



Solution Deployment

Lecture on: Solution
Deployment

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RECAP

- Fabric SDK
 - Identity creation
 - Interacting with smart contracts
- Expressjs
- UPSTAC application (a walk-through)

TODAY'S AGENDA

- Introduction
- Considerations in solution deployment
- UPSTAC solution deployment on cloud

Once the solution is ready, you need to think about how to deploy it to make it accessible to the end users in general.

No matter how sound your application is, if it cannot be reliably and easily accessed by the user, the solution can never achieve its objective. We have several examples of this- Remember the nightmares you used to get while accessing the IRCTC website, especially during peak time?

That is why a sound solution strategy is equally important for a solution to achieve its desired goals.

There are several considerations that must be kept in mind while coming up with a deployment strategy. They are as follows:

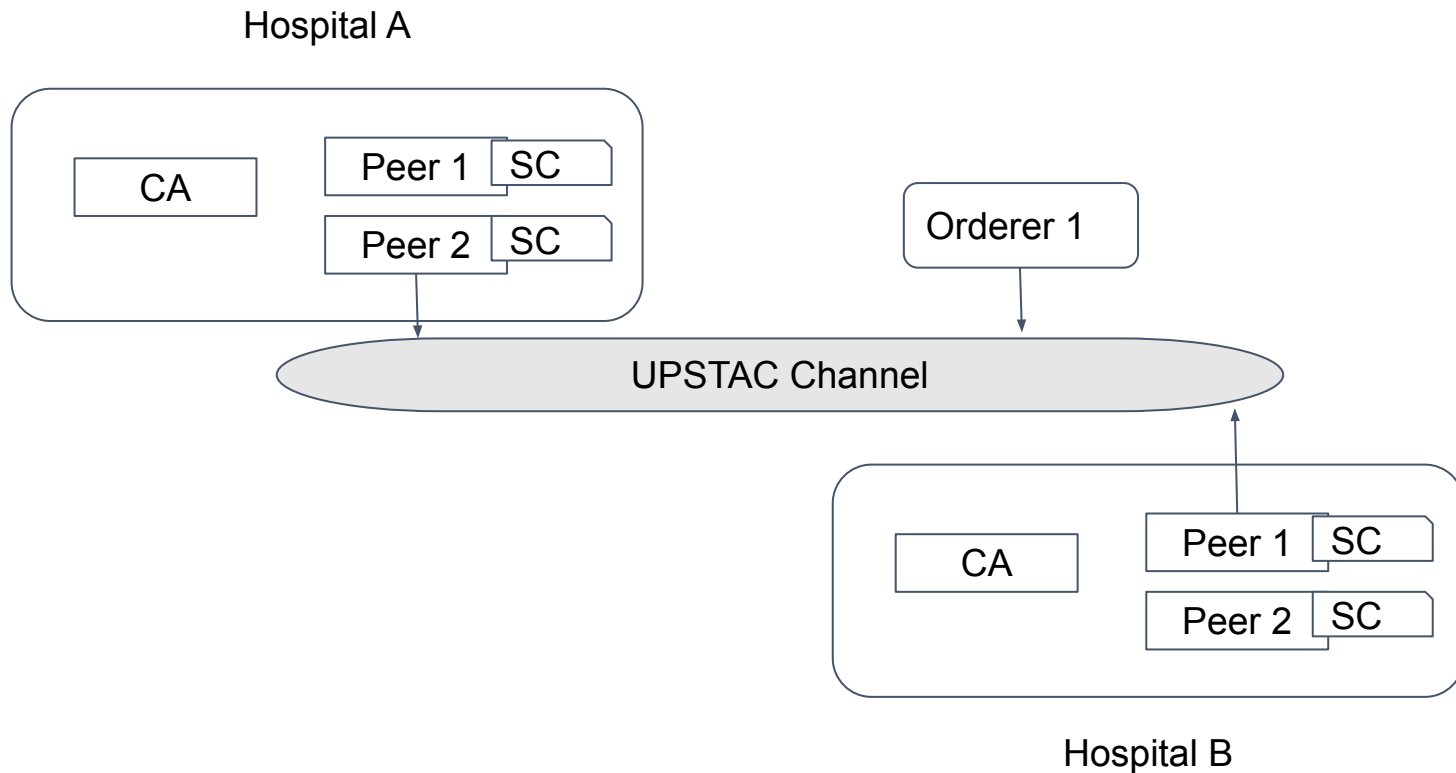
- Cloud platform
 - Cost
 - Existing vendor
 - Ease of use
 - Services offered
 - Reliability

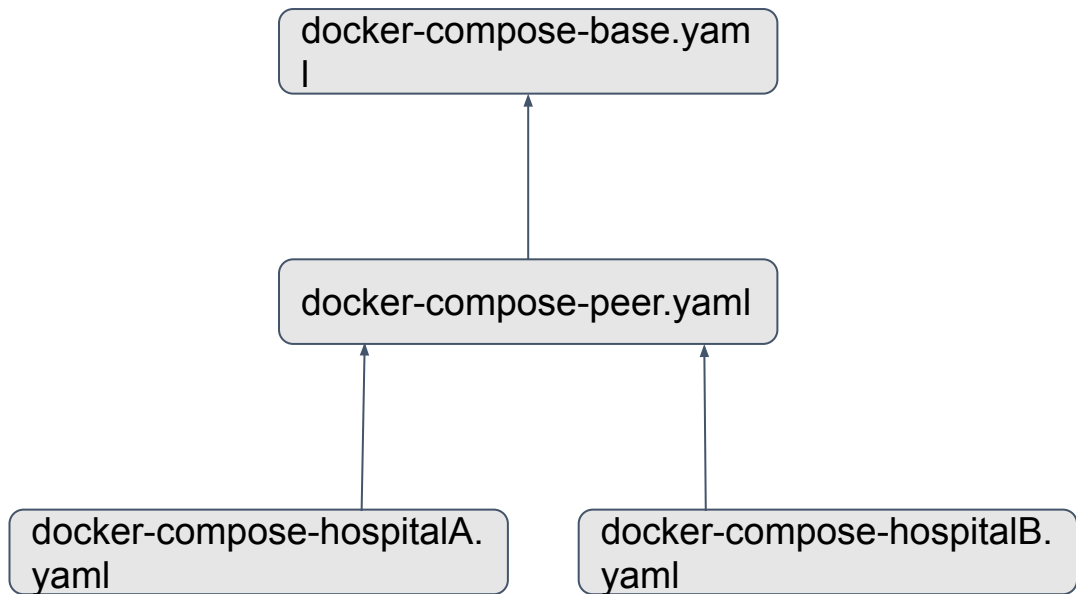
- Reliability
 - What happens if the service crashes? How quickly can it recover?
- Availability
 - Service should have a minimum downtime
- Throughput
 - Server locations, number and size of nodes

- Data backup
 - Required in case of data loss
- Use of open source or managed components
 - Managed blockchain as a service or own deployment

- Kubernetes
 - Open-source system for automating deployment, scaling, and management of containerized applications
 - Effective in modular orchestration and complex application configurations
- Docker swarm
 - It is a container orchestration tool that helps manage containers deployed across multiple host machines
 - Easy to install and manage. Effective in simpler applications

SOLUTION DEPLOYMENT DIAGRAM





- Create two ec2 instances (One for each organisation)
 - Standard t2 small instance
 - Ubuntu 18.04
- Install the required binaries
 - <https://hyperledger-fabric.readthedocs.io/en/release-1.4/prereqs.html>
 - <https://hyperledger-fabric.readthedocs.io/en/release-1.4/install.html>

- Generate crypto and network artifacts for each organisation
 - crypto-config.yaml
 - Configtx.yaml
- Update the docker compose files
- Upload the UPSTAC setup folder to all the nodes

- Create channel
 - Create a genesis block on hospital A node
 - Copy it to the hospital B node
- Install chaincode on all nodes
- Update chaincode on one of the peers

- Update connection.yaml
- Run UPSTAC API server
- Test API connectivity by using postman
- Call using UPSTAC user interface

UPSTAC Solution Deployment

In this class, you learnt about:

1. Considerations in solution deployment
1. UPSTAC solution deployment



Thank You!