

Ch-134.DevOps/Cisc o

Demo 2

Team 2

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GCP:

- **Jenkins** + Terraform + **AWX**
- Jenkins + Maven
- Jenkins + **Webhook** forwarder
- **Nexus**
- GCP **LB**
- Geo-app **containerization**



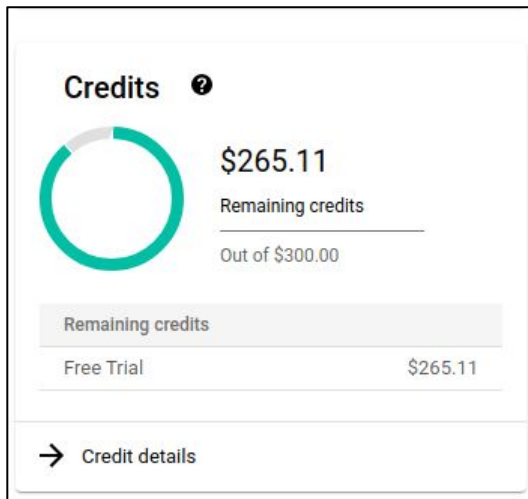
docker

softserve



GCP with base 'Dev-Ops' instances:

- for Jenkins
- for AWX
- for Nexus



PINNED	
	Billing
	Compute Engine >
	Network services >
	IAM & Admin >
	VPC network >
	APIs & Services >
	Cloud Storage >

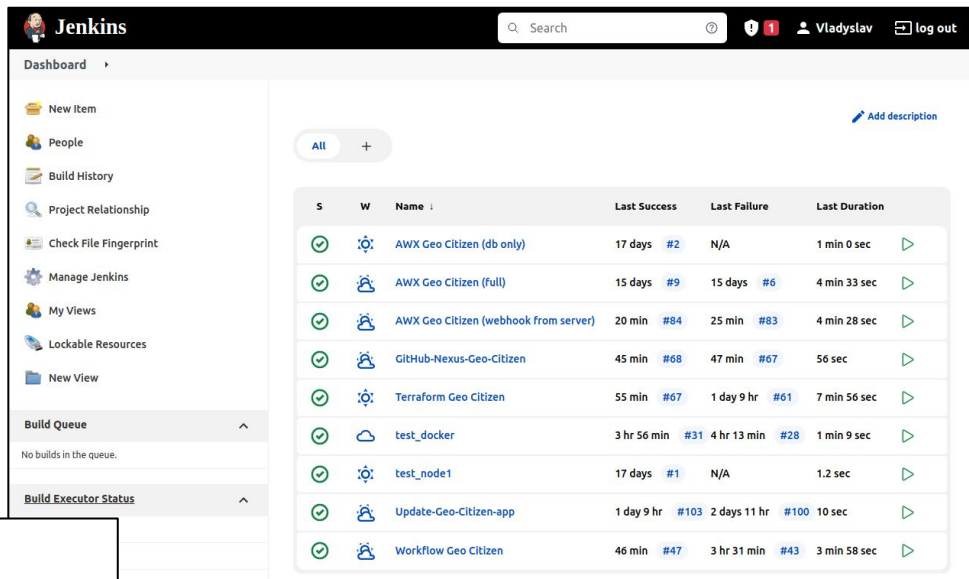
	Status	Name ↑	Zone	Recommendations	In use by
<input checked="" type="checkbox"/>		awx	us-central1-a		
<input type="checkbox"/>		db	us-central1-a		
<input type="checkbox"/>		db-psql	us-central1-a		
<input type="checkbox"/>		dev-ops	us-central1-c		
<input checked="" type="checkbox"/>		jenkins	us-central1-a		
<input checked="" type="checkbox"/>		nexus	us-central1-a		

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Jenkins

Orchestrator with the tools on premise:

- Terraform
- Docker
- Maven
- GitHub



The screenshot shows the Jenkins Dashboard with a sidebar on the left containing links like 'New Item', 'People', 'Build History', 'Project Relationship', 'Check File Fingerprint', 'Manage Jenkins', 'My Views', 'Lockable Resources', and 'New View'. The main area displays a table of builds with columns for status (S), icon (W), name, last success, last failure, and last duration. The table lists several builds, including 'AWX Geo Citizen (db only)', 'AWX Geo Citizen (full)', 'AWX Geo Citizen (webhook from server)', 'GitHub-Nexus-Geo-Citizen', 'Terraform Geo Citizen', 'test_docker', 'test_node1', 'Update-Geo-Citizen-app', and 'Workflow Geo Citizen'.

S	W	Name	Last Success	Last Failure	Last Duration
✓	⚙️	AWX Geo Citizen (db only)	17 days #2	N/A	1 min 0 sec
✓	🔔	AWX Geo Citizen (full)	15 days #9	15 days #6	4 min 33 sec
✓	🔔	AWX Geo Citizen (webhook from server)	20 min #84	25 min #83	4 min 28 sec
✓	🔔	GitHub-Nexus-Geo-Citizen	45 min #68	47 min #67	56 sec
✓	⚙️	Terraform Geo Citizen	55 min #67	1 day 9 hr #61	7 min 56 sec
✓	☁️	test_docker	3 hr 56 min #31	4 hr 13 min #28	1 min 9 sec
✓	⚙️	test_node1	17 days #1	N/A	1.2 sec
✓	🔔	Update-Geo-Citizen-app	1 day 9 hr #103	2 days 11 hr #100	10 sec
✓	🔔	Workflow Geo Citizen	46 min #47	3 hr 31 min #43	3 min 58 sec

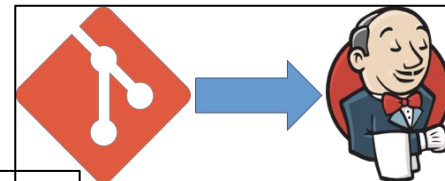
Plugin Manager

Updates

Available

Installed

Advanced



System Configuration



Configure System

Configure global settings and paths.



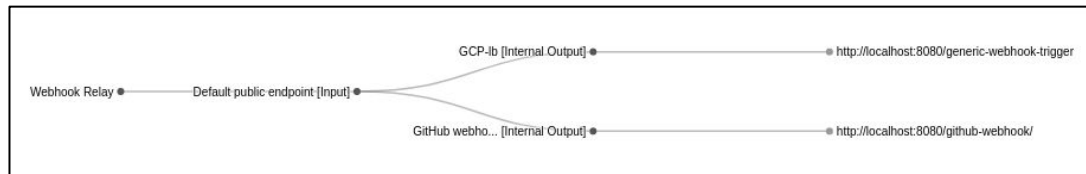
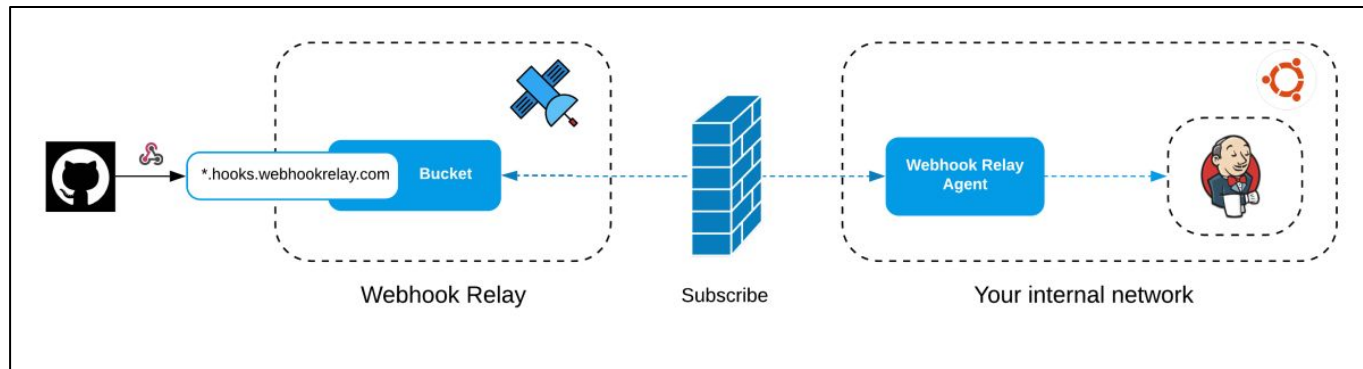
Global Tool Configuration

Configure tools, their locations and automatic installers.

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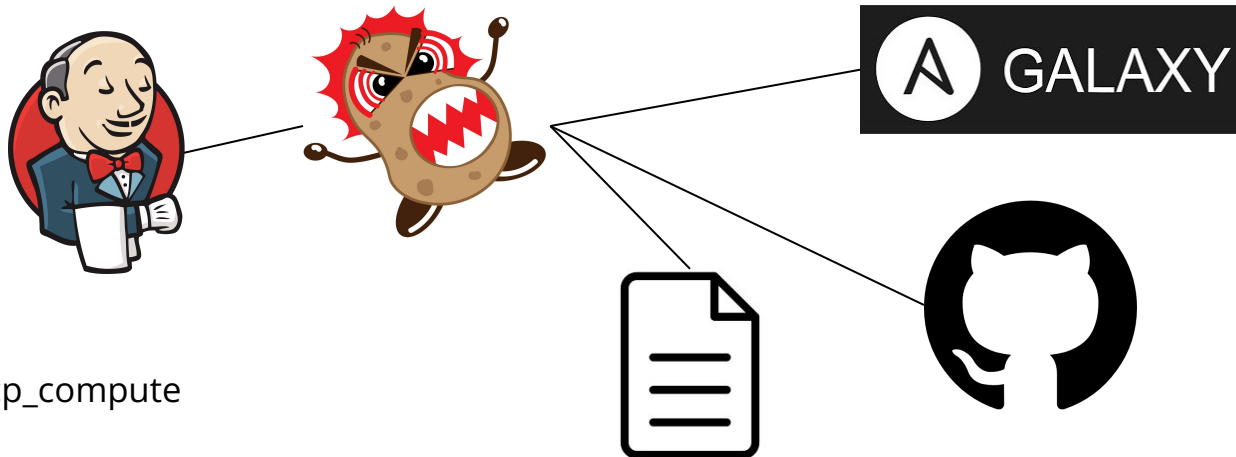
Jenkins + Webhook Relay (forwarder)

Target: safely triggering Jenkins jobs from random places



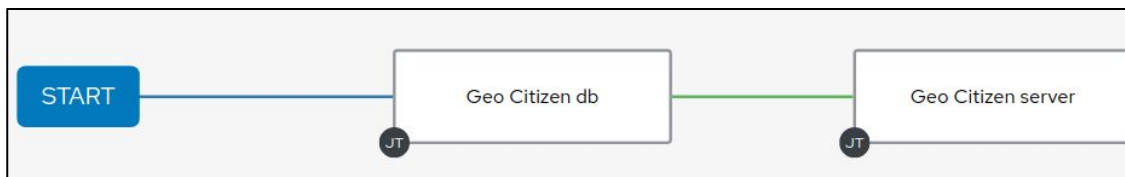
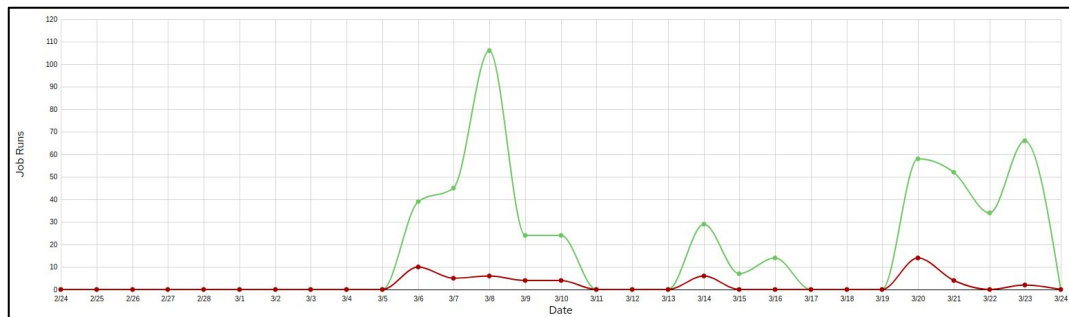
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AWX



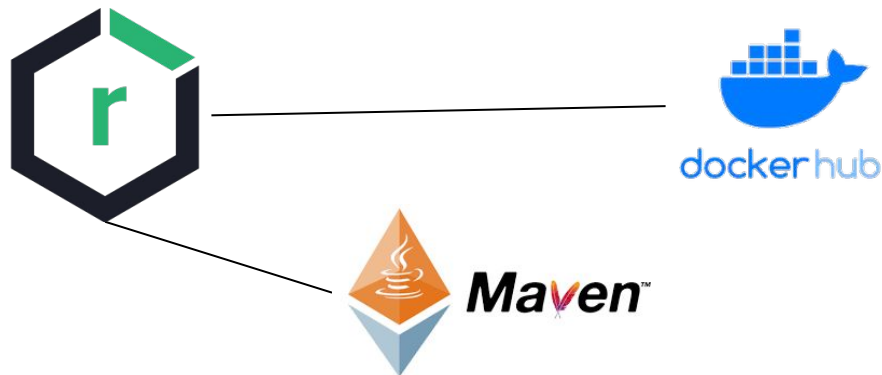
AWX:

- dynamic inventory (gcp_compute plugin)
- 'main' playbooks - GitHub
- 'work' playbooks - ansible-galaxy roles
- dynamic collections **or** AWX EE on Quay.io





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Nexus OSS



Nexus OSS:

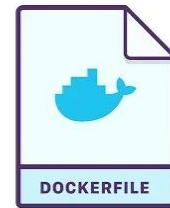
- repositories:
 - for .war artefacts - maven-snapshots
 - for dockerized artefacts - docker-geo
- separate users with roles for each repos
- interact with repos by Jenkins plugins and Nexus API

	Name ↑	Type	Format	Status
	docker-geo	hosted	docker	Online
	maven-snapshots	hosted	maven2	Online

	jenkins-maven-docker-snapshot	default	Jenkins	MavenDoc...	example@...	active
	jenkins-maven-release	default	Jenkins	Release	example@...	active
	jenkins-maven-snapshot	default	Jenkins	Snapshot	example@...	active

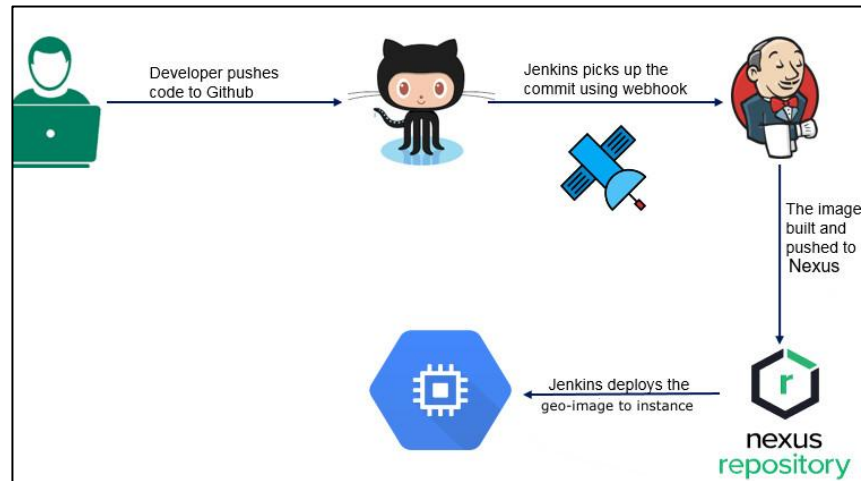
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Containerization



Jenkins + docker-ce + Docker plugin + Nexus:

- New geo-feature
- Push to GitHub - URL to Webhookrelay bucket
- Get webhook from Webhookrelay by agent
- Triggering Jenkins job -> build:
 - New maven snapshot
 - New Docker image (by Dockerfile)
 - Upload them on the Nexus repos



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GCP LB

GCP LB building:

- Jenkins - Terraform
 - Infrastructure Initializing
- Jenkins - AWX
 - DB/server instances configuring
- Jenkins - tools - Nexus
 - Geo-image providing

<input type="checkbox"/>	Status	Name ↑	Instances	Template
<input type="checkbox"/>		group-servers	1 → 3	template-server

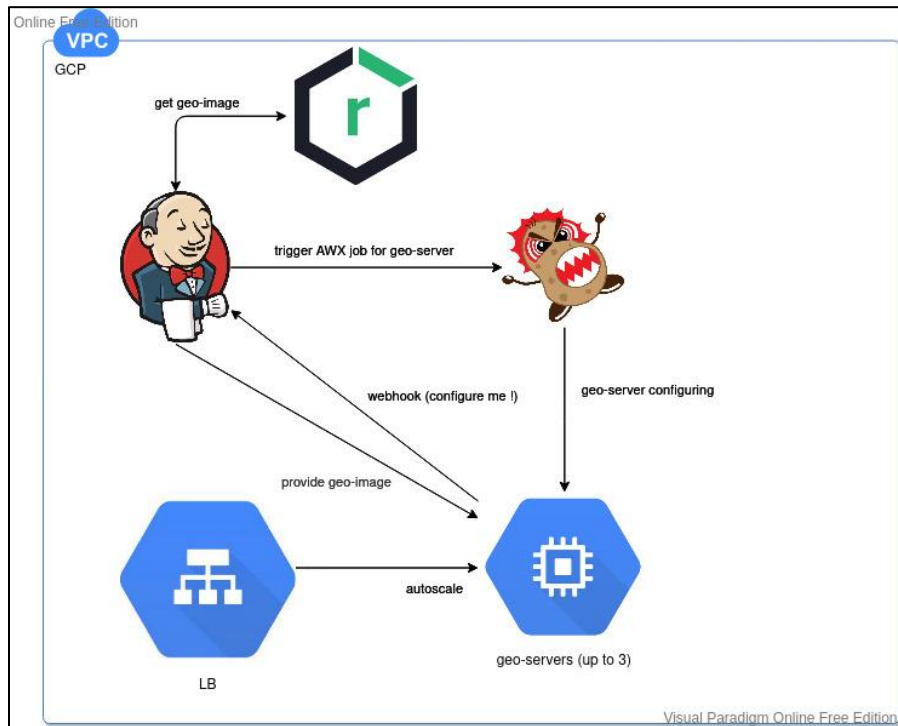
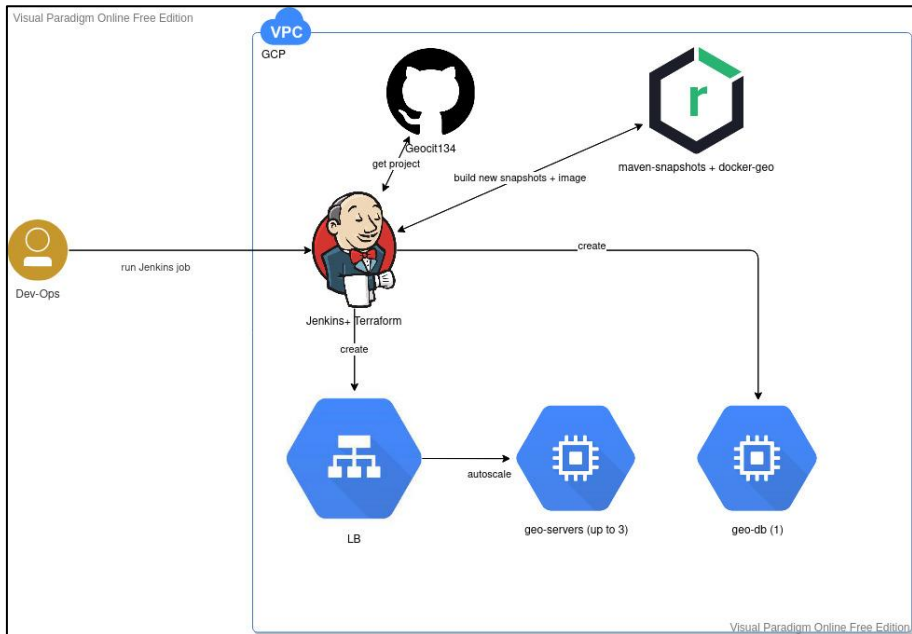
GCP LB resources in Terraform file:

- Firewalls for instances
- Instance templates (for geo-servers)
- Instance group / LB backend
- LB frontend
- Instance template + 1 DB instance
- Health checker
- Autoscaler

1. backend-service				
Endpoint protocol	Named port	Timeout	Health check	Cloud CDN
HTTP	http	30 seconds	health-check-8080	Disabled
▼ ADVANCED CONFIGURATIONS				
Name ↑	Type	Zone	Healthy	Autoscaling
group-servers	Instance group	us-central1-a	1 of 1	On: Target CPU utilization 75%

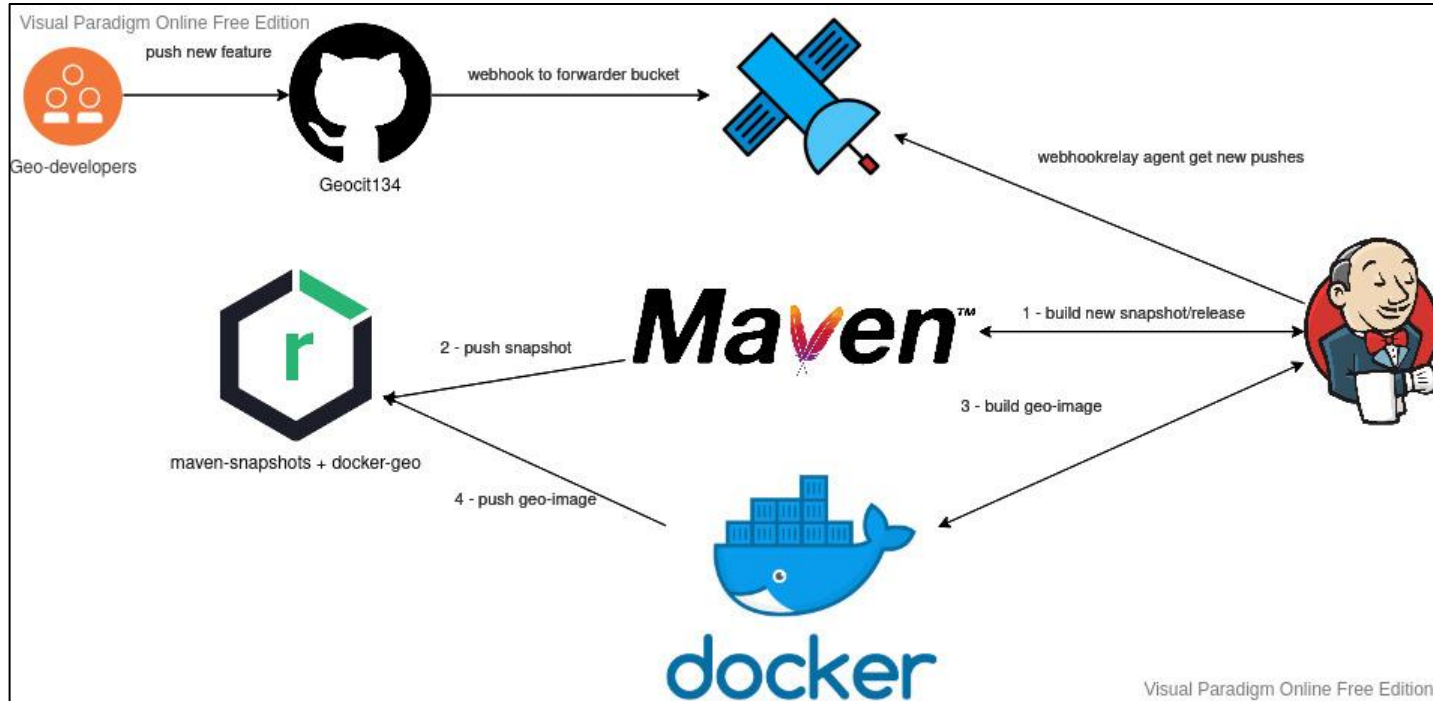
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GCP LB - main pipelines



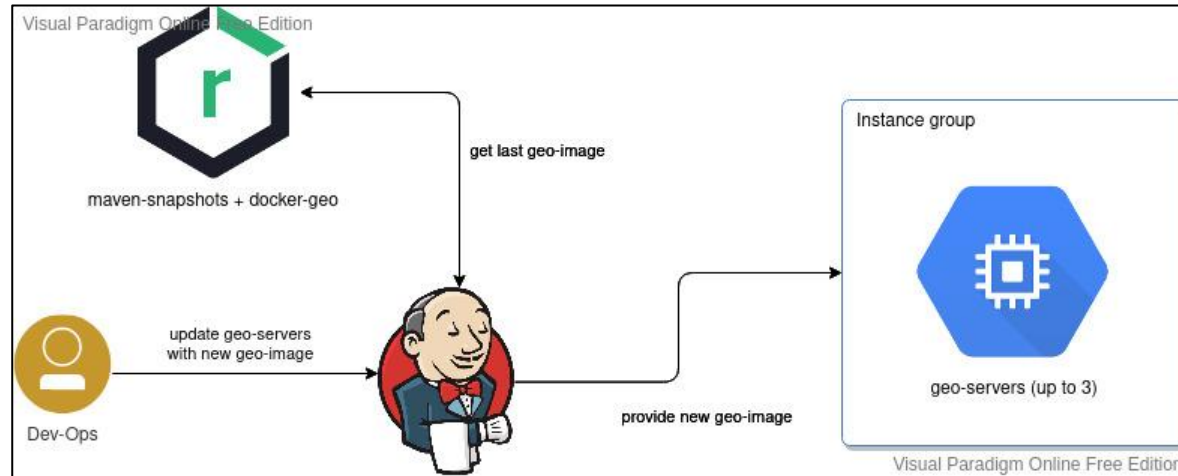
softserve

‘geo-update’



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‘geo-upgrade’



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A black and white photograph of a person's hands typing on a laptop keyboard. The person is wearing a watch on their left wrist. The image is slightly blurred, giving it a candid feel. The text "Any questions?" is overlaid on the top left of the image.

Any questions?