Final Task

Demyanenko Pavel

Agenda

01   **Used tools**

02   Infrastructure

03   Steps and overview

04   Result
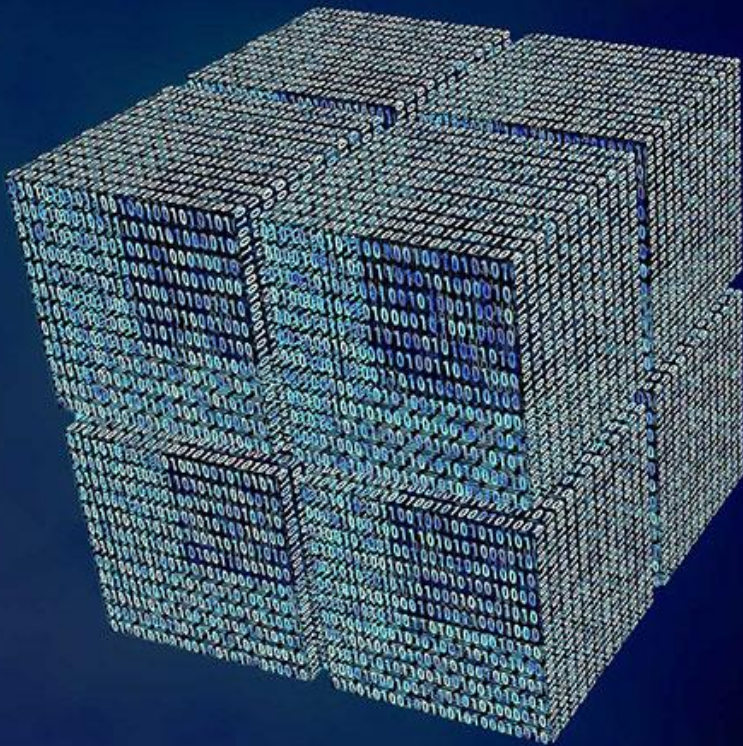
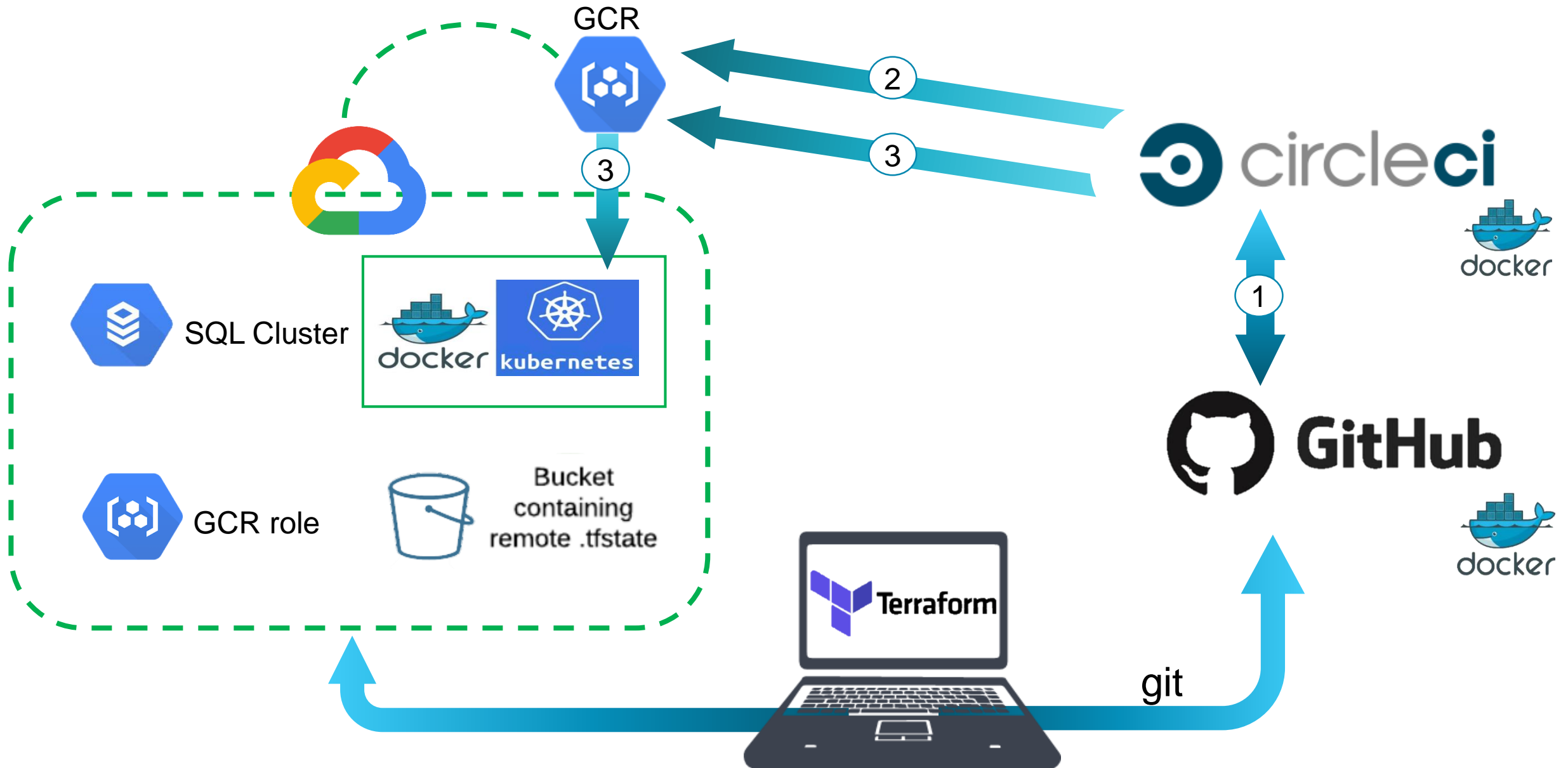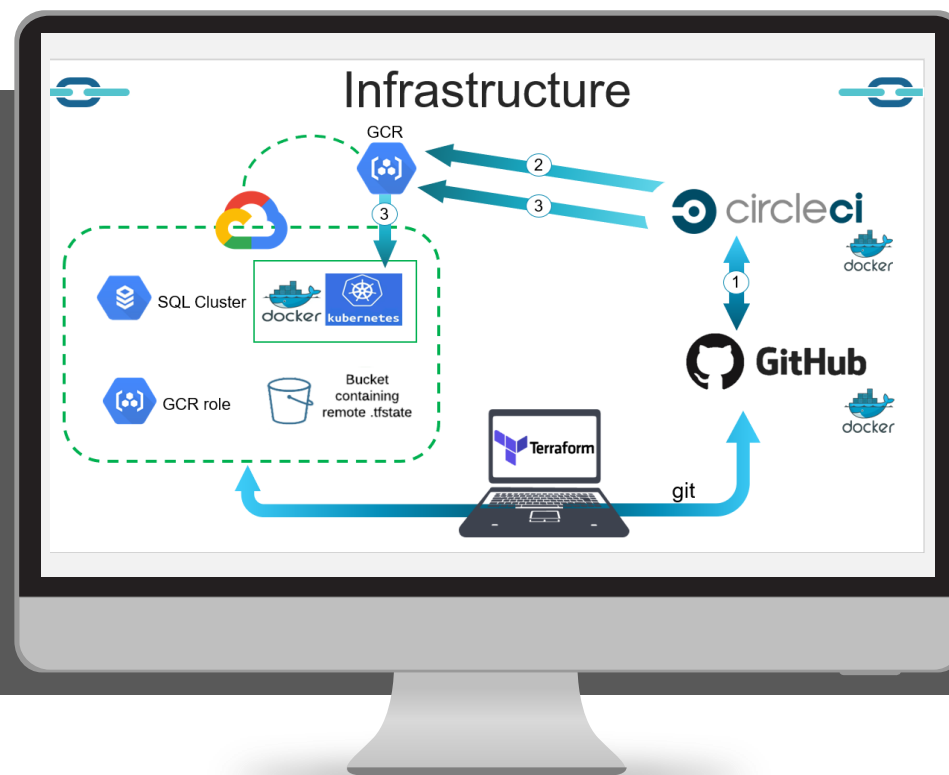Used tools

Infrastructure

Steps

- ☑ Creating a public repository on GitHub

- ☑ Infrastructure building by Terraform

- ☑ Writing a deployment manifest for k8s

- ☑ Creation of 3 jobs (build, push, deploy)

Github

01 Create a public Github repository

02 Find a simple containerized application

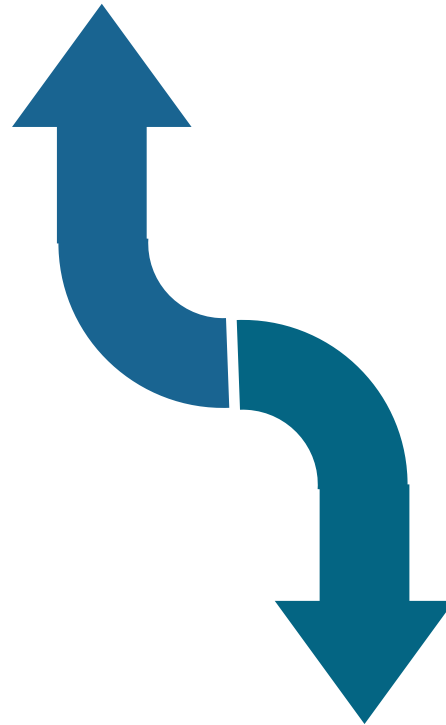**03** Copy that application code to my Github repo

Terraform

Creating terraform code for all needed GCP resources such as: GKE cluster, GCR, MySQL DB instance.

1 step

2 step

Use GCS bucket as a backend to store your terraform state files

3 step   Provision the infrastructure

CircleCI

1 step

Set up CircleCI, initialize it with your GH repo
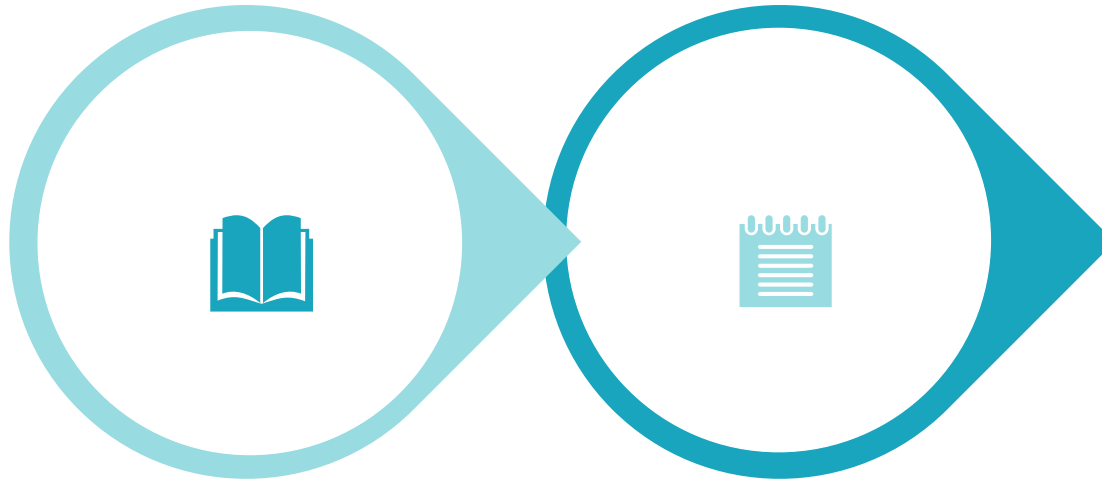
2 step

Creating CircleCI configuration file, store it in your repo. Customize your CircleCI pipeline with 3 jobs: build (setting up build environment, building an image), push (push built image to GCR) and deploy (deploy built image to GKE)

3 step

Creating CircleCI Contexts

Kubernetes

1 step

Creating Kubernetes
manifests to manage
my kubernetes
resources: deployment

2 step

Store configuration
files in my GH repo

Overview:

01	02	03	04
By committing to my GH repo i triigger a CircleCI pipeline	CircleCI build a new image of my application	The new image is pushed to Google Container Storage	This image is deployed to a real infrastructure

Result

Buckets > task-busket-tf1 > project > terraform.tfstate

UPLOAD FILES   UPLOAD FOLDER   CREATE FOLDER   MANAGE HOLDS   DOWNLOAD   DELETE

Filter by name prefix only ▼   ☰ Filter   Filter objects and folders

	Name	Size	Type	Created time	Storage class	Last modified	Public access	Encryption	Retention expiration date	Holds
☐	📄 default.tfstate	18 KB	text/plain; charset=utf-8	Aug 4, 2021, 6:39:35 PM	Standard	Aug 4, 2021, 6:39:35 PM	Not public	Google-managed key	—	None

webbb

eu.gcr.io / citric-earth-319117 / webbb

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	Name	Tags	Created	Uploaded ▾	Vulnerabilities	
☐	🐳 468ef8f170f9	5fb637a	47 minutes ago	43 minutes ago	⚠ 702 fixes / 1220 total	⋮
☐	🐳 f2b7f890aa66	dd8801f	2 hours ago	2 hours ago	⚠ 702 fixes / 1220 total	⋮
☐	🐳 33be308fd588	584324e	2 hours ago	2 hours ago	⚠ 702 fixes / 1220 total	⋮
☐	🐳 315a5e25cb27	39e4f77	3 hours ago	3 hours ago	⚠ 702 fixes / 1220 total	⋮
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Result
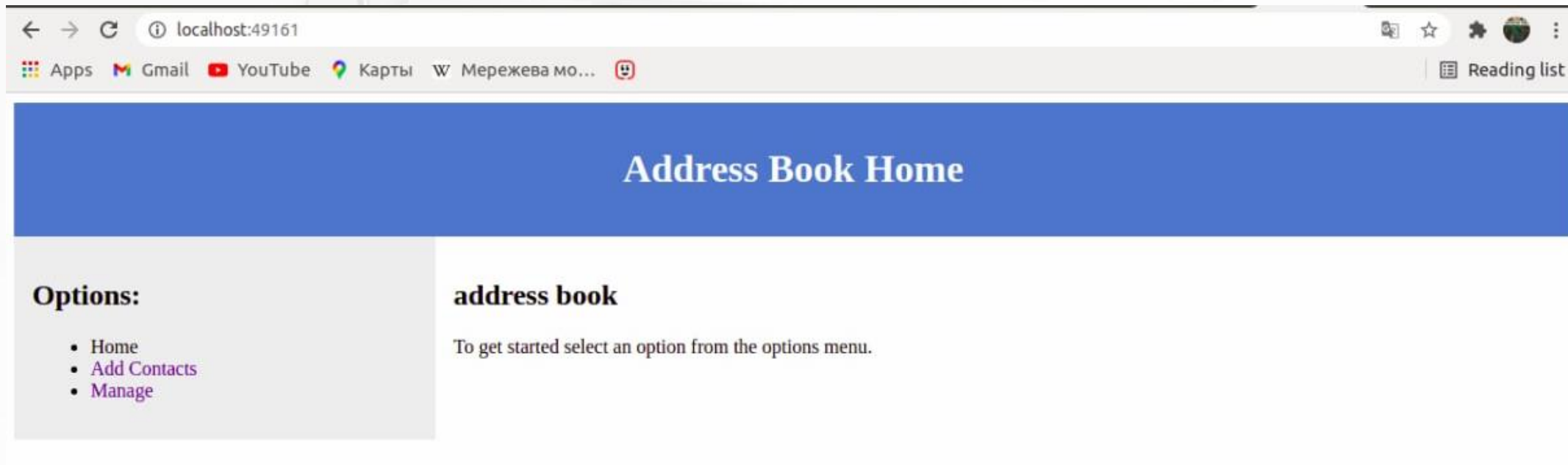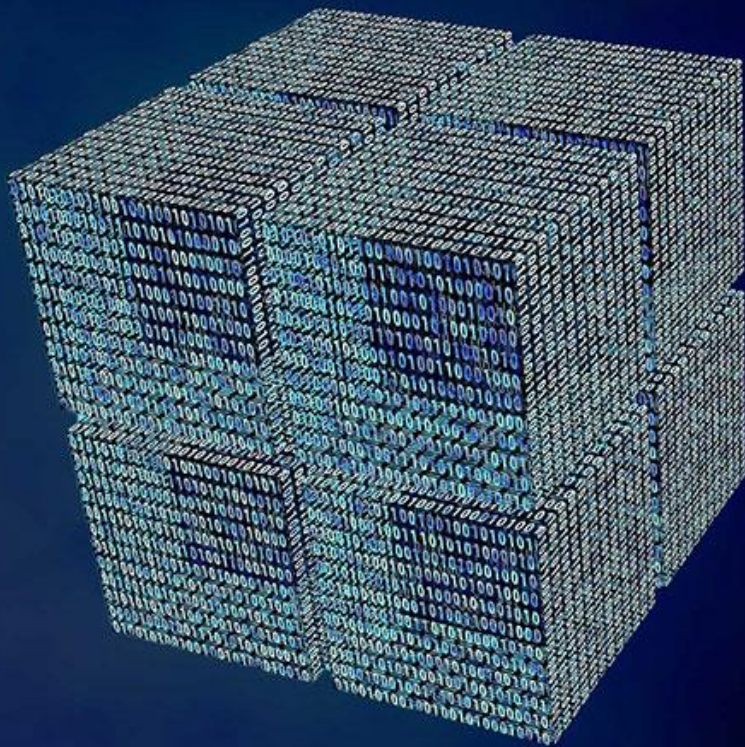
You have any questions?

THANK YOU