

Evaluacion Conjunta

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Repositorio: <https://github.com/DiegoCasignia/agricultura4.0.git>

Ejecución de los microservicios:

```
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0\ms-central> npm run dev

> ms-central@1.0.0 dev
> nodemon src/app.js

[nodemon] 3.1.10
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting 'node src/app.js'
[dotenv@17.2.1] injecting env (9) from .env -- tip: 🛡️ prevent building .env in docker: https://dotenvx.com/prebuild
Microservicio Central running on port 8080
RabbitMQ connected
Executing (default): SELECT 1+1 AS result
PostgreSQL connected
```

```
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0\ms-facturacion> npm run dev

> ms-facturacion@1.0.0 dev
> nodemon src/app.js

[nodemon] 3.1.10
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting 'node src/app.js'
[dotenv@17.2.1] injecting env (10) from .env -- tip: 🛡️ prevent committing .env to code: https://dotenvx.com/precommit
Microservicio Facturación running on port 8082
RabbitMQ connected
Waiting for messages in cola_facturacion
Executing (default): SELECT 1+1 AS result
PostgreSQL connected
```

```
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0\ms-inventario> npm run dev

> ms-inventario@1.0.0 dev
> nodemon src/app.js

[nodemon] 3.1.10
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting 'node src/app.js'
[dotenv@17.2.1] injecting env (9) from .env -- tip: ⚙️ override existing env vars with { override: true }
Microservicio Inventario running on port 8081
RabbitMQ connected
Waiting for messages in cola_inventario
Executing (default): SELECT 1+1 AS result
PostgreSQL connected
```

Ejecución de RabbitMQ

localhost:15672/#/queues

RabbitMQ™

RabbitMQ 3.13.7

Erlang 26.2.5.14

Refreshed 2025-08-06 17:10:47

Refresh every 5 seconds

Virtual host

All

Cluster rabbit@a73603851f13

User admin

Log out

Overview

Connections

Channels

Exchanges

Queues and Streams

Admin

All queues (2)

Pagination

Page 1 of 1 - Filter:

Regex ?

Displaying 2 items , page size up to: 100

Overview					Messages			Message rates		
Virtual host	Name	Type	Features	State	Ready	Unacked	Total	incoming	deliver / get	ack
/	cola_facturacion	classic	D	running	0	0	0			
/	cola_inventario	classic	D	running	0	0	0			

Bases de datos

Servers (1)

PostgreSQL 17

Databases (4)

db_central

db_facturacion

db_inventario

Creacion de las imagenes de cada microservicio

```

PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0\ms-central> docker build -t ms-central:1.0.0 .
[+] Building 78.4s (17/17) FINISHED                                docker:desktop-linux
=> [internal] load build definition from Dockerfile                0.1s
=> => transferring dockerfile: 584B                               0.0s
=> WARN: FromAsCasing: 'as' and 'FROM' keywords' casing do not match (line 2) 0.1s
=> [internal] load metadata for docker.io/library/node:18-alpine 0.7s
=> [internal] load .dockerignore                                  0.1s
=> => transferring context: 2B                                     0.0s
=> [builder 1/6] FROM docker.io/library/node:18-alpine@sha256:8d6421d663b4c28fd3ebc498332f249011d118945588d0a35cb9bc4b8ca09d9e 0.1s
=> => resolve docker.io/library/node:18-alpine@sha256:8d6421d663b4c28fd3ebc498332f249011d118945588d0a35cb9bc4b8ca09d9e 0.1s
=> [internal] load build context                                  0.9s
=> => transferring context: 271.56kB                               0.8s
=> CACHED [builder 2/6] WORKDIR /app                             0.0s
=> CACHED [builder 3/6] COPY package*.json ./                    0.0s
=> CACHED [builder 4/6] RUN npm ci                               0.0s
=> [builder 5/6] COPY . .                                         3.2s
=> [builder 6/6] RUN npm run build                                1.3s
=> [stage-1 3/8] COPY --from=builder /app/node_modules ./node_modules 2.7s
=> [stage-1 4/8] COPY --from=builder /app/src ./src              0.3s
=> [stage-1 5/8] COPY --from=builder /app/package.json ./        0.2s
=> [stage-1 6/8] COPY --from=builder /app/.env ./                0.2s
=> [stage-1 7/8] RUN addgroup -S appgroup && adduser -S appuser -G appgroup 0.8s
=> [stage-1 8/8] RUN chown -R appuser:appgroup /app              51.8s
=> exporting to image                                           14.0s
=> => exporting layers                                           5.1s
=> => exporting manifest sha256:c320501ed0f8440caalbaf7ffc785c82c061bef7180767e280f886c5f7220d51 0.1s
=> => exporting config sha256:d5076769aeec39aa436dd43b844b7ee1084b5046b9d1fcbe315d6a9e26497b28 0.2s
=> => exporting attestation manifest sha256:a542a064570ea4ad2c0a4570da55af2159ecb886f3ba3fe0a187d33a01dcdccc 0.3s
=> => exporting manifest list sha256:0216ba8624e0b9f8866d8014f102a61f6a977c9d91fd1856796d72119ad88fc8 0.1s
=> => naming to docker.io/library/ms-central:1.0.0              0.0s
=> => unpacking to docker.io/library/ms-central:1.0.0           8.0s

1 warning found (use docker --debug to expand):
- FromAsCasing: 'as' and 'FROM' keywords' casing do not match (line 2)

```

```

PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0\ms-facturacion> docker build -t ms-facturacion:1.0.0 .
[+] Building 118.8s (17/17) FINISHED                                docker:desktop-linux
=> [internal] load build definition from Dockerfile                0.1s
=> => transferring dockerfile: 584B                               0.0s
=> WARN: FromAsCasing: 'as' and 'FROM' keywords' casing do not match (line 2) 0.1s
=> [internal] load metadata for docker.io/library/node:18-alpine 0.8s
=> [internal] load .dockerignore                                  0.1s
=> => transferring context: 2B                                     0.0s
=> [builder 1/6] FROM docker.io/library/node:18-alpine@sha256:8d6421d663b4c28fd3ebc498332f249011d118945588d0a35cb9bc4b8ca09d9e 0.1s
=> => resolve docker.io/library/node:18-alpine@sha256:8d6421d663b4c28fd3ebc498332f249011d118945588d0a35cb9bc4b8ca09d9e 0.1s
=> CACHED [builder 2/6] WORKDIR /app                             0.0s
=> [internal] load build context                                  1.0s
=> => transferring context: 277.24kB                               1.0s
=> CACHED [builder 3/6] COPY package*.json ./                    0.0s
=> CACHED [builder 4/6] RUN npm ci                               0.0s
=> [builder 5/6] COPY . .                                         4.8s
=> [builder 6/6] RUN npm run build                                2.2s
=> [stage-1 3/8] COPY --from=builder /app/node_modules ./node_modules 3.2s
=> [stage-1 4/8] COPY --from=builder /app/src ./src              0.6s
=> [stage-1 5/8] COPY --from=builder /app/package.json ./        0.3s
=> [stage-1 6/8] COPY --from=builder /app/.env ./                0.3s
=> [stage-1 7/8] RUN addgroup -S appgroup && adduser -S appuser -G appgroup 1.0s
=> [stage-1 8/8] RUN chown -R appuser:appgroup /app              89.0s
=> exporting to image                                           13.0s
=> => exporting layers                                           5.7s
=> => exporting manifest sha256:2d1c22b64034fdb3e7e5b380f299624bec8161930ff282673cb292a71a25d5ee 0.1s
=> => exporting config sha256:3eff71f01fa2adff10c450d83c7282bf84523c4e289438e9b5bb9d69e278ff68 0.1s
=> => exporting attestation manifest sha256:96a277d4bee3db74a84fd6e9bf6c1a9cc09a400b6653f88f481e1a453e716006 0.2s
=> => exporting manifest list sha256:2a28ddccacadd1f77be96cf45da84baf5d7e4fb25dd3d9cdef171b529d9eb2e2 0.1s
=> => naming to docker.io/library/ms-facturacion:1.0.0          0.0s
=> => unpacking to docker.io/library/ms-facturacion:1.0.0       6.7s

1 warning found (use docker --debug to expand):
- FromAsCasing: 'as' and 'FROM' keywords' casing do not match (line 2)

```

```

PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0\ms-inventario> docker build -t ms-inventario:1.0.0 .
[+] Building 112.9s (17/17) FINISHED                                docker:desktop-linux
=> [internal] load build definition from Dockerfile                0.1s
=> => transferring dockerfile: 584B                               0.0s
=> [internal] load metadata for docker.io/library/node:18-alpine 0.7s
=> [internal] load .dockerignore                                  0.1s
=> => transferring context: 2B                                     0.0s
=> [builder 1/6] FROM docker.io/library/node:18-alpine@sha256:8d6421d663b4c28fd3ebc498332f249011d118945588d0a35cb9bc4b8ca09d9e 0.1s
=> => resolve docker.io/library/node:18-alpine@sha256:8d6421d663b4c28fd3ebc498332f249011d118945588d0a35cb9bc4b8ca09d9e 0.1s
=> CACHED [builder 2/6] WORKDIR /app                             0.0s
=> [internal] load build context                                  1.1s
=> => transferring context: 264.49kB                               0.9s
=> CACHED [builder 3/6] COPY package*.json ./                    0.0s
=> CACHED [builder 4/6] RUN npm ci                               0.0s
=> [builder 5/6] COPY . .                                         4.5s
=> [builder 6/6] RUN npm run build                                1.4s
=> [stage-1 3/8] COPY --from=builder /app/node_modules ./node_modules 3.2s
=> [stage-1 4/8] COPY --from=builder /app/src ./src              0.5s
=> [stage-1 5/8] COPY --from=builder /app/package.json ./        0.3s
=> [stage-1 6/8] COPY --from=builder /app/.env ./                0.3s
=> [stage-1 7/8] RUN addgroup -S appgroup && adduser -S appuser -G appgroup 1.1s
=> [stage-1 8/8] RUN chown -R appuser:appgroup /app              86.3s
=> exporting to image                                           11.3s
=> => exporting layers                                           4.5s
=> => exporting manifest sha256:66f2976977e88dfc6381affc1d44efc8b09ee293ef6c2247201a078dbddcdcae 0.1s
=> => exporting config sha256:7b9861f37ce179ba6e0ccf04fe2f1d57dd84e265132b91ef631e45bd581ff4b8 0.1s
=> => exporting attestation manifest sha256:4db03a7bb47bac24018bb1db425ee5bf397614bd760d2724d2bae745668e2c9a 0.1s
=> => exporting manifest list sha256:99f87e03e4205e5e59209f02b356c2cd794d43df27d459e4b3a0fa10d8c7d978 0.1s
=> => naming to docker.io/library/ms-inventario:1.0.0          0.0s
=> => unpacking to docker.io/library/ms-inventario:1.0.0       6.2s

1 warning found (use docker --debug to expand):
- FromAsCasing: 'as' and 'FROM' keywords' casing do not match (line 2)

```

```
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0> docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
ms-inventario	1.0.0	99f87e03e420	2 minutes ago	259MB
ms-facturacion	1.0.0	2a28ddccacad	2 minutes ago	267MB
ms-central	1.0.0	0216ba8624e0	4 minutes ago	261MB

Despliegue de las imagenes a Docker Hub

```
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0> docker tag ms-central:1.0.0 diegocasignia/ms-central:1.0.0
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0> docker tag ms-inventario:1.0.0 diegocasignia/ms-inventario:1.0.0
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0> docker tag ms-facturacion:1.0.0 diegocasignia/ms-facturacion:1.0.0
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0> docker login
Authenticating with existing credentials...
Login Succeeded
```

```
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0> docker push diegocasignia/ms-central:1.0.0
The push refers to repository [docker.io/diegocasignia/ms-central]
8a7c4bc206f8: Pushed
7beb61ba7d23: Pushed
1e5a4c89cee5: Pushed
78c21d091766: Pushed
048c909d87e8: Pushed
f80029d15179: Pushed
d840f3c596ef: Pushed
f18232174bc9: Pushed
8996beaf5a3d: Pushed
25ff2da83641: Pushed
ed3e50faf273: Pushed
dd71dde834b5: Pushed
1.0.0: digest: sha256:0216ba8624e0b9f8866d8014f102a61f6a977c9d91fd1856796d72119ad88fc8 size: 856
```

```
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0> docker push diegocasignia/ms-inventario:1.0.0
The push refers to repository [docker.io/diegocasignia/ms-inventario]
192d15e5bfe5: Pushed
1e5a4c89cee5: Mounted from diegocasignia/ms-central
d840f3c596ef: Mounted from diegocasignia/ms-central
32e50e499b7c: Pushed
325df86b6cd7: Pushed
29b2ef9e1c91: Pushed
2d221aa4937b: Pushed
3bc7307a7de7: Pushed
25ff2da83641: Mounted from diegocasignia/ms-central
f18232174bc9: Mounted from diegocasignia/ms-central
9964b763e97b: Pushed
dd71dde834b5: Mounted from diegocasignia/ms-central
1.0.0: digest: sha256:99f87e03e4205e5e59209f02b356c2cd794d43df27d459e4b3a0fa10d8c7d970 size: 856
PS D:\DIEGO\Documents\SOFTWARE\DISTRIBUIDAS\u3\agricultura4.0> docker push diegocasignia/ms-facturacion:1.0.0
The push refers to repository [docker.io/diegocasignia/ms-facturacion]
a807b8707041: Pushed
25ff2da83641: Mounted from diegocasignia/ms-inventario
d840f3c596ef: Mounted from diegocasignia/ms-inventario
5635b408b62c: Pushed
a27b67be20f2: Pushed
dd71dde834b5: Mounted from diegocasignia/ms-inventario
8747ad47c4ef: Pushed
bc79364a54df: Pushed
a6d2932944d7: Pushed
36a40ff7e2d6: Pushed
f18232174bc9: Mounted from diegocasignia/ms-inventario
1e5a4c89cee5: Mounted from diegocasignia/ms-inventario
1.0.0: digest: sha256:2a28ddccacadd1f77be96cf45da84baf5d7e4fb25dd3d9cdef171b529d9eb2e2 size: 856
```

← ↻ 🏠 <https://hub.docker.com/repositories/diegocasignia> A ☆ ☆ 👤 ...

New Building AI Agents is Now Easy. → X

☰ hub 🔍 🔔 ⋮ D

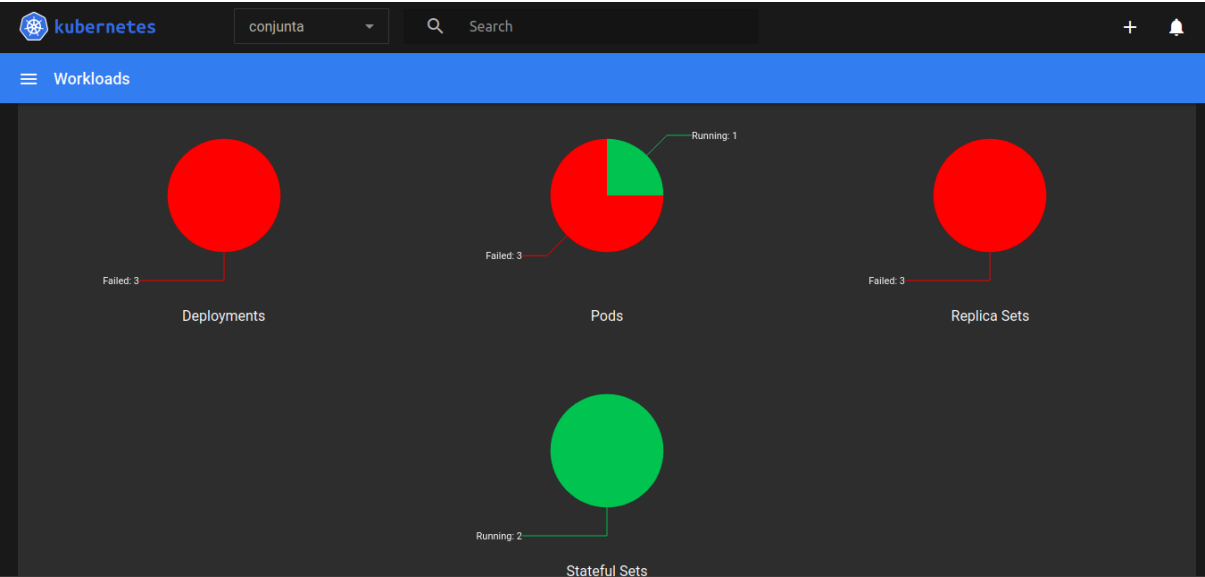
Repositories

All repositories within the diegocasignia namespace.

Name	Last Pushed ↑	Contains	Visibility	Scout
diegocasignia/ms-facturacion	2 minutes ago	IMAGE	Public	Inactive
diegocasignia/ms-inventario	3 minutes ago	IMAGE	Public	Inactive
diegocasignia/ms-central	3 minutes ago	IMAGE	Public	Inactive

Deploy

```
ubuntu@ubuntu: ~/Documents/distribuidas/agricultura4.0/deploy
ubuntu@ubuntu:~/Documents/distribuidas/agricultura4.0/deploy$ kubectl apply -f 00-namespace.yaml
namespace/conjunta created
ubuntu@ubuntu:~/Documents/distribuidas/agricultura4.0/deploy$ kubectl apply -f 01-postgresql.yaml
secret/postgres-secrets created
configmap/postgres-init-scripts created
statefulset.apps/postgresql created
service/postgresql-svc created
ubuntu@ubuntu:~/Documents/distribuidas/agricultura4.0/deploy$ kubectl apply -f 02-rabbitmq.yaml
statefulset.apps/rabbitmq created
service/rabbitmq created
ubuntu@ubuntu:~/Documents/distribuidas/agricultura4.0/deploy$ kubectl apply -f 03-ms-central.yaml
configmap/ms-central-config created
secret/ms-central-secrets created
deployment.apps/ms-central created
service/ms-central-service created
ubuntu@ubuntu:~/Documents/distribuidas/agricultura4.0/deploy$ kubectl apply -f 04-ms-inventario.yaml
configmap/ms-inventario-config created
secret/ms-inventario-secrets created
deployment.apps/ms-inventario created
service/ms-inventario-service created
ubuntu@ubuntu:~/Documents/distribuidas/agricultura4.0/deploy$ kubectl apply -f 05-ms-facturacion.yaml
configmap/ms-facturacion-config created
secret/ms-facturacion-secrets created
deployment.apps/ms-facturacion created
service/ms-facturacion-service created
ubuntu@ubuntu:~/Documents/distribuidas/agricultura4.0/deploy$ kubectl apply -f 06-ingress.yaml
ingress.networking.k8s.io/agroflow-ingress created
ubuntu@ubuntu:~/Documents/distribuidas/agricultura4.0/deploy$
```



kubernetes conjunta Search +

Workloads

Deployments


Name	Images	Labels	Pods	Created ↑
ms-facturacion	diegocasignia/ms-facturacion:1.0.0	-	1 / 1	8 minutes ago
ms-inventario	diegocasignia/ms-inventario:1.0.0	-	1 / 1	8 minutes ago
ms-central	diegocasignia/ms-central:1.0.0	-	1 / 1	9 minutes ago

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Workloads


Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)	Created ↑
ms-facturacion-7c586bfb5-gpqp7	diegocasignia/ms-facturacion:1.0.0	app: ms-facturacion pod-template-hash: 7c586bfb5	minikube	CrashLoopBack	6	-	-	8 minutes ago
ms-inventario-546898986d-2kq	diegocasignia/ms-inventario:1.0.0	app: ms-inventario pod-template-hash: 546898986d	minikube	CrashLoopBack	6	-	-	8 minutes ago
ms-central-55f9bbdbd5-fr8qt	diegocasignia/ms-central:1.0.0	app: ms-central pod-template-hash: 55f9bbdbd5	minikube	CrashLoopBack	6	-	-	9 minutes ago
rabbitmq-0	rabbitmq:3.12-management	app: rabbitmq apps.kubernetes.io/pod-index: 0 controller-revision-hash: rabbitmq-57bf8d7848	minikube	Running	0	-	-	10 minutes ago

Show all

 **kubernetes**




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 Search



+ 

Workloads

Replica Sets

Name	Images	Labels	Pods	Created ↑
 ms-facturacion-7c586bfb5	diegocasignia/ms-facturacion:1.0.0	app: ms-facturacion pod-template-hash: 7c586bfb5	1 / 1	9 minutes ago
 ms-inventario-546898986d	diegocasignia/ms-inventario:1.0.0	app: ms-inventario pod-template-hash: 546898986d	1 / 1	9 minutes ago
 ms-central-55f9bbdbd5	diegocasignia/ms-central:1.0.0	app: ms-central pod-template-hash: 55f9bbdbd5	1 / 1	10 minutes ago

Stateful Sets

Name	Images	Labels	Pods	Created ↑
 rabbitmq	rabbitmq:3.12-management	-	1 / 1	11 minutes ago
 postgresql	postgres:15	-	0 / 1	11 minutes ago