



Taking on Challenges of **Enterprise Blockchain Infrastructure**

IDEATE

INNOVATE

IMPLEMENT

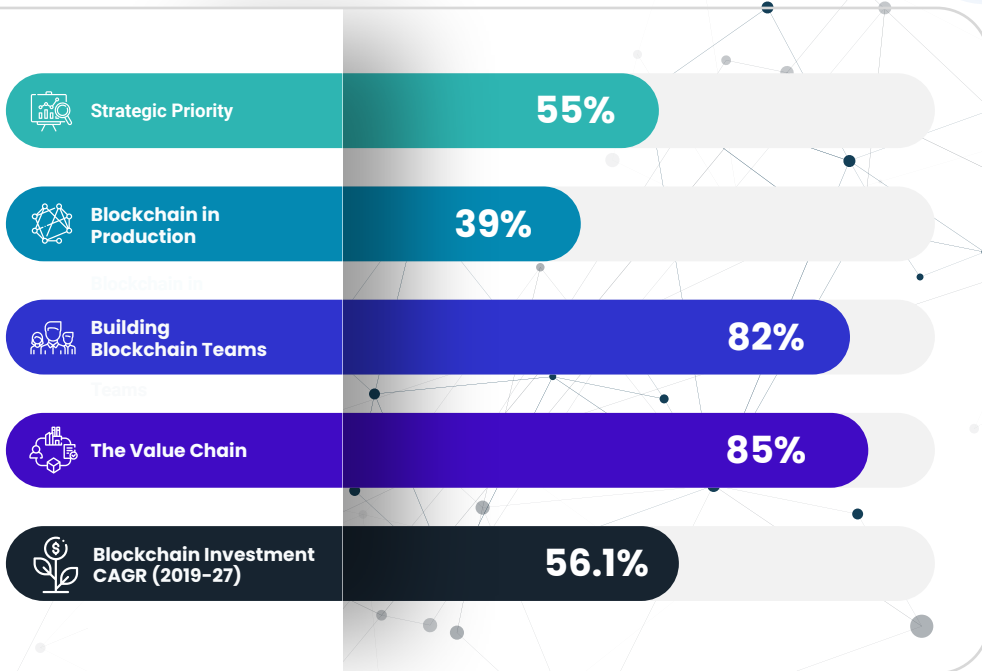
55%

of CIOs consider
Blockchain as
their #1 priority

Deloitte.

83% of respondents
indicated their
companies will lose
competitive
advantage if they
don't adopt
Blockchain

BLOCKCHAIN TRENDS -FROM PROMISE TO REALITY



Lets talk about challenges

- Decentralization is missing
- Time to Market.
- Cost of Setup and Ownership
- Complexity of Scaling – Consortium Networks
- Complex to understand and adopt
- Lack of know-how and expertise
- Lack of standards for security and optimization

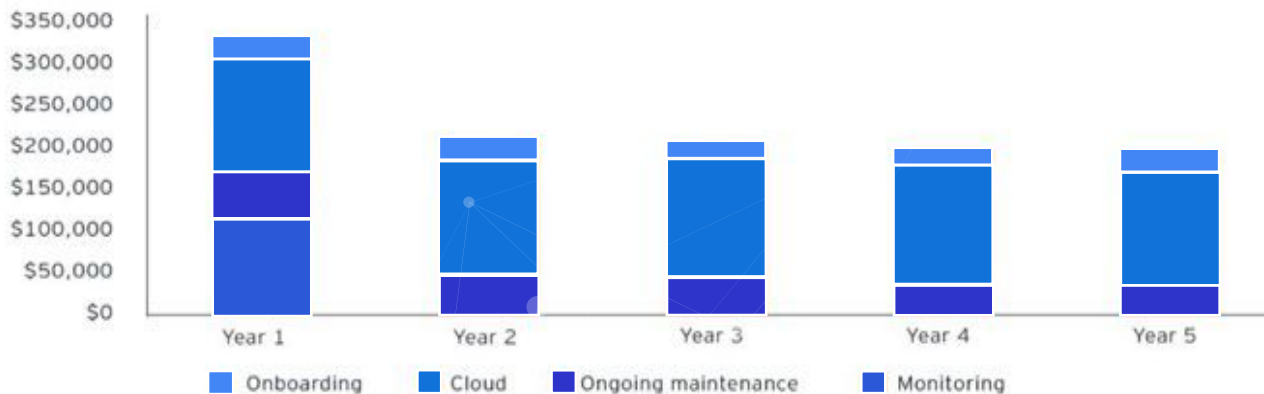


... and again, never underestimate the costs

Production Use-case Example

	Year 1	Year 2	Year 3	Year 4	Year 5
Onboarding costs	\$115,146	\$3,880	\$3,688	\$3,506	\$3,335
Cloud costs	\$50,006	\$42,756	\$36,557	\$31,257	\$26,725
Ongoing maintenance costs	\$142,280	\$142,014	\$141,755	\$141,505	\$141,263
Monitoring costs	\$19,663	\$18,773	\$17,928	\$17,125	\$16,362
Total costs	\$327,095	\$207,423	\$199,928	\$193,393	\$187,685

Five-year costs



What's needed – Blockchain Infra Automation

- The automation should be for, – in-depth configurations of protocols, monitoring of node and chain health, easy smart-contract design and management tools etc.
- Creating your consortium in few button clicks, without losing the decentralisation.
- Decide your infrastructure with no compromise, your cloud or on-premise. Every stakeholder in your consortium gets to make their own decision.
- Best in class security practices standard across all deployments.
- Analytics and Monitoring which can scale with your decentralised deployments.
- Control on costs with auto optimisations and scaling of the networks.



A LOW CODE
BLOCKCHAIN AS A SERVICE
ENTERPRISE PLATFORM



Supports Multiple Blockchain Protocols

100% Automated and No Code



Heterogenous Cloud Deployments

Supports all major cloud providers including Private Cloud and On-Premise



Blockchain Analytic and Real time Monitoring

Advance Analytics and Monitoring Alerts and Notifications



Web Services for Faster DApp Development

CI/CD Integrations to Services like IoT, Governance, Storage, Secure Vault etc

>60%

Cost
Savings

>90%

Faster Time
to Market

>15,000

Developers
on Board

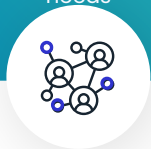




A structured platform approach to deliver operational excellence across Blockchain Networks and Decentralized Applications.

Network and Security

One Platform for all your needs



Multiple Cloud Provisioning

One Click Node Deployment

Unified Dashboard

Node Security inbuilt

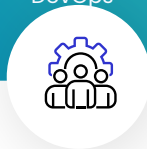
Blockchain Integration

TEE as a Service

Decentralized Storage

Ops and Management

100% Automation and DevOps



Resource Monitoring

Resource Optimization

Auto-scaling and healing

Unified Dashboard

Intelligent Analytics

Network Visualizer

CI/CD Automation

Apps and Services

A complete toolkit



GIT Integration

IoT as a Service

dApp Marketplace

Decentralized Governance

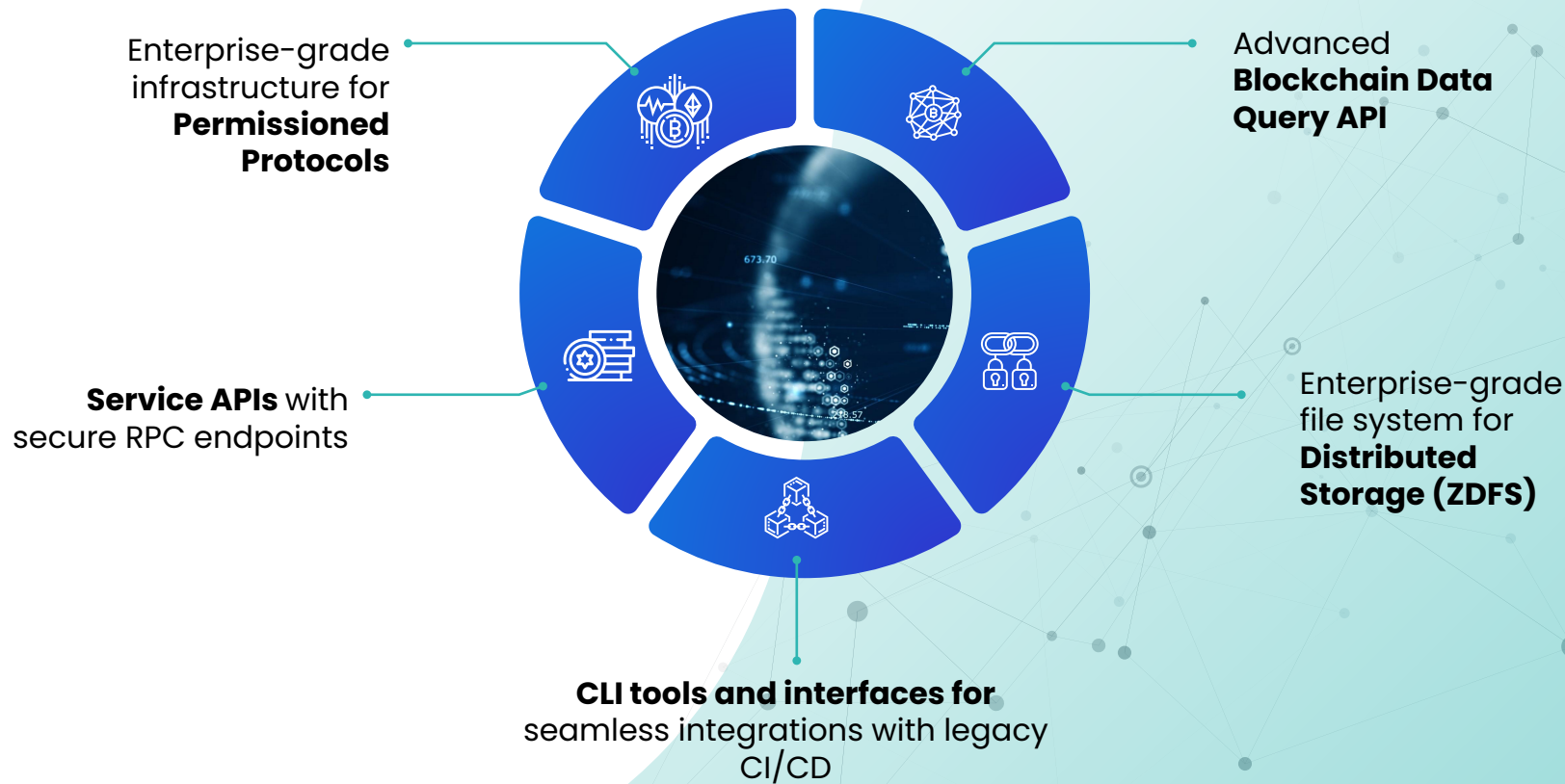
Key Secure Vault

Asset Tokenization

Federated Learning



PLATFORM AND PRODUCTS





Zeeve for Hyperledger Fabric

Network Management – Create, Scale & Onboard

Monitoring – Network & Node Level

CLI Based operations for integrations with tools

Fully flexible Fabric Topology – Organization ACLs

Node Management – add, stop, start

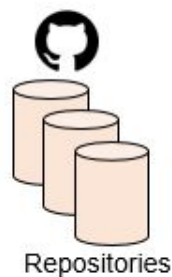
Chaincode packaging and deployment

Alerts & Logging for the blockchain Services

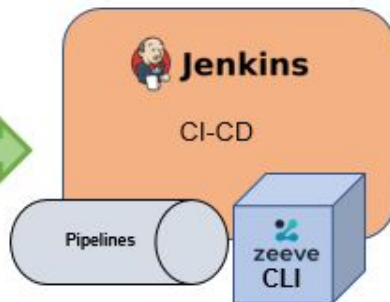
24x7 Support for Zeeve Blockchain Devops Experts



Zeeve with CI-CD



Repositories



- Code Repositories integrated with a CI-CD layer

- CD uses Zeeve CLI to package smart-contract deployment

- Zeeve deploys smart-contracts to the intended players of the consortium as intended.

LEARNING EVERY DAY

Zeeve BaaS Platform is trusted by 15,000+ developers and 25+ Enterprises and Blockchain Consortiums

Customers

DCB BANK

vodafone

MARKETNODE

intel

AXIA

Phaeton

bitcoin
LATINUM

zuron

GRAMCOVER

intain

TR
Trade & Finance

teri

TILUF

SAFEGOLD

block
tickets

unicus

unico

Interswitch

booleanlabs

Fluree

S P Jain
School of Global
Management
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WRITER
INFORMATION

BLOCK
CONTROL

BlockchainDC



CASE STUDY



TradeReboot – Trade Finance Consortium

- Category – Trade Finance
- Blockchain Protocol – HyperLedger Fabric 2.2
- Cloud – AWS and GCP
- Network Size – 17 Nodes



Challenges

- Identify the most suitable Blockchain protocol to achieve the business goals.
- Enterprise grade network that has high availability, security and performance.
- Cloud agnostic deployment of nodes so that third party stakeholders are not locked to a single cloud service provider.
- Continuous monitoring of the deployed network as a service to reduce upfront and ongoing costs.
- An enterprise level support the Blockchain network.



Zeeve Approach

- AWS cloud architecture including node application instances, RDS for off-chain database, security rules, load balancers and the backup plan.
- Build the Trade Finance DaApp and Smart Contracts
- Governance smart contract to govern the rules of the consortium
- Deployment of HyperLedger Fabric 2.2 on Kubernetes cluster on AWS..
- Enabled the invitation module to on-board the initial users on the platform.



Results

- Seamless Onboarding – Zeeve helped quick and hassle-free onboarding of users who wanted to host their own nodes.
- Cost Saving of ~45% – Zeeve helped optimized setting up of the nodes and network instances.
- Faster time to market by ~80% – Zeeve accomplished the complex deployment of trade finance network of Hyperledger Fabric on AWS in less than 30 minutes.
- Proactive Monitoring – Zeeve features advance analytics and proactive monitoring of Blockchain and cloud resources..
- 24/7 Support – Zeeve provided DevOps experts and Blockchain engineers for initial deployment architecture and ongoing management of the network.



CREATE AND SCALE NETWORKS

Network Configurations - BYOC-AWS

Available Peers : 10

Home / Network / My Network / Add Organisation

Organisation Details

org3 ⓘ

Certificate Authority (CA)

Admin Username *

org3ca

Admin Password *

☐ Enable CA Persistent Volume

+ Add Orderer

+ Add Peer

Peer 1

☒ Level DB ☐ Couch DB

☒ Enable Peer Persistent Volume

Volume Size

10

GB

CSR Details (Optional)

Organisation

Zeeve

Organisation Unit

Blockchain

Country

India

State

UK

Locality

Dehradun

Validity in year

15

Create

Home / Network / My Network - BYOC

Nodes Artifacts Logs

1. Crypto Artifact

Download

2. Connection Profile

Download

Blockchain Data

Network-id	82973e2b-1 ...
Name	mychannel
Consensus	etcdraft
AbsMaxBytes	3
JoinChannel	true
MaxMsgCount	2
BatchTimeout	1
PrefMaxBytes	1

Download

orderer1.org1

orderer1.org2

peer1.org1

peer1.org2

org1

org2

Running

Stopped

Process

NETWORK TOPOLOGY



Dashboard

Workspace

Marketplace

Networks

Node Analytics
Coming Soon

Cloud

RECENT

- Fabric Networks
- Corda Networks

+ New Workspace

OTHER

Settings

CONTACT US

support@zeeve.io



Home / Network / SCnet - BYOC

Analytics & Monitoring

Pipeline

Actions

Nodes Artifacts Logs

d39263b5...	org1	peer	eu-west-2		
4ba8ab8c...	org2	peer	eu-west-2		
8edf5b94...	org1	ca	eu-west-2		
4d36d407...	org2	ca	eu-west-2		
386db657...	org1	orderer	eu-west-2		
7db1bd7f...	org2	orderer	eu-west-2		

orderer1.org1

orderer1.org2

peer1.org1

peer1.org2

org1

org2

Running

Stopped

Processing



AS FLEXIBLE AS IT GETS

Dashboard

Workspace

Marketplace

Networks

Node Analytics
Coming Soon

Cloud

RECENT

TRADEREBOOT

+ New Workspace

OTHER

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Home / Network / My Network - BYOC
























Pipeline

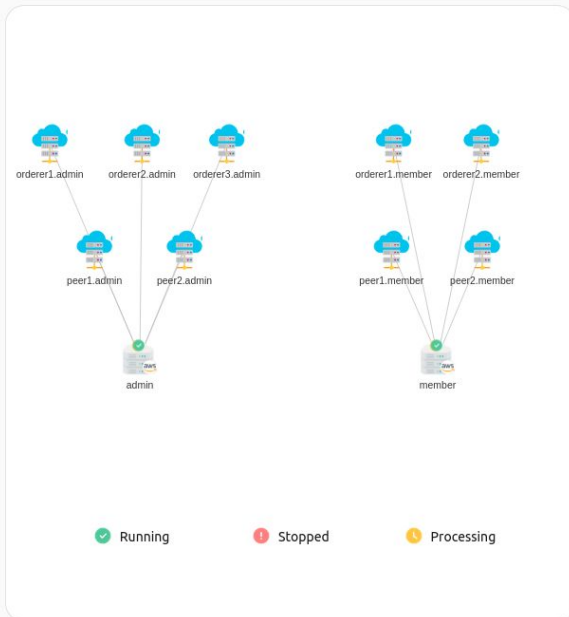
Actions

Nodes

Artifacts

Logs

 54514261...	admin	peer	ap-south-1	 	   
 a7467bf4...	admin	peer	ap-south-1	 	   
 6f8445f8...	member	peer	ap-south-1	 	   
 3431968c...	member	peer	ap-south-1	 	   
 eba282f0...	admin	ca	ap-south-1	 	   
 33d06608...	member	ca	ap-south-1	 	   
 04b20762...	admin	orderer	ap-south-1	 	   
 90002405...	admin	orderer	ap-south-1	 	   
 c18d612f...	admin	orderer	ap-south-1	 	   
 4f5bb505...	member	orderer	ap-south-1	 	   
 5b36a822...	member	orderer	ap-south-1	 	   



STAY IN COTROL



Dashboard

Workspaces

Workspaces

Endpoints

Networks

APIs

Node Analytics

Clouds

Others

Settings

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Dashboard

Workspaces

Workspaces

Endpoints

Networks

APIs

Node Analytics

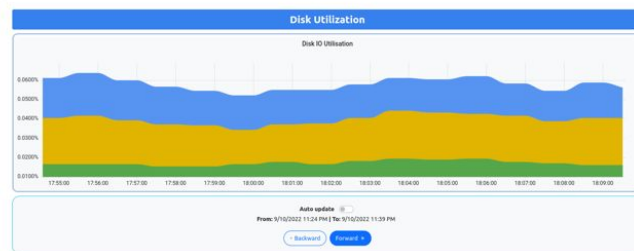
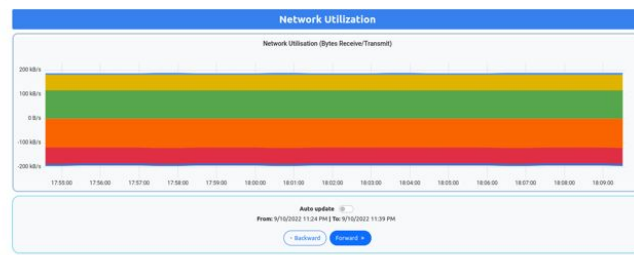
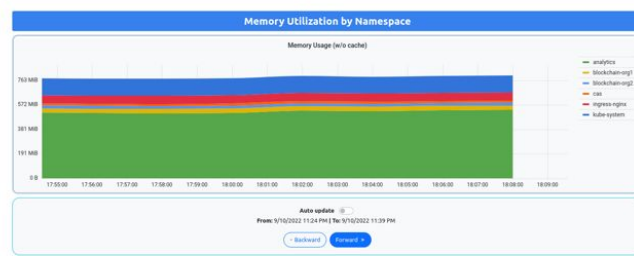
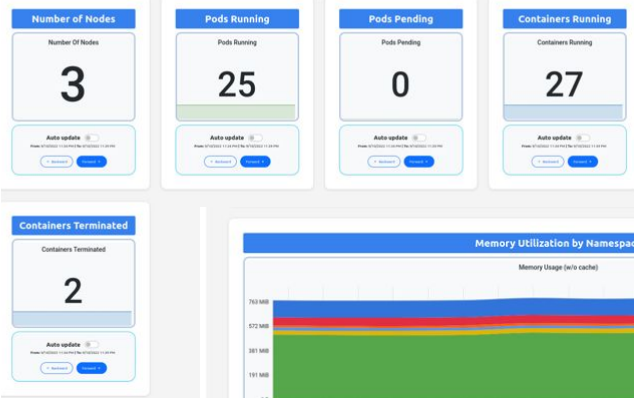
Clouds

Others

Settings

CONTACT US

support@zeeve.io



Zeeve CLI, CD PIPELINES

Zeeve continous deployment interface

Build/deploy your pipelines. For more information read the docs



Pipelines

Pipeline	Status	Total Jobs	Action
fbd089ae-c725-409d-a935-1c20c8ed99a6		[JobID: ddc664a1-9330-422b-b0df-bb8be063dd07]	
a8e88312-9877-48b0-94bc-8bf985936c5		[JobID: 30a6013c1bb3-44b9-bb0d-5ced974bd184]	
9af5f4cd-9c5e-40ba-a7c4-61c6d9ef2c13		[JobID: c9079b63-15ce-484e-820e-a07f05782aa2, JobID: 5fd116ec-6dd8-415c-89b5-3802d256b887]	
ccf7f5e9-d597-442c-b92c-8483838eb2ad		[JobID: da521c37-aaa7-40f8-82e3-e892dd6d3315c]	
63effbe0-ce83-411d-8e92-8bf0155e74ff		[JobID: 240cdde6-b56b-4880-9823-a67815e4e6c0]	
ddaa2f32-4028-4c27-90a0-85e20e041faf		[JobID: 29322359-bb38-4525-994b-d9a8ef57d707, JobID: 81138375-4752-4f2f-956c-b2a0588cafb6]	
c7d53736-d357-4825-a447-0979aebd1d580		[JobID: 4babf03a-7f78-4e1c-a780-0d9494c9b653]	
ddcdab40-050c-46b8-b641-1eacac9c03068		[JobID: ef009178-e124-40db-9771-24b96a93acaf]	
1f4ac385-4606-463e-a377-762b00a13ca0		[JobID: 0a955d22-1858-448a-a980-01b410d7d5bc]	
736495b8-cf23-4284-b7e6-06e57c1eaa47		[JobID: 983ae0dc-9405-458c-b313-15bc7eeea0ab, JobID: 2e76cb13-81bc-48e7-9e89-04265d5e6110]	
b07637ce-65b4-4a46-b1d1-485158b467a2		[JobID: f9112494-7740-4331-a846-8c39f8930967]	
884e2005-c01b-49a0-b9ef-ee38118b7ee4		[JobID: 766fe4b6-23a9-4cc9-95eb-348908f13199]	
b1d4cdf6-c2bc-49ff-a785-e7f1fcb94198		[JobID: 8cb07e84-da65-41ba-ab41-9f28ae78e099]	
94c45359-a4fe-4c9c-932e-e0b97e1393c9		[JobID: 8a3b0c44-3069-4c79-ad43-c464a23f19b8]	
60726095-8fe2-4795-b39f-4f0fcea43c2f		[JobID: 8c95826b-b7f2-4ae8-aa82-98385a1c726c]	
f6aa88e6-0a1e-496a-ae94-f928d2bacc61		[JobID: 827ef47d-a44-4c33-909d-f40f8c02af7e]	
ec02c85-649c-410e-80b0-ee53c2fefff		[JobID: 4d582427-a214-4fb2-8a16-365384b31b35]	
c096b1bd-4148-46ce-b64c-45c301435a1		[JobID: 30f7b75d-1e22-456c-a8dc-5671a6d9f808, JobID: dee07244-7112-4d32-989d-e2a04327c808]	
d2fcd914-a3d9-4925-b4da-d675860ac2d3		[JobID: 371feff44-9244-41f0-bea8-5072929f3021, JobID: af0ea270-79bc-4d5f-be8a-0d2b583a5dc7]	
12517394-e10b-4898-be87-304ff1610c83		[JobID: a2bbaa3b-1725-4836-9576-7559b18c6fc]	
9ed48147-cd62-454e-a541-822e69173460		[JobID: 5a520d42-ca75-4c74-8c56-a4eb6e8469c5b]	
8a020fce-a745-482d-a1c2-6e6cfa4a80cc		[JobID: ee43c076-af99-402f-afdc-2409e16867be]	
e1234e5a-3d1f-4518-9ecc-ad802aeae741		[JobID: b3572b83-f27e-4692-a342-6e0f05e8eab0]	
4336cbb4-58d2-407c-9c3d-a4415f42f0016		[JobID: c305f8e5-1aa7-413b-a65a-5daecf29d838]	
49f40cae-45bd-46eb-a9ed-08f1f99a9cd3		[JobID: 32d07895-dcb7-42d6-8cbe-2eba5af33f55]	
366e9f3a-7582-45fa-9766-2b8c94a42795		[JobID: c3cc5f36-2223-438a-8f53-a76ef58ad80cb]	
8a2a7085-836e-42b1-9025-2773ad1eb961		[JobID: c23c5265-d94d-44b2-986b-d6fab337d7b3]	
c1458696-71b9-4362-b79b-dcbc42107043		[JobID: 9f005b04-8cef-4d95-bc63-42c1f7286653]	
26eaa64d-5acd-4a0c-807a-7c61c08a8b13		[JobID: 422858a6-f8bb-4eae-a0e2-9dc48f0b9eaa]	
4cc0f34c-3401-424b-8caf-861743fd1443		[JobID: 6abfb616-0097-4ed4-93a8-2fcec4c10bd4c]	

```
Lakshayg@ubuntu:~$ zeeve fabric chaincode --help
Usage: zeeve fabric chaincode [options] [command]
```

```
Options:
  -h, --help            display help for command
```

```
Commands:
  package [options]
  install [options]
  approve [options]
  commit [options]
  deploy [options]
  help [command]        display help for command
```

```
Lakshayg@ubuntu:~$ zeeve fabric chaincode install --help
Usage: zeeve fabric chaincode install [options]
```

```
Options:
  -n, --network-id <network-id>  Id of the Network
  -c, --chaincode <chaincode>    chaincode name
  -v, --version <version>        chaincode version
  -o, --org <org>                chaincode organisation
  -p, --peer-urls <peer-urls...> chaincode peer urls
  -h, --help                    display help for command
```

```
Lakshayg@ubuntu:~$ zeeve fabric chaincode commit --help
Usage: zeeve fabric chaincode commit [options]
```

```
Options:
  -n, --network-id <network-id>  Id of the Network
  -cc, --chaincode <chaincode>    chaincode name
  -v, --version <version>        chaincode version
  -o, --orgs <org...>            chaincode organisation
  -p, --peer-urls <peer-urls...> chaincode peer urls
  -ch, --channel <channel>       channel name to approve chaincode
  -s, --sequence <sequence>     chaincode sequence
  -ia, --init-args <init-args...> Init method arguments ex; "marble1","blue","35","tom"
  -im, --init-method <init-method> Init method name i.e, "init" or "initMarbles"
  -h, --help                    display help for command
```

```
Lakshayg@ubuntu:~$
```

WHAT'S COMING

- Private Data Collections Support
- HSM Based Key Management
- **DMZ Based Security Architecture and High Availability Setup of Nodes**
- Logging Support
- Scaling Resources in Clusters
- Allow Private Node Connections with AWS Backbone
- Managed Node Deployment





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