

Java EE Monolith to Cloud-Ready Architecture: Lessons from the Drools/jBPM Ecosystem

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"The big question is whether you are going to be able to say a hearty yes to your adventure"

Joseph Campbell



Business Central 101

Welcome to KIE Workbench

KIE Workbench offers a set of flexible tools that support the way you need to work. Select a tool below to get started.



Design

Create and modify **projects** and **pages**.



Deploy

Administer **provisioning** and **servers**.



Manage

Access **process definitions**, **process instances**, **tasks**, **jobs** and **executions errors**.



Track

View **task inbox**, **process reports** and **task reports**.

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The screenshot displays the KIE IDE interface. At the top, a dark navigation bar contains the 'KIE IDE' logo, a home icon, a 'Menu' dropdown, and user profile information for 'markp'. Below this, a breadcrumb trail shows 'Spaces > myteam'. The main content area is titled 'myteam' and features three tabs: 'Projects' (with a count of 0), 'Contributors' (with a count of 1), and 'Metrics'. The 'Projects' tab is active, showing a large grey area with a central plus sign icon and the text 'Nothing Here'. Below this, a message states: 'There are currently no projects available for you to view or edit. To get started, create a new project or import one.' Three buttons are visible: a blue 'Add Project' button with a dropdown arrow, and two grey buttons labeled 'Try Samples' and 'Import Project'.

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The screenshot displays the KIE IDE interface. At the top, there is a dark header bar with the KIE IDE logo on the left, a home icon, a 'Menu' dropdown, and user information 'markp' on the right. Below the header, a breadcrumb trail shows 'Spaces > myteam > Try Samples'. The main content area is titled 'Try Samples' and features a search input field with the placeholder text 'Search'. Below the search field is a grid of sample projects, each represented by a white card with a title and a brief description. The 'Mortgages' card is highlighted with a blue border. The projects listed are:

- Course Scheduling: University course schedul...
- Dinner Party: Guest seating optimisatio...
- Employee Rostering: Employee rostering probl...
- Evaluation Process: Getting started Business P...
- IT Orders: Case Management IT Ord...
- Mortgages: Loan approval process aut...
- OptaCloud: Resource allocation optim...

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The screenshot displays the KIE IDE interface. At the top, there is a navigation bar with the KIE logo, a yellow 'IDE' button, a home icon, a 'Menu' dropdown, and user information for 'markp'. Below this, a breadcrumb trail shows 'Spaces > myteam > Mortgages'. The main header area includes the title 'Mortgages' and buttons for 'Build', 'Deploy', and 'View Alerts'. A secondary navigation bar shows 'Assets 19', 'Contributors 1', 'Metrics', and 'Settings'. The main content area features a search bar, a pagination control showing '1-15 of 19' items, and buttons for 'Import Asset' and 'Add Asset'. A table lists six assets with their names, types, and modification/creation dates.

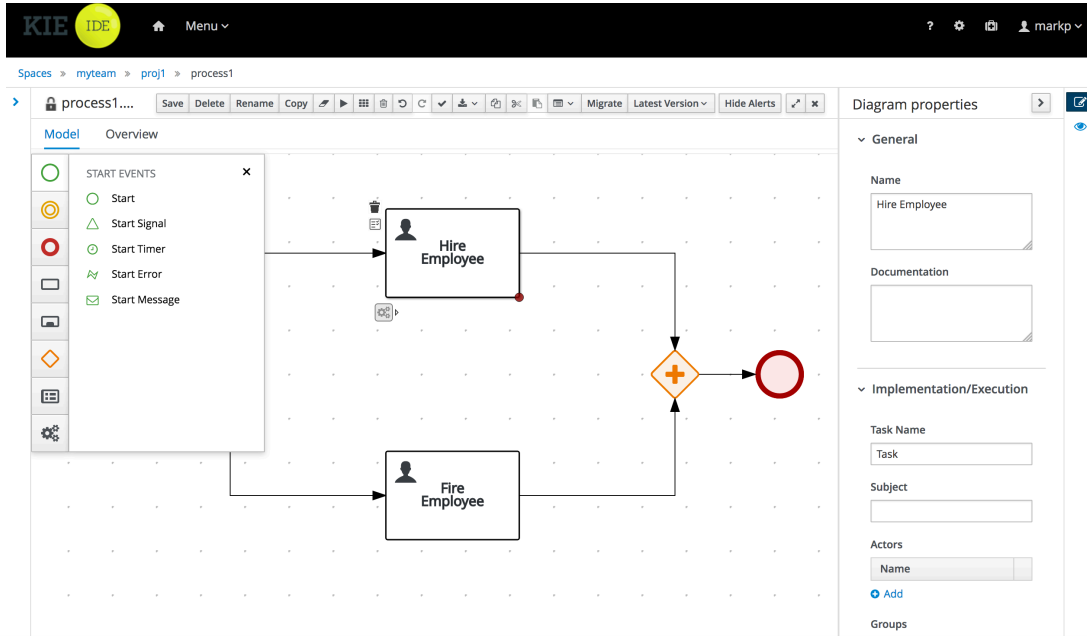
Asset Name	Type	Last Modified	Created
Applicant	Data Objects	Last modified today	Created today
ApplicantDsl	Domain Specific Language Definitions	Last modified today	Created today
Are they old enough	Test Scenarios	Last modified today	Created today
Bankruptcy history	Guided Rules	Last modified today	Created today
Bankruptcy	Data Objects	Last modified today	Created today
credit ratings	Enumeration Definitions	Last modified today	Created today

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The screenshot shows the 'Add Asset' dialog in the KIE IDE. The interface includes a top navigation bar with the KIE IDE logo, a home icon, a 'Menu' dropdown, and user information 'markp'. Below the navigation bar, the current workspace path is 'Spaces > myteam > proj1'. The 'Add Asset' dialog has a 'Cancel' button in the top right corner and a search filter set to 'All'. The main area displays a grid of asset types, each with an icon and a label:

- Business Process (Process)
- Business Process (legacy) (Process)
- Data Object (Model)
- Decision Table (Spreadsheet) (Decision)
- DRL file (Decision)
- DSL definition (Decision)
- Enumeration (Model)
- Form (Form)
- Global Variable(s) (Decision)
- Guided Decision Table (Decision)
- Guided Decision Table Graph (Decision)
- Guided Decision Tree (Decision)
- Guided Rule (Decision)
- Guided Rule Template (Decision)
- Guided Score Card (Decision)
- Package (Others)
- Score Card (Spreadsheet) (Decision)
- Solver configuration (Others)
- Test Scenario (Others)
- Work Item definition (Others)
- Case definition (Process)

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The screenshot shows the RED HAT JBOS BPM SUITE interface. The main workspace displays a Guided Decision Table (GDT) for 'Pricing loans.gdst'. The table has columns for loan amount, period, deposit, income, loan approval, LMI, and rate. The data is as follows:

#	Description	application : LoanApplication				ome : IncomeSou	application		
		amount min	amount max	period	deposit max	income	Loan approved	LMI	rate
1		131000	200000		20000	Asset	true	0	2
2		10000	100000	20	2000	Job	true	0	4
3		100001	130000	20	3000	Job	true	10	6

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The screenshot displays the KIE IDE interface for a project named 'Mortgages'. The top navigation bar includes the KIE IDE logo, a home icon, a 'Menu' dropdown, and user information for 'markp'. Below the navigation bar, the breadcrumb path is 'Spaces > myteam > Mortgages'. The main header area shows the project name 'Mortgages' and a set of action buttons: 'Build', 'Deploy', 'New Alerts', and a three-dot menu icon. The 'Build' and 'Deploy' buttons are highlighted with a red circle. Below the header, there are tabs for 'Assets 19', 'Contributors 1', 'Metrics', and 'Settings'. The 'Settings' tab is active, showing a 'General Settings' section. On the left side of the settings panel, there is a sidebar with categories: 'General Settings', 'Dependencies', 'KIE bases', 'External Data Objects', 'Validation', 'Deployments', and 'Persistence'. The 'General Settings' section contains several form fields: 'Name' (Mortgages), 'Description' (Loan approval process automation using Drools), 'URL' (ssh://localhost:8001/myteam/Mortgages), 'Group ID' (mortgages), 'Artifact ID' (mortgages), and 'Version' (1.0.0-SNAPSHOT). There are also two checkboxes: 'Disable GAV conflict check' and 'Allow child GAV edition'. At the bottom left of the settings panel, there are 'Save' and 'Reset' buttons.

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The screenshot displays the Drools Workbench interface. At the top, a navigation bar includes 'Home', 'Authoring', 'Deploy', 'Tasks', and 'Extensions'. The main area is divided into two columns. The left column, titled 'SERVER TEMPLATES', shows a list of server templates, with 'kie-server-568b4abd2d4d' selected. Below this, there are sections for 'KIE CONTAINERS' (with an 'Add Container' button) and 'REMOTE SERVERS' (listing 'kie-server-568b4abd2d4d@172.17.0.4:8080'). The right column shows the configuration for the selected container, 'demo', with 'Group Id: mortgages' and 'Artifact Id: mortgages'. It includes tabs for 'Status', 'Version Configuration', and 'Process Configuration'. The 'Status' tab is active, showing a green checkmark and the URL 'http://172.17.0.4:8080/kie-server/services/rest/server/containers/demo' with version 'v0.0.1'.

Drools Workbench

Home ▾ Authoring ▾ Deploy ▾ Tasks Extensions ▾

SERVER TEMPLATES

[+ New Server Template](#)

kie-server-568b4abd2d4d

kie-server-568b4abd2d4d

Capabilities:

- Rule
- Process
- Planning

KIE CONTAINERS

[+ Add Container](#)

demo

REMOTE SERVERS

- kie-server-568b4abd2d4d@172.17.0.4:8080

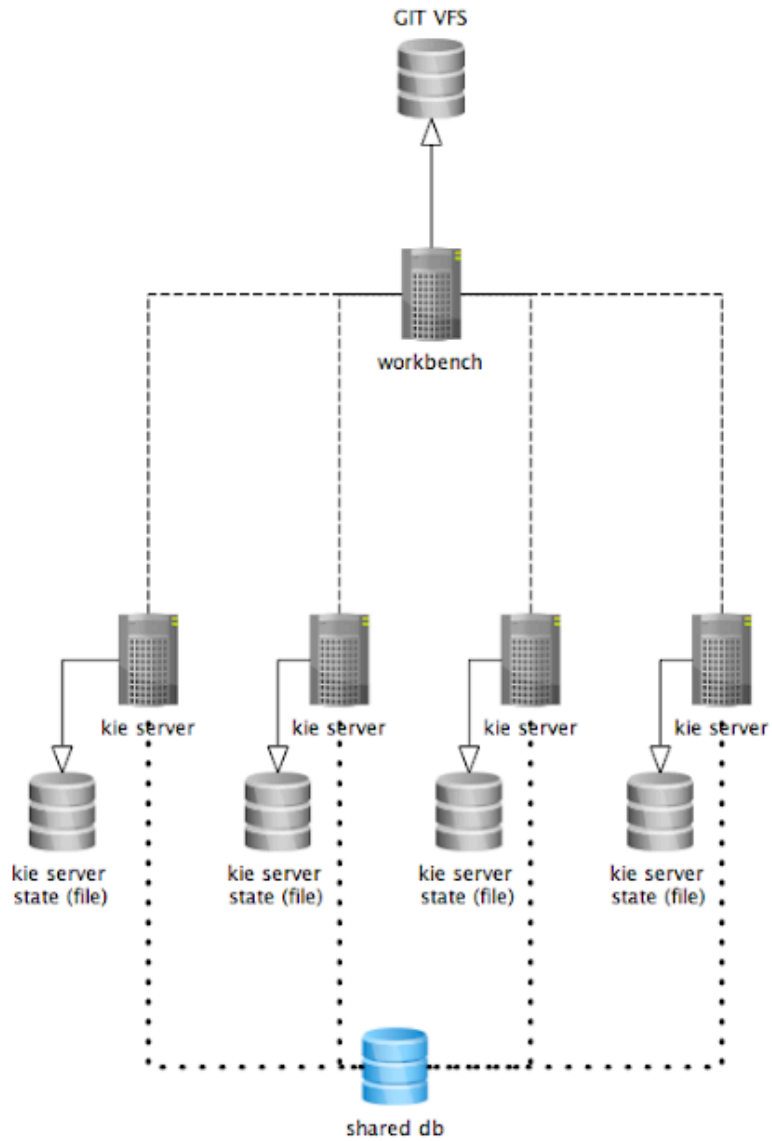
demo Group Id: mortgages | Artifact Id: mortgages

[Status](#) Version Configuration Process Configuration

kie-server-568b4abd2d4d@172.17.0.4:8080

<http://172.17.0.4:8080/kie-server/services/rest/server/containers/demo> v0.0.1

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Rules evaluation :: BRM

POST /server/containers/instances/{id} Evaluates rules by executing commands on the rule session

Parameters

Name	Description
id *required string (path)	Container id where rules should be evaluated on id - Container id where rules should be evaluated on
body *required (body)	Commands to be executed on rule engine given as BatchExecutionCommand type Example Value (Model) <pre>{ "lookup": "default-stateless-session", "commands": [{ "insert": { "object": { "org.redhat.demos.de.loan.model.Applicant": { "creditScore": 1234, "name": "Die Whitehurst" } }, "out-identifier": "applicant" }, "insert": { "object": { </pre>

Cancel

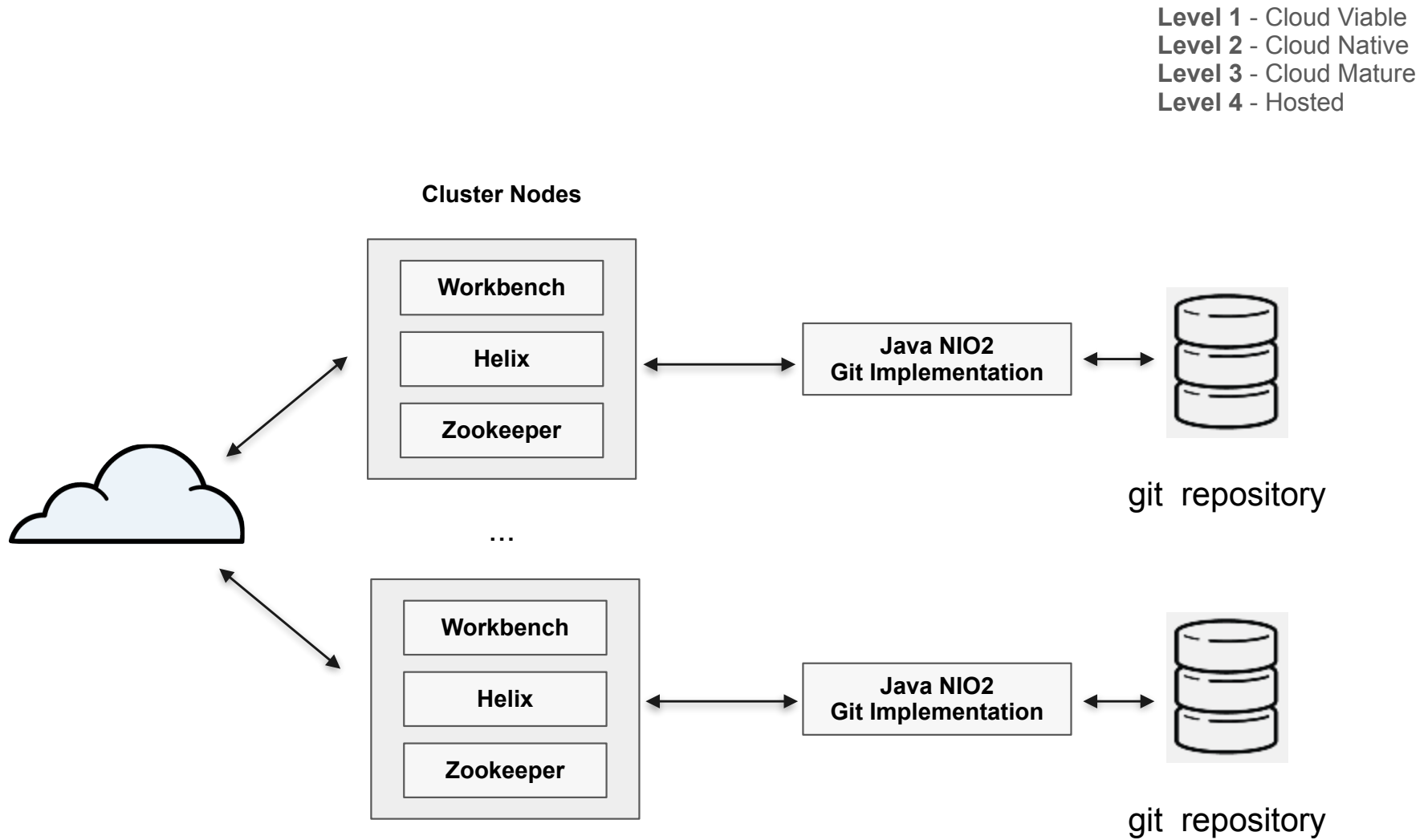
Parameter content type
application/json

Execute

Responses
Response content type application/json

Clustering?

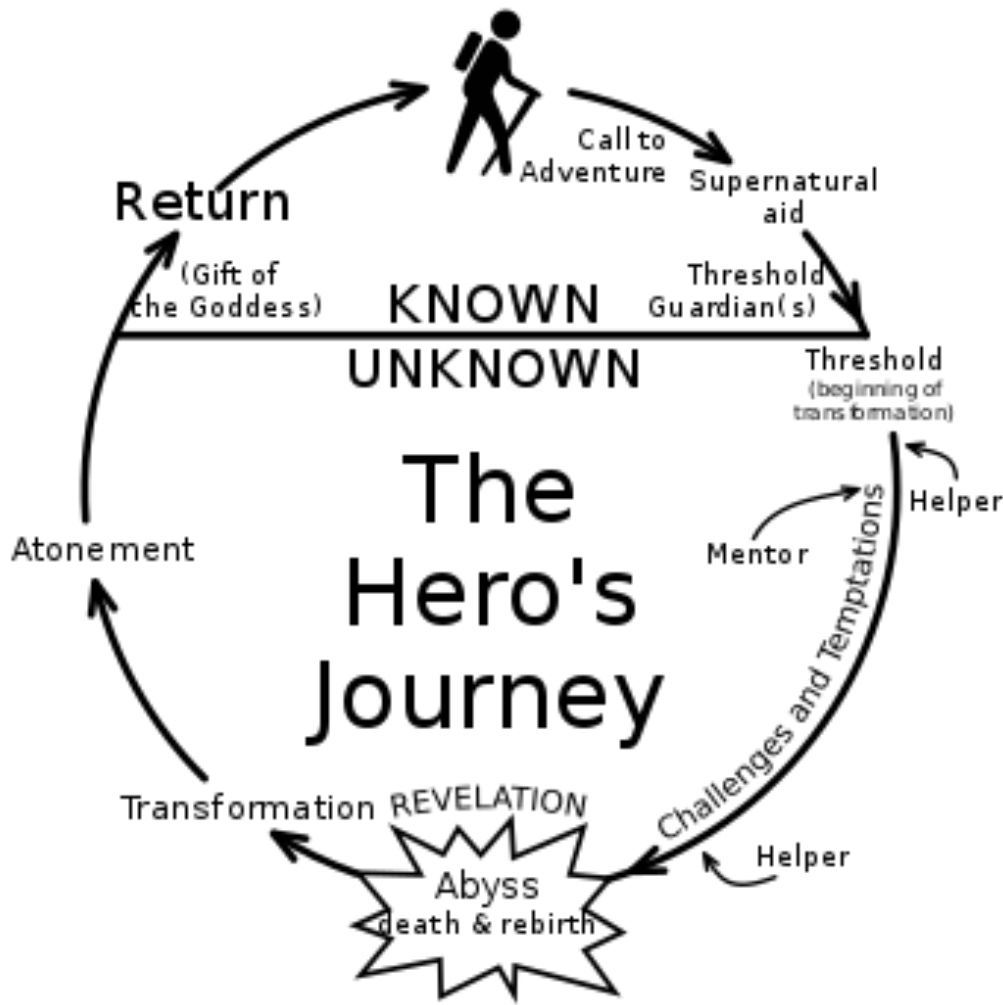
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JavaEE 'Monolith' To Cloud Ready Architecture

JavaEE -> Cloud Ready



Cloud Maturity Levels

Level 1 - Cloud Viable

Works in the cloud, but can be improved.

Level 2 - Cloud Native

Optimised for Containers, will scale for size and demand with manual setup.

Level 3 - Cloud Mature

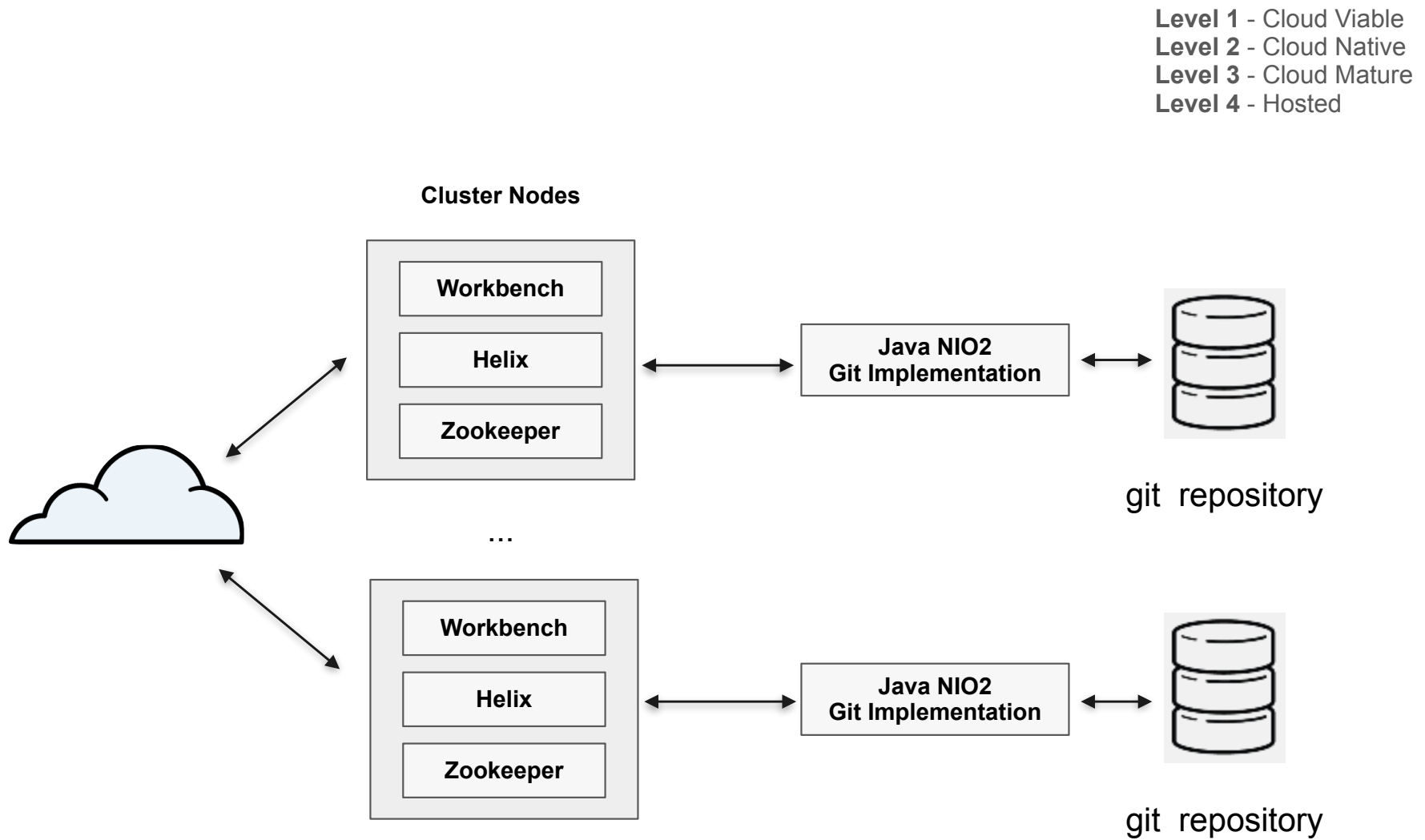
Elastic auto-scaling

Matured and Hardened

Level 4 - Hosted

Hosted (fully managed)

Level 0



Level 1: Cloud Viable

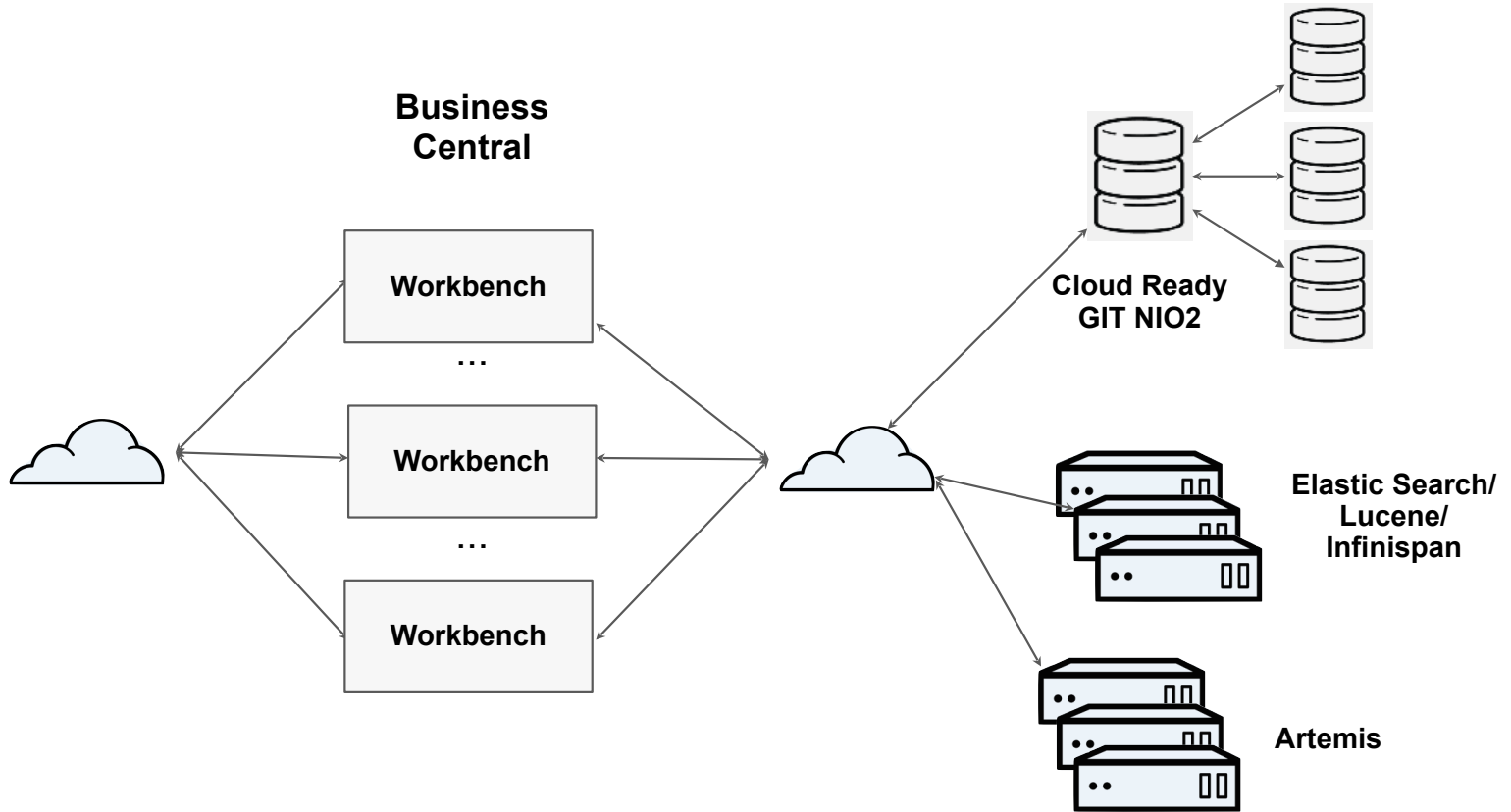
Level 1: Cloud Viable

Level 1 - Cloud Viable

Works in the cloud, but can be improved.

TODO: CARACTERÍSTICAS

Level 1: Cloud Viable



Virtual File System

Virtual File System

Indexing

Indexing

Events and Messaging

Events and Messaging

Level 2: Cloud Mature

Level 3: Cloud Mature

Level 2 - Cloud Mature

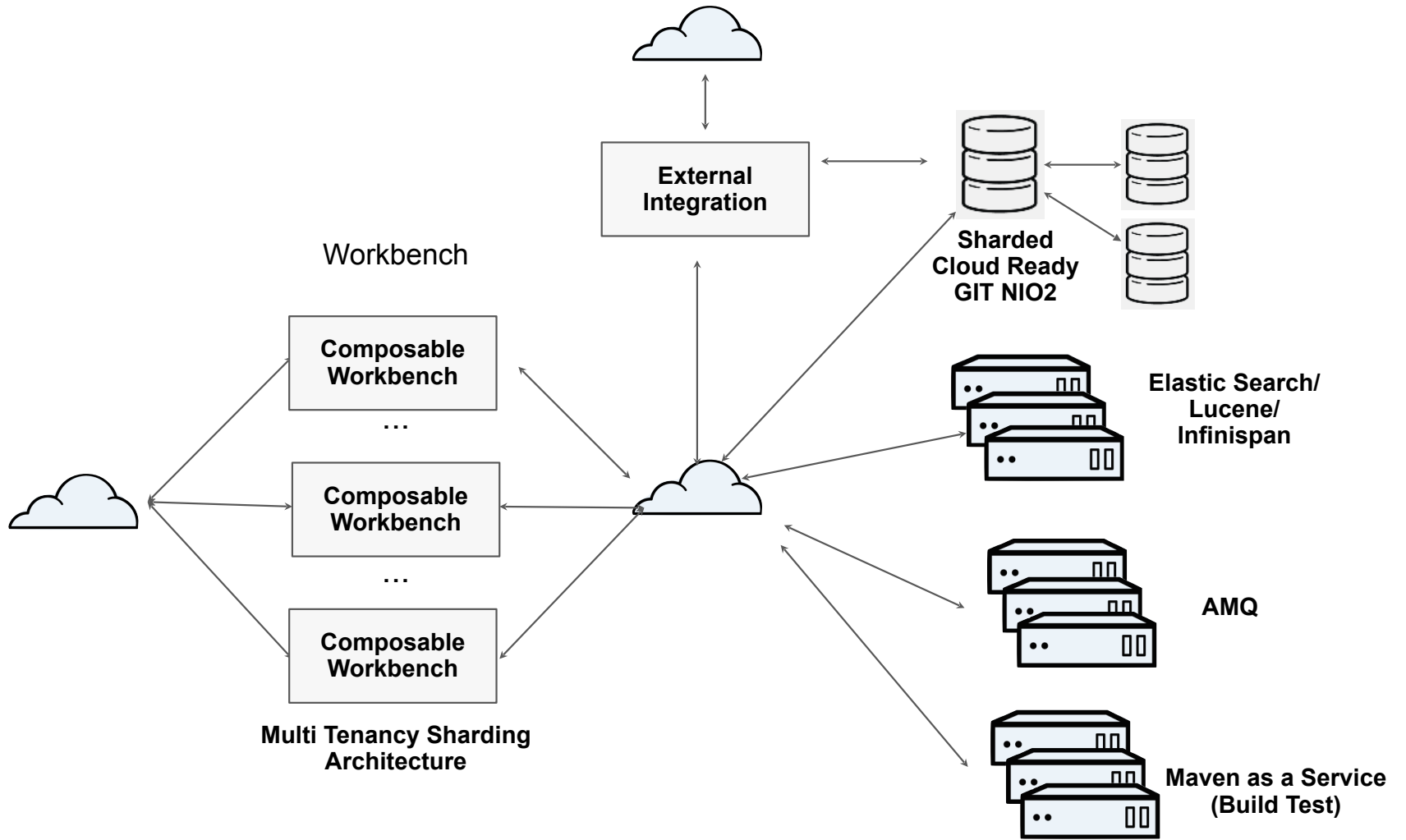
Optimised for Containers, will scale for size and demand with manual setup.

Elastic auto-scaling

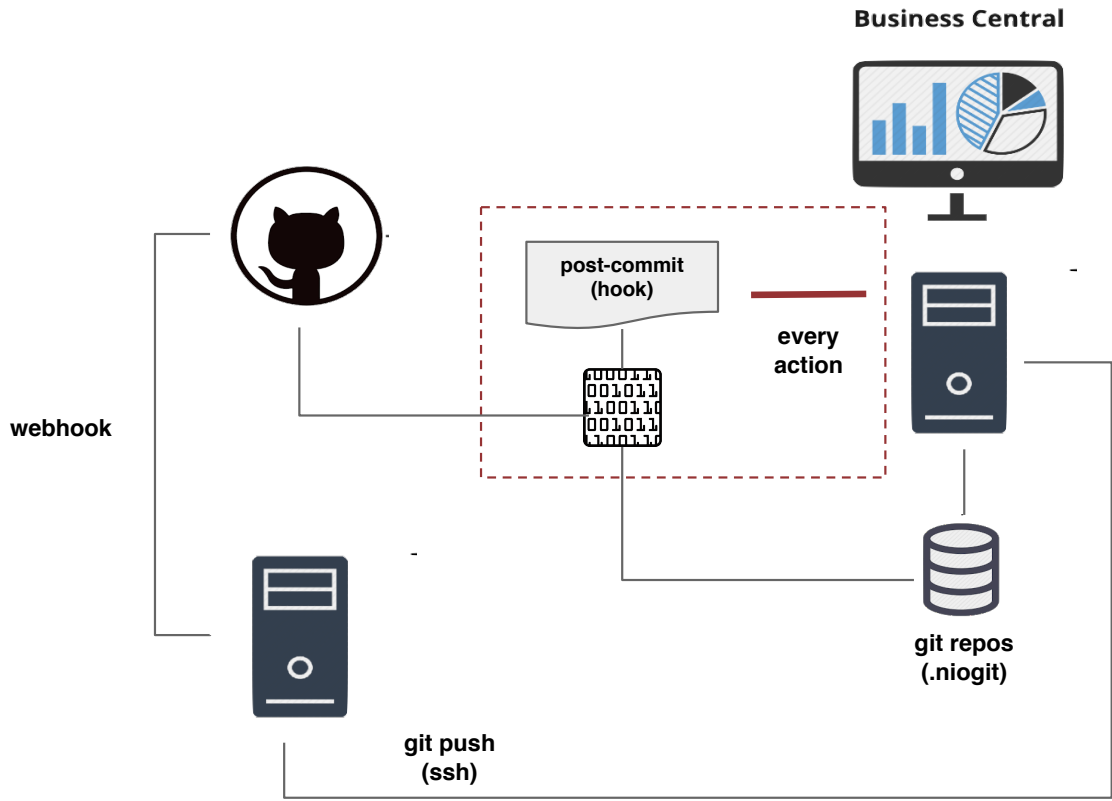
Matured and Hardened

TODO: CARACTERÍSTICAS

Level 3: Cloud Mature



External Integration



Level 4: Hosted

Level 4: Hosted

Level 4 - Hosted

Fully managed

TODO: CARACTERÍSTICAS

Level 4: Cloud Native

Thank you.

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