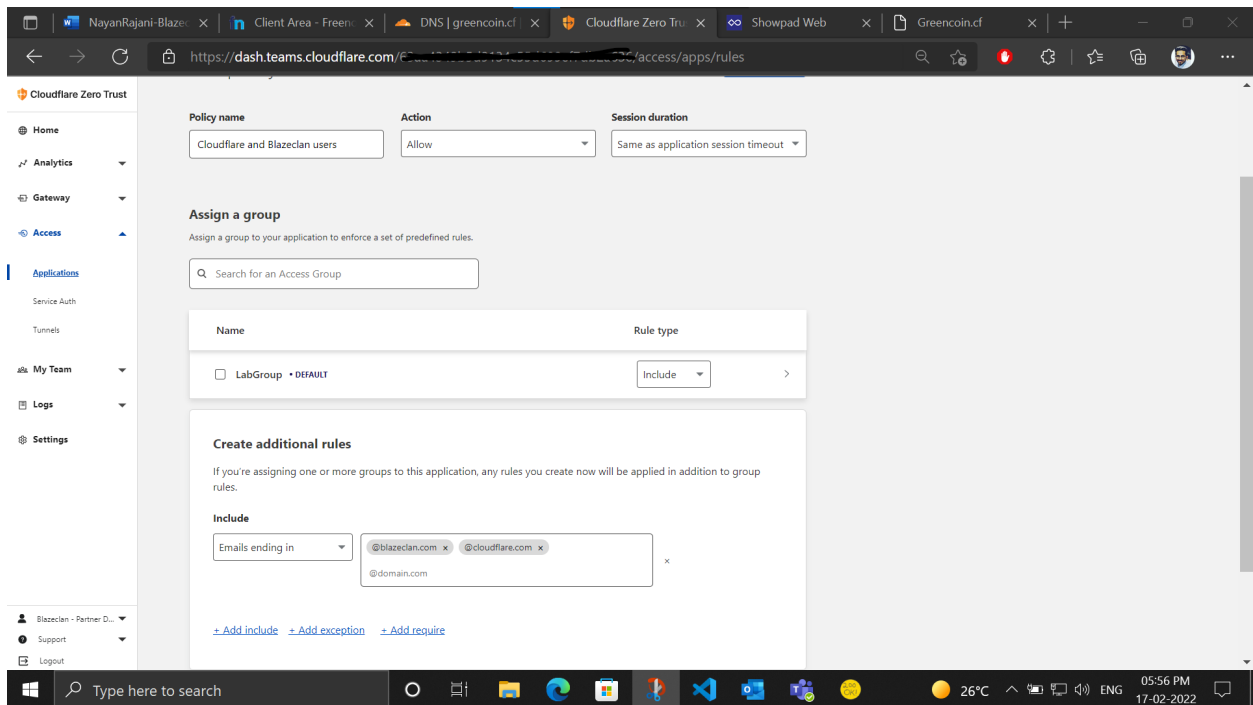




3. Protect the web application with Cloudflare Access with application policy as follows:

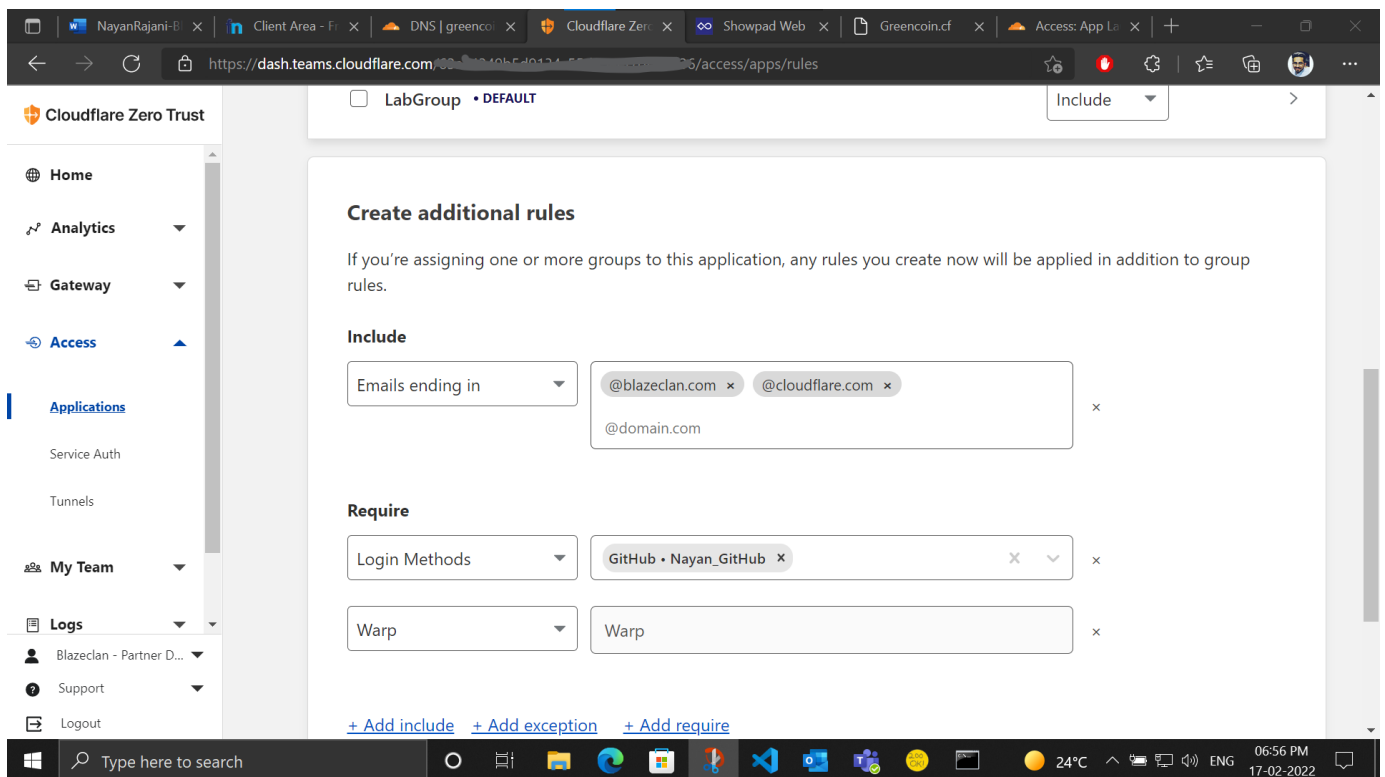
a. Allows access from @cloudflare.com and your partner organization domain

Answer: Adding a policy to accept only @cloudflare.com and @blazeclan.com users only



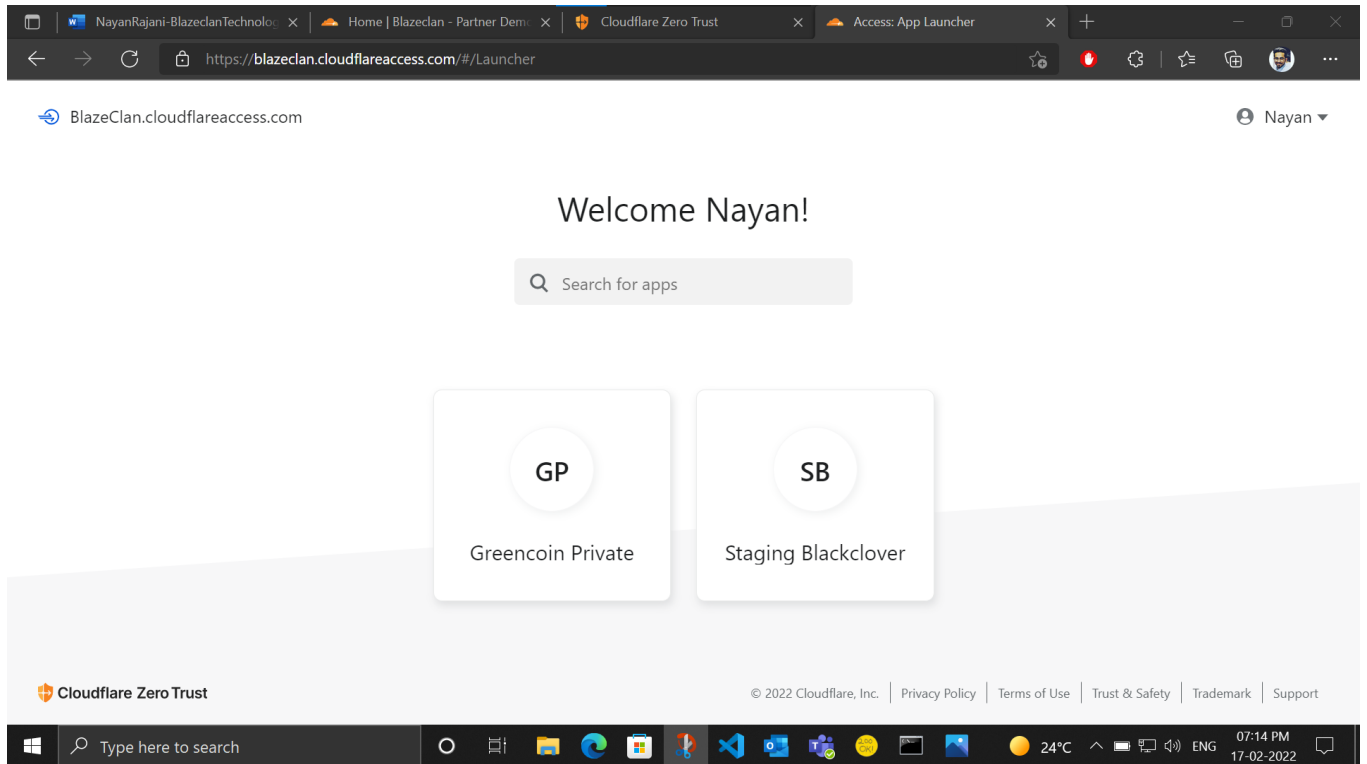
b. Requires Cloudflare WARP and Github or Google as the login method

Answer: This has been setup for <https://staging.greencoin.cf>



4. Enable application launcher for your domain

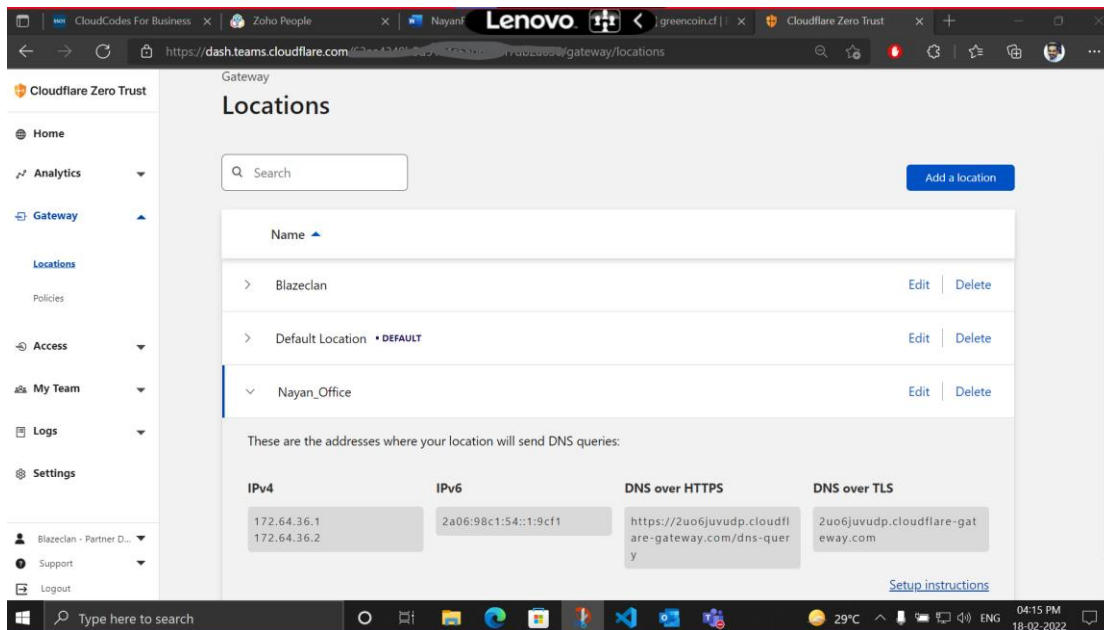
Answer:



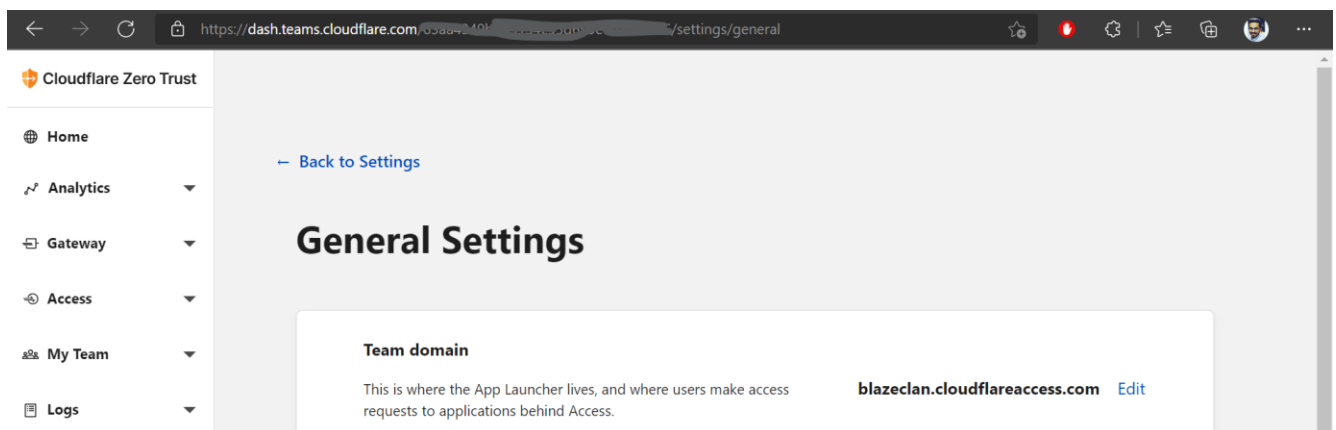
Cloudflare Gateway & Analytics (10 points)

5. Input your DNS over HTTPS hostname and Cloudflare for Teams team name

Answer: DNS over HTTPS: <https://2uo6juvudp.cloudflare-gateway.com/dns-query>

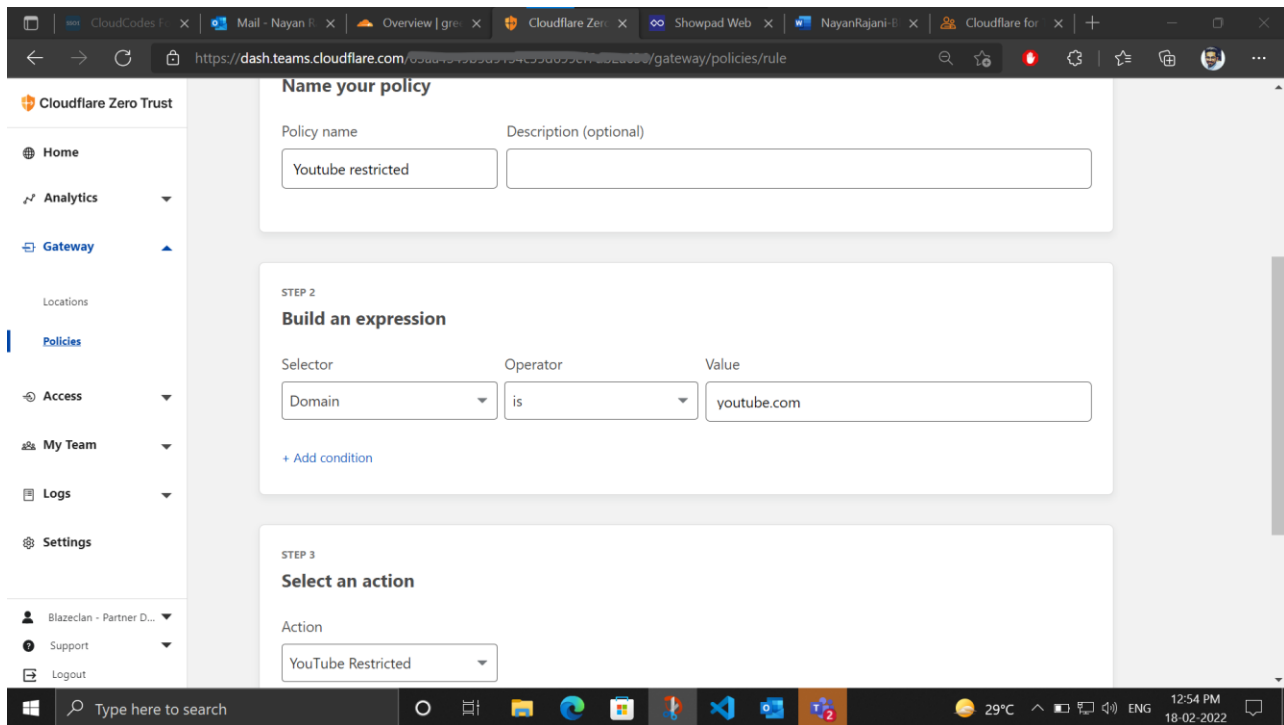
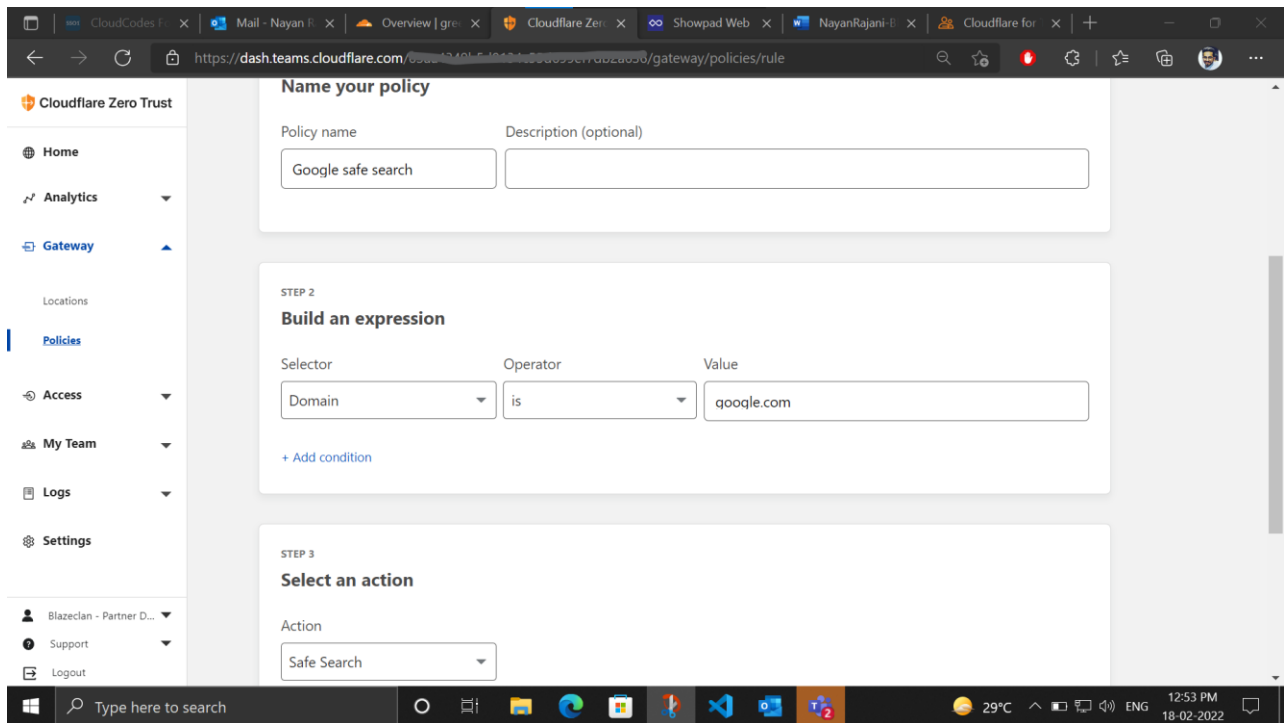


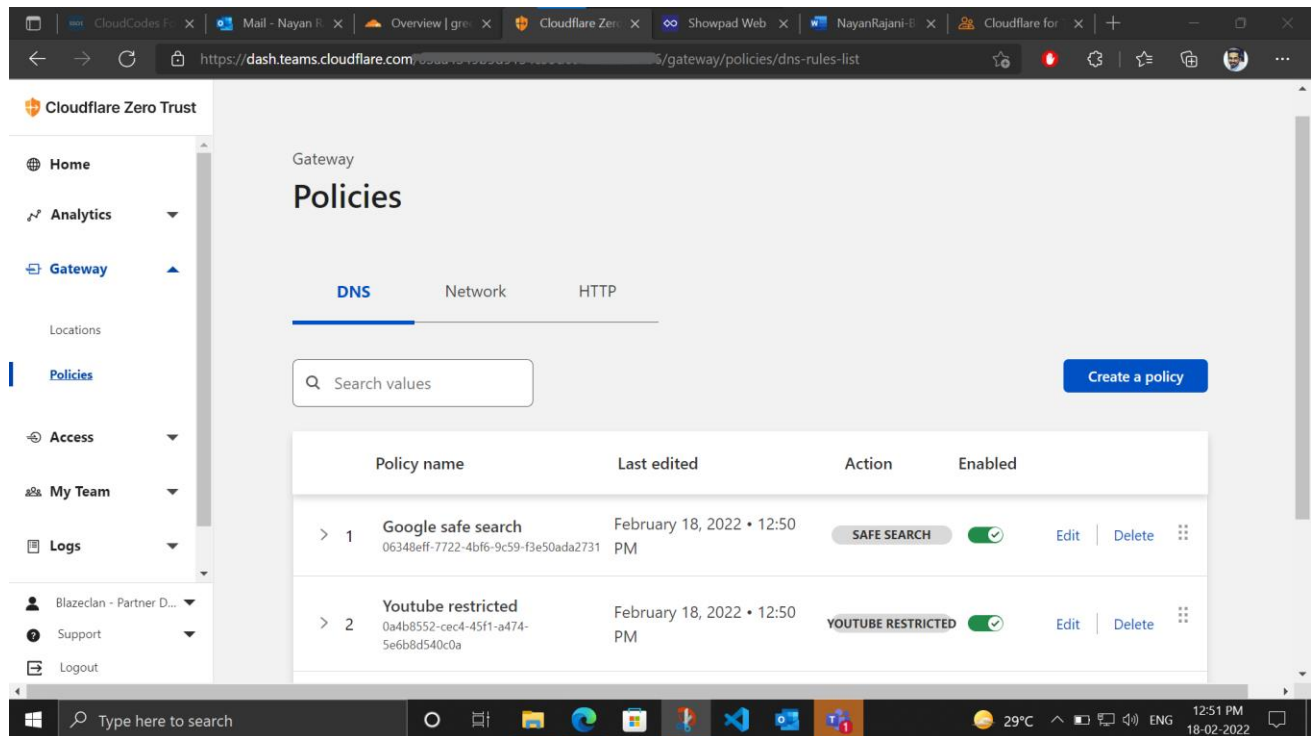
Cloudflare for Teams team name:



6. Create a policy to filter explicit or offensive content from Google and YouTube and share a screenshot output showing that the policy is active

Answer:

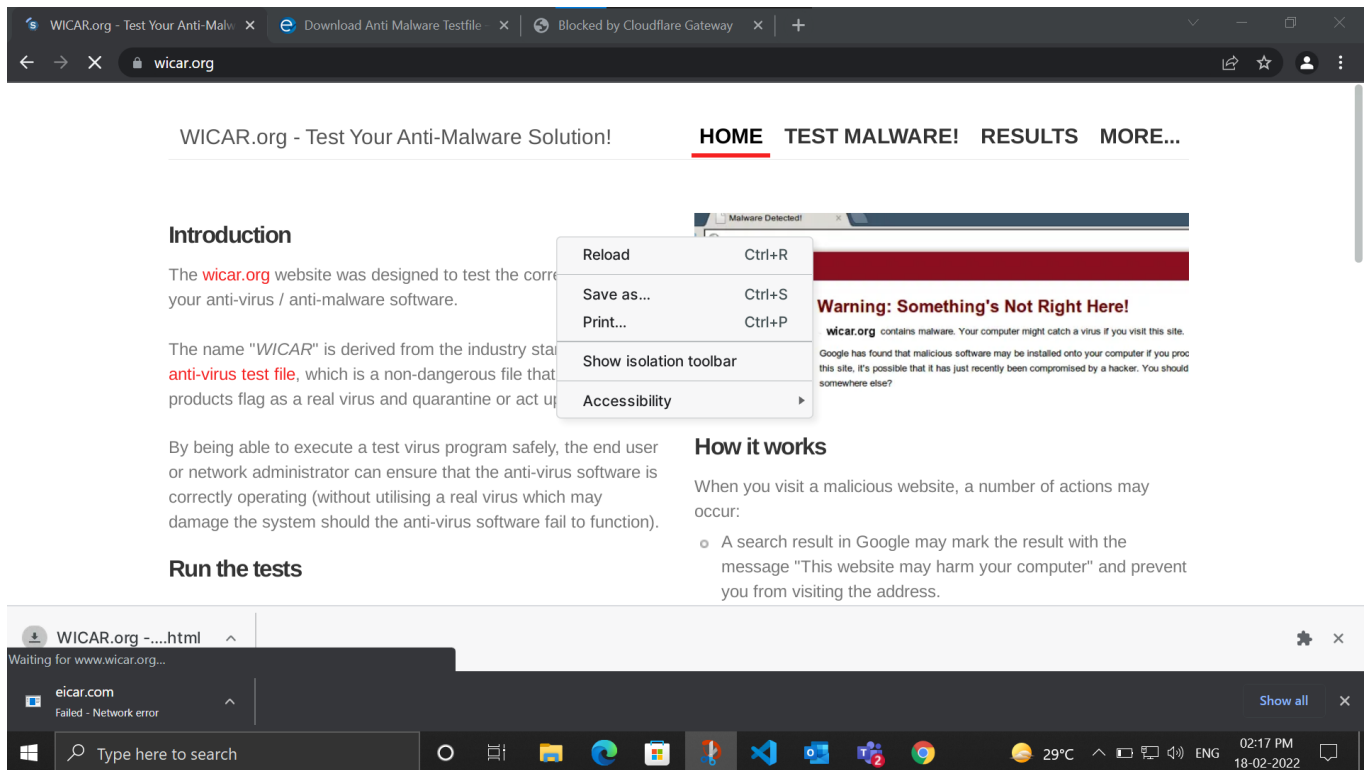




7. Create a policy to Isolate all user browsing policies to wicar.org and share a screenshot output showing that the policy is active

Answer:

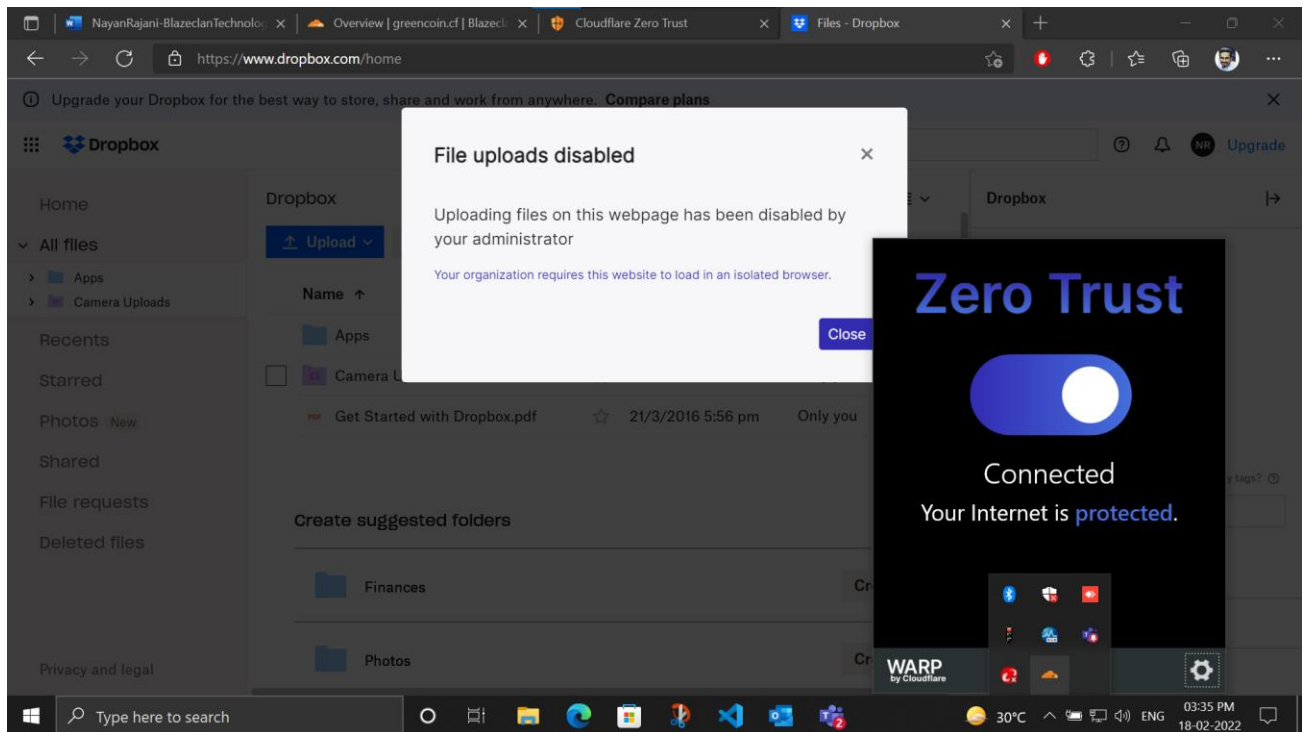
Policy name		Last edited	Action	Enabled	
<div>▼ 1</div>	<div>Isolate wicar</div> <div>178ff7f5-d5a7-48df-8be7-221d40359429</div>	February 18, 2022 • 1:13 PM	<div>ISOLATE</div>	<div><div></div></div>	<div>Edit</div> <div>Delete</div> <div></div>
<div>Policy description</div> <div>None</div>		<div>Date created</div> <div>February 9, 2022 • 4:52 PM</div>			
<div>Selector</div> <div>Host</div>	<div>Operator</div> <div>matches regex</div>	<div>Value</div> <div>^.*wicar.org\$</div>			
<div>Additional policy settings</div> <div>None</div>					



8. Create a policy to block uploading of files to Dropbox and share a screenshot output showing that the policy is active

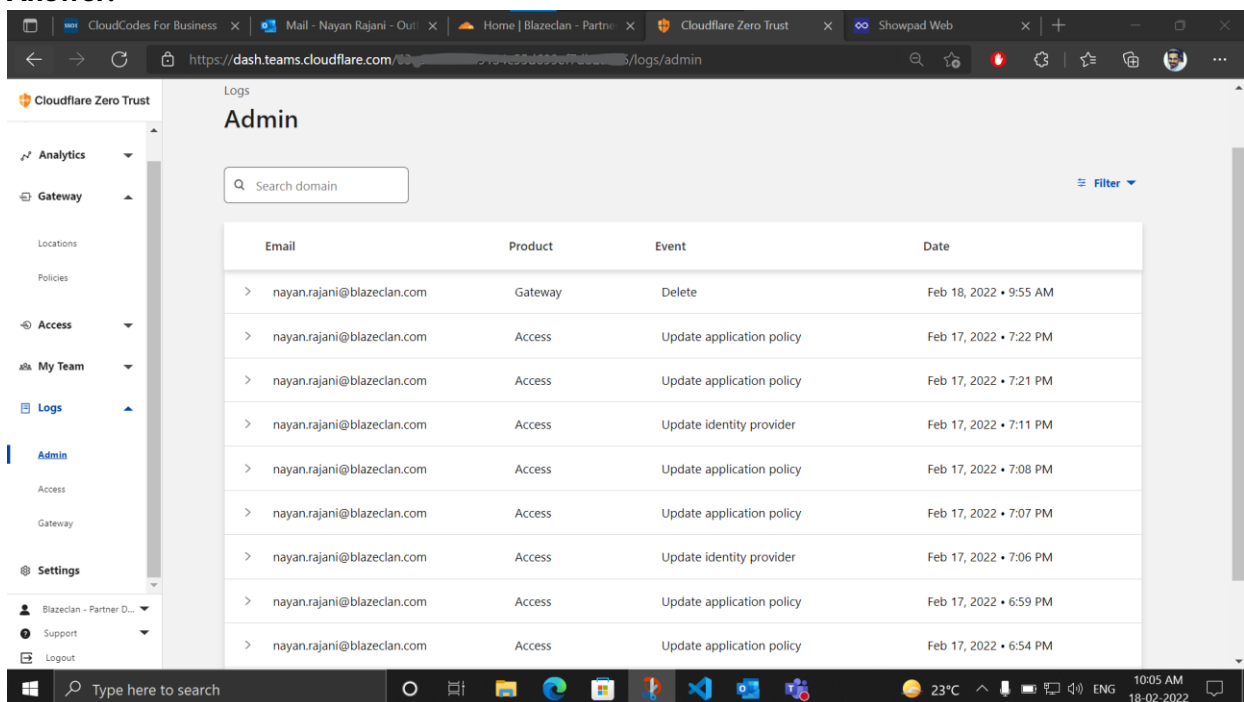
Answer:

Policy name	Last edited	Action	Enabled	
<div><div>▼ 1</div><div>Block upload dropbox</div><div>f229cd06-6e3c-42f0-bf6d-d02b72c5a322</div></div>	February 18, 2022 • 2:18 PM	ISOLATE	<div><div></div><div>✓</div></div>	<div><div>Edit</div><div>Delete</div><div></div></div>
<div><div>Policy description</div><div>None</div></div>		<div><div>Date created</div><div>February 9, 2022 • 4:57 PM</div></div>		
<div><div>Selector</div><div>Application</div></div>	<div><div>Operator</div><div>in</div></div>	<div><div>Value</div><div>Dropbox , Dropbox (Do Not Decrypt)</div></div>		
<div><div>Additional policy settings</div><div>Disable upload enabled</div></div>				



9. Share a screenshot where you can track all the configuration changes done for Cloudflare for Teams

Answer:



10. Share a screenshot where you can track the Shadow IT in your organization

Answer:

