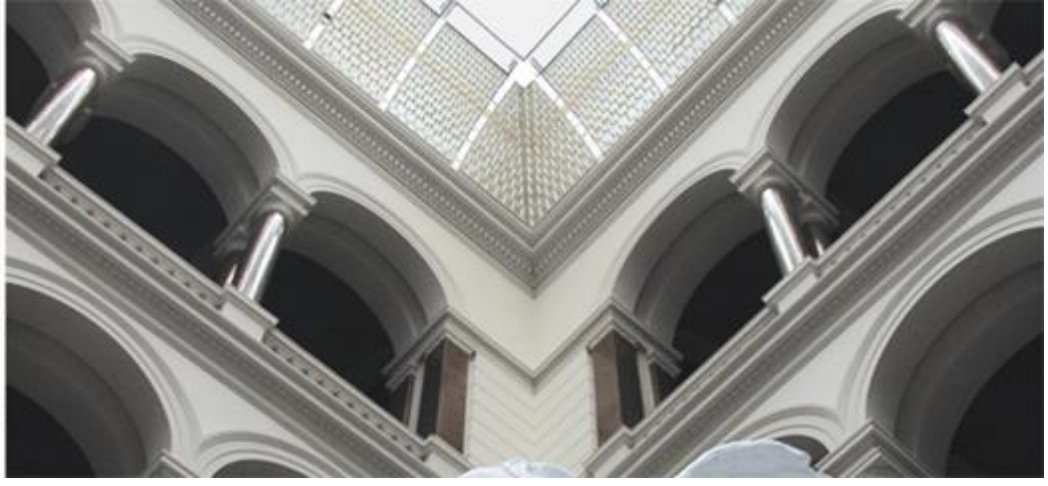
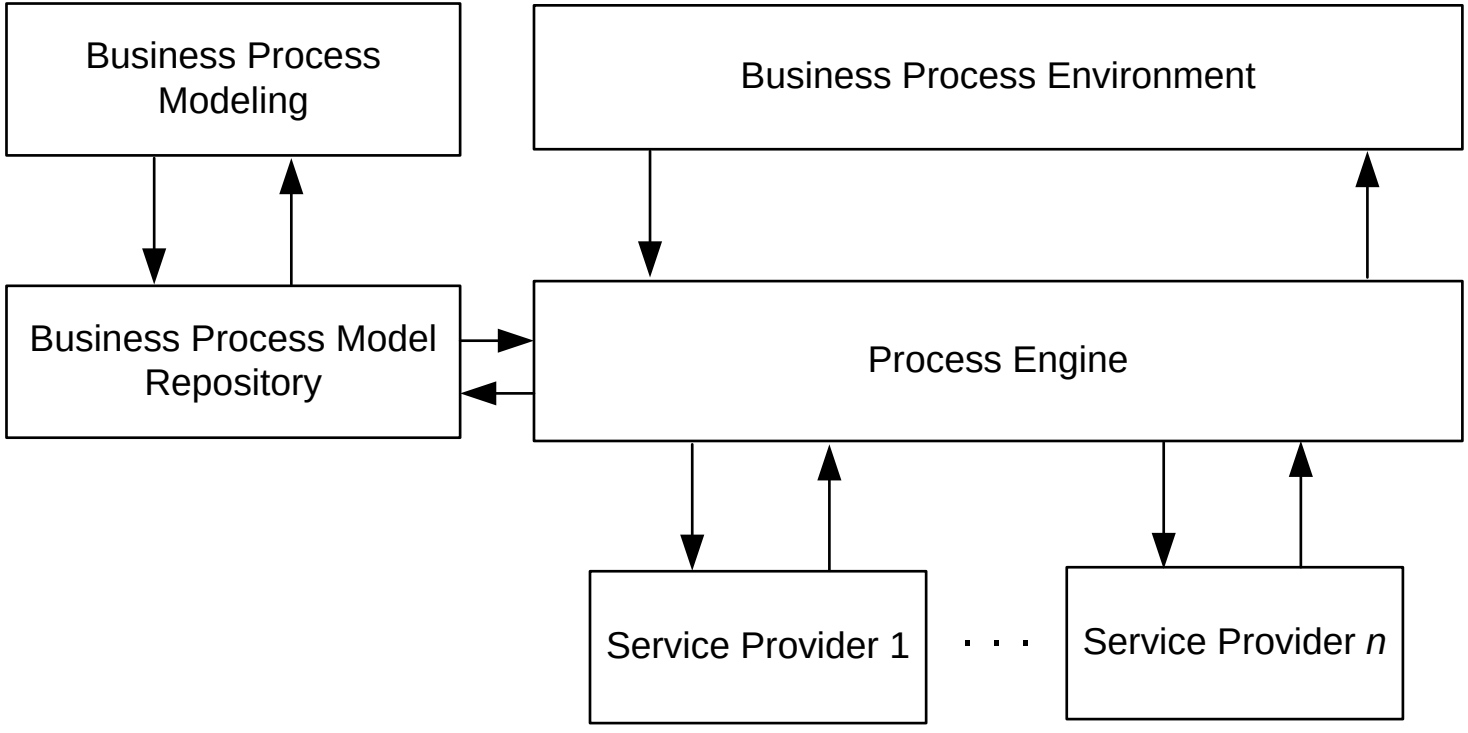


Tutorial: Introduction to Camunda Process Engine

Technische Universität Berlin

Dr. Luise Pufahl| Chair of Software and Business Engineering
luise.pufahl@tu-berlin.de

General Architecture of BPMS



from M. Weske: Business Process Management, © Springer-Verlag Berlin Heidelberg 2007

Why could we select Camunda?

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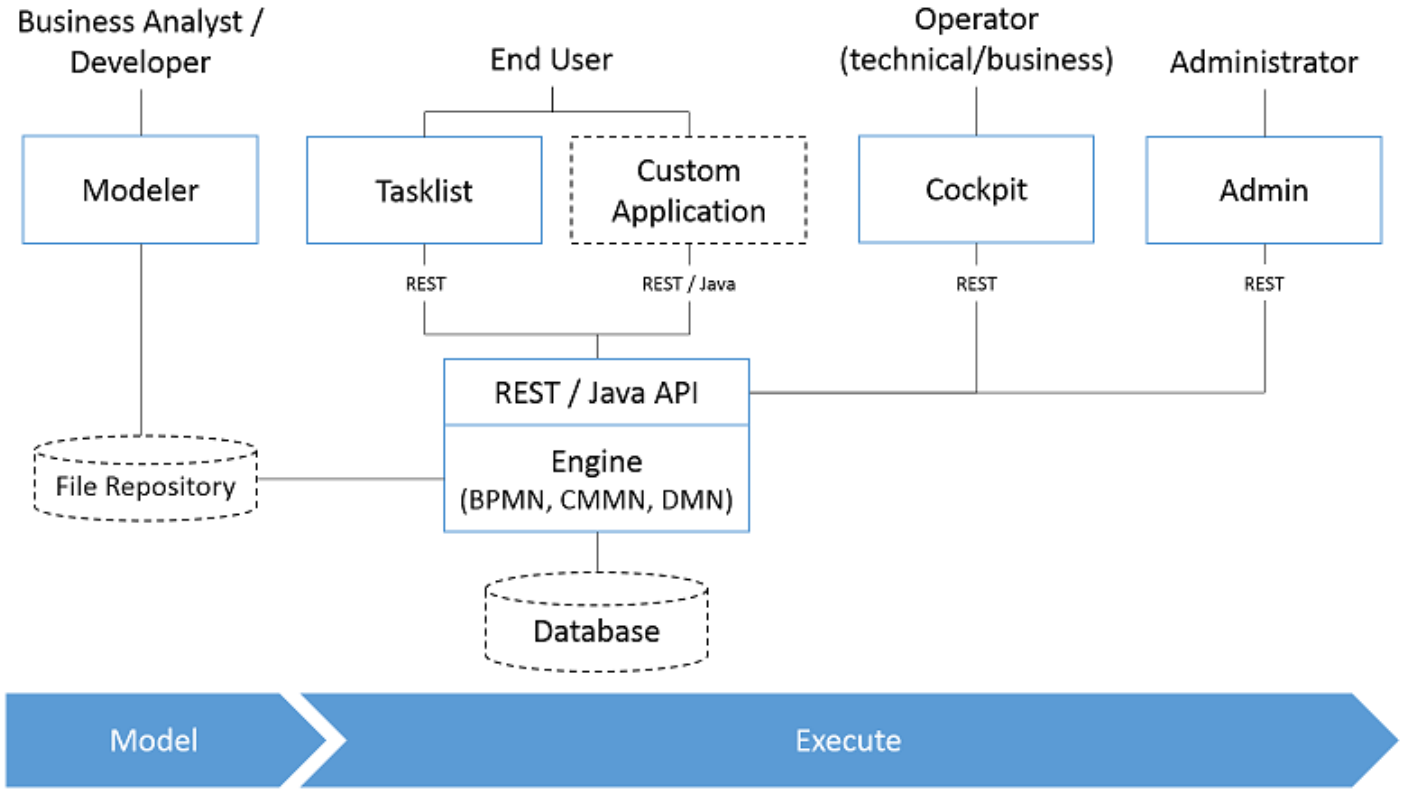
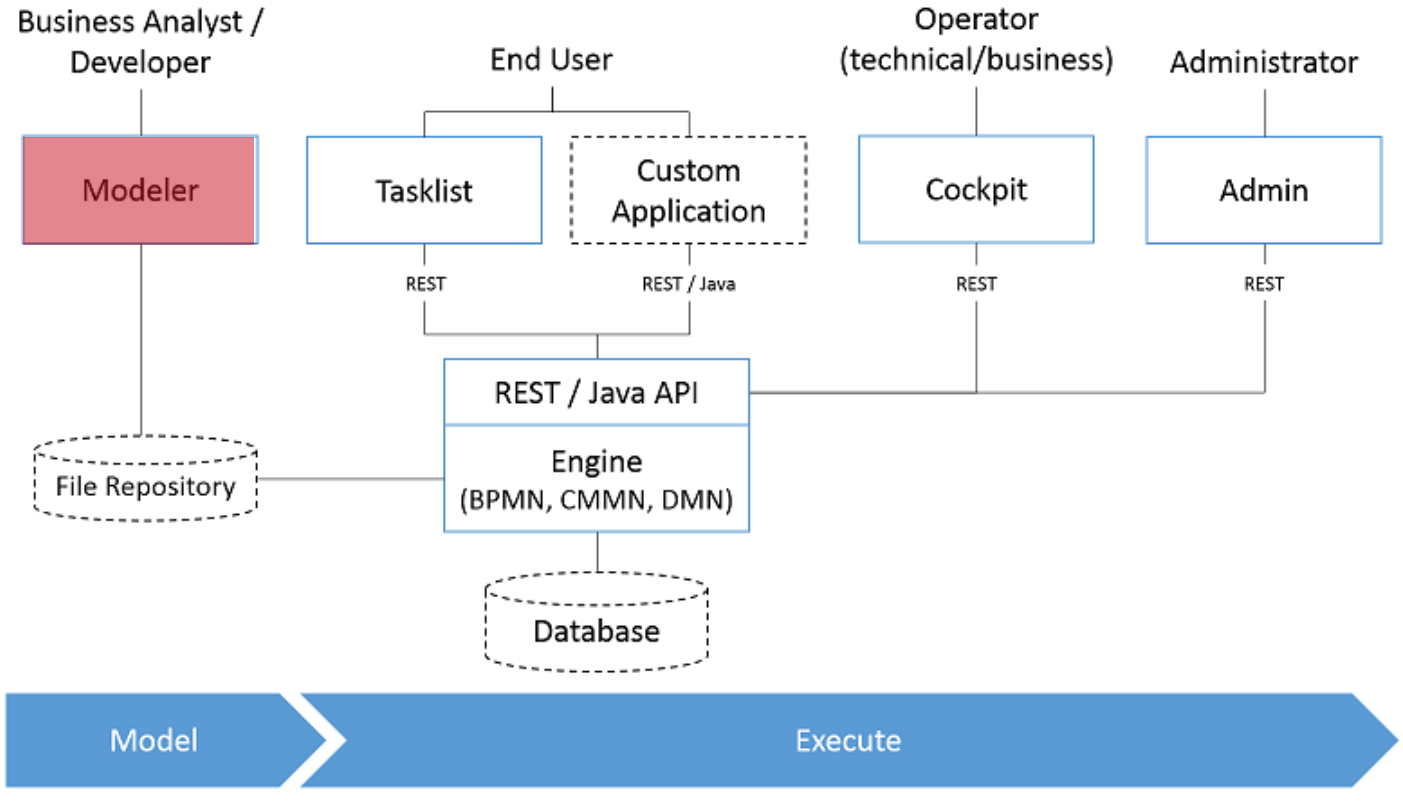
- Open-source BPMN engine
- Rich documentation
- Community
- Several extensions

Architecture of Camunda Plattform

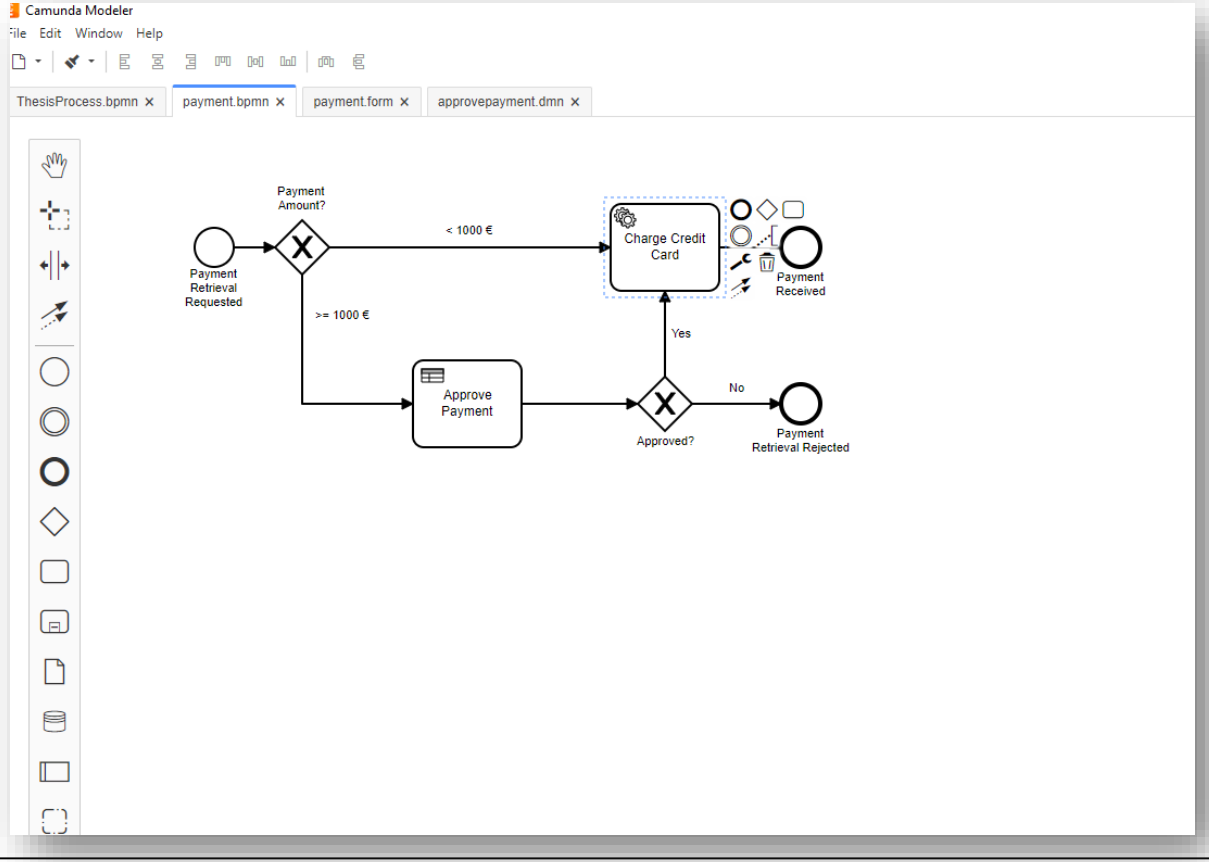


Architecture of Camunda Plattform

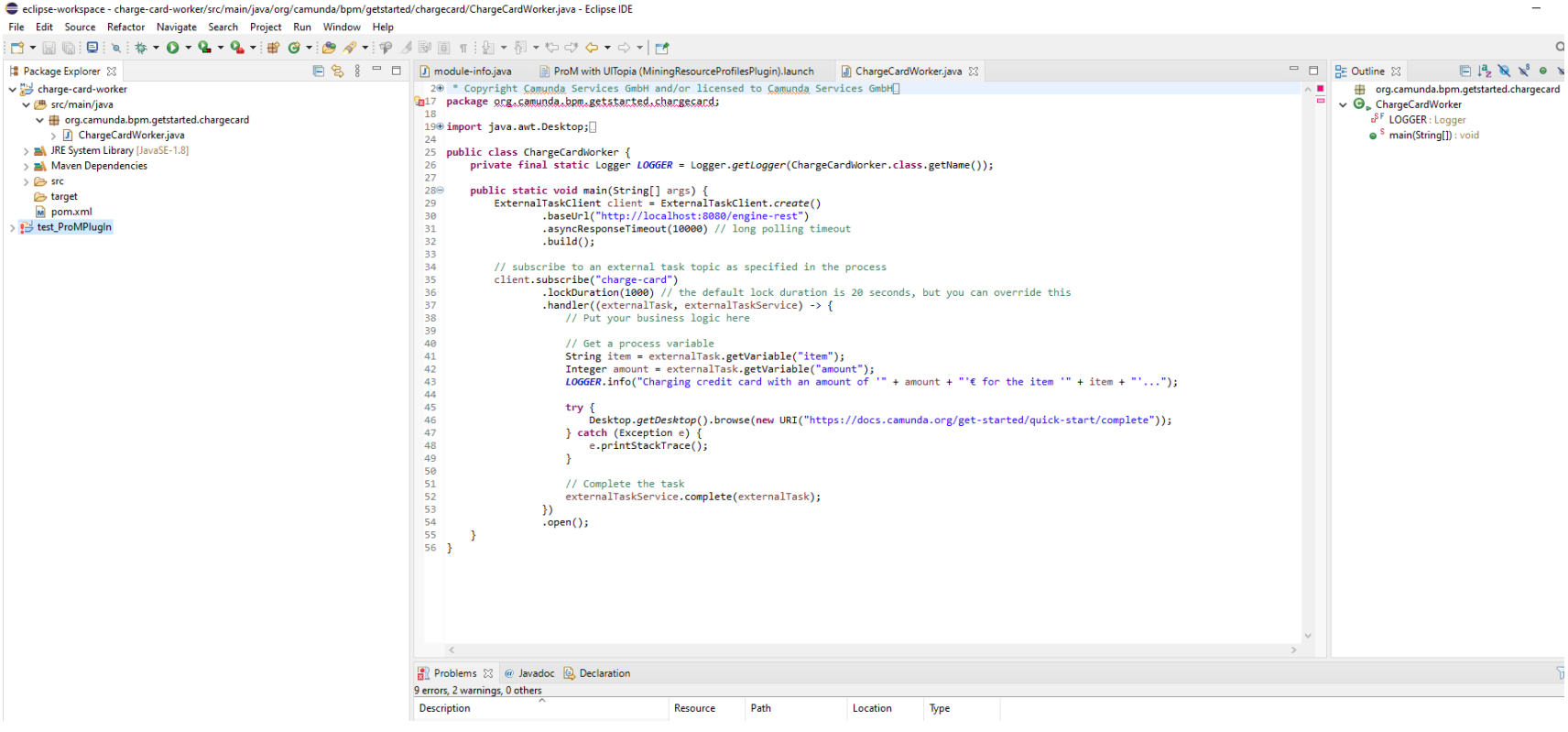


Camunda Modeler

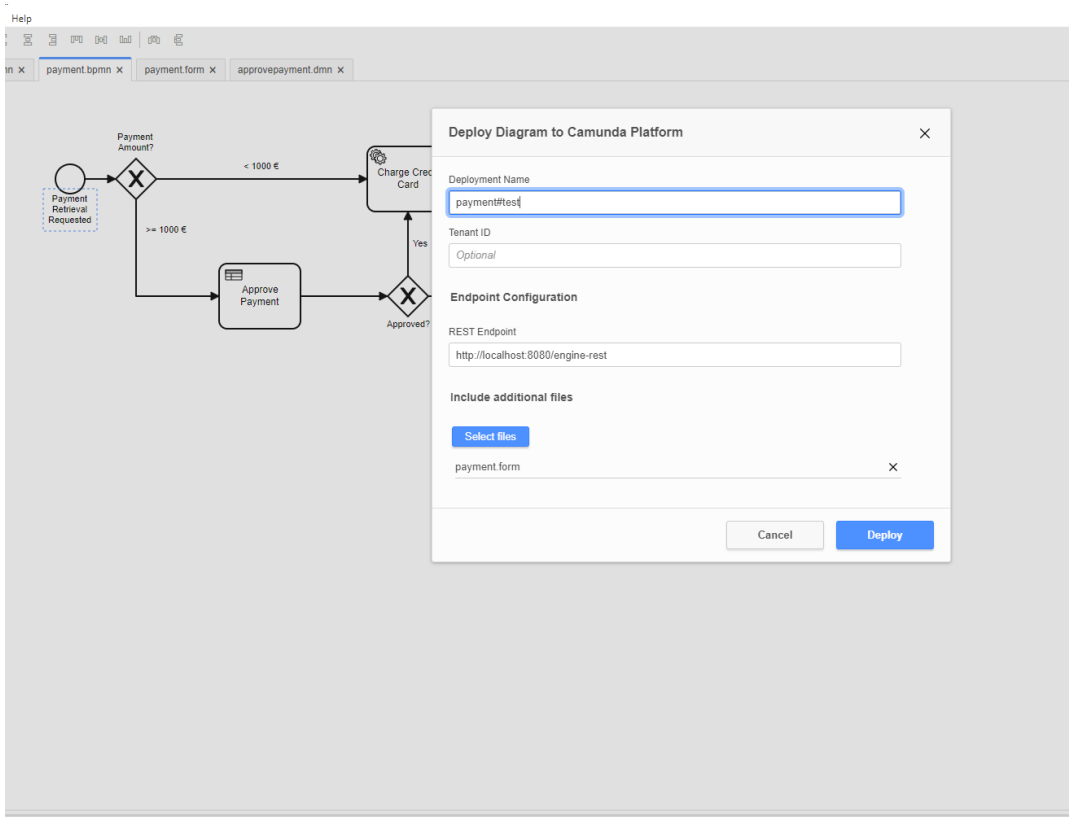
- BPMN
- DMN
- Forms



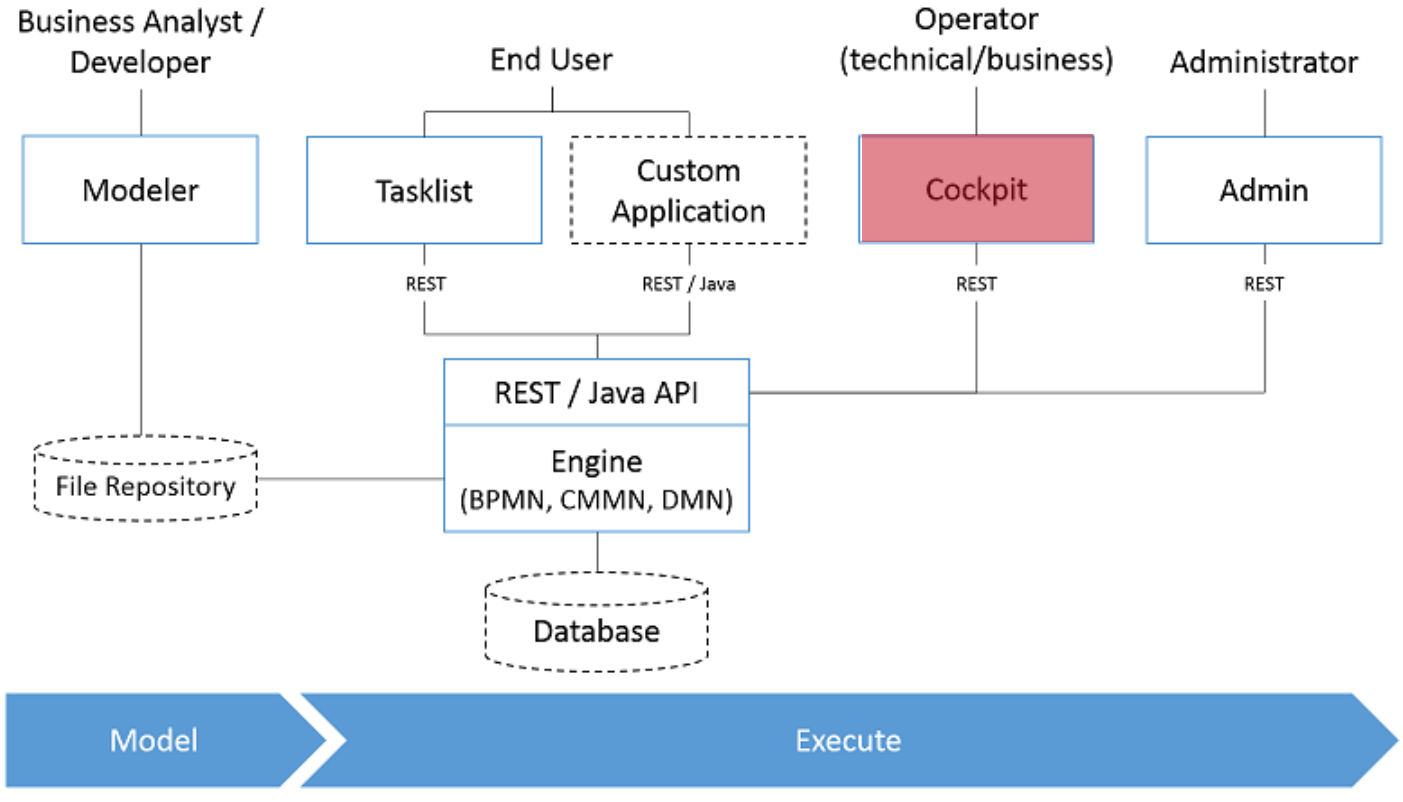
Java Maven Project for Service Tasks



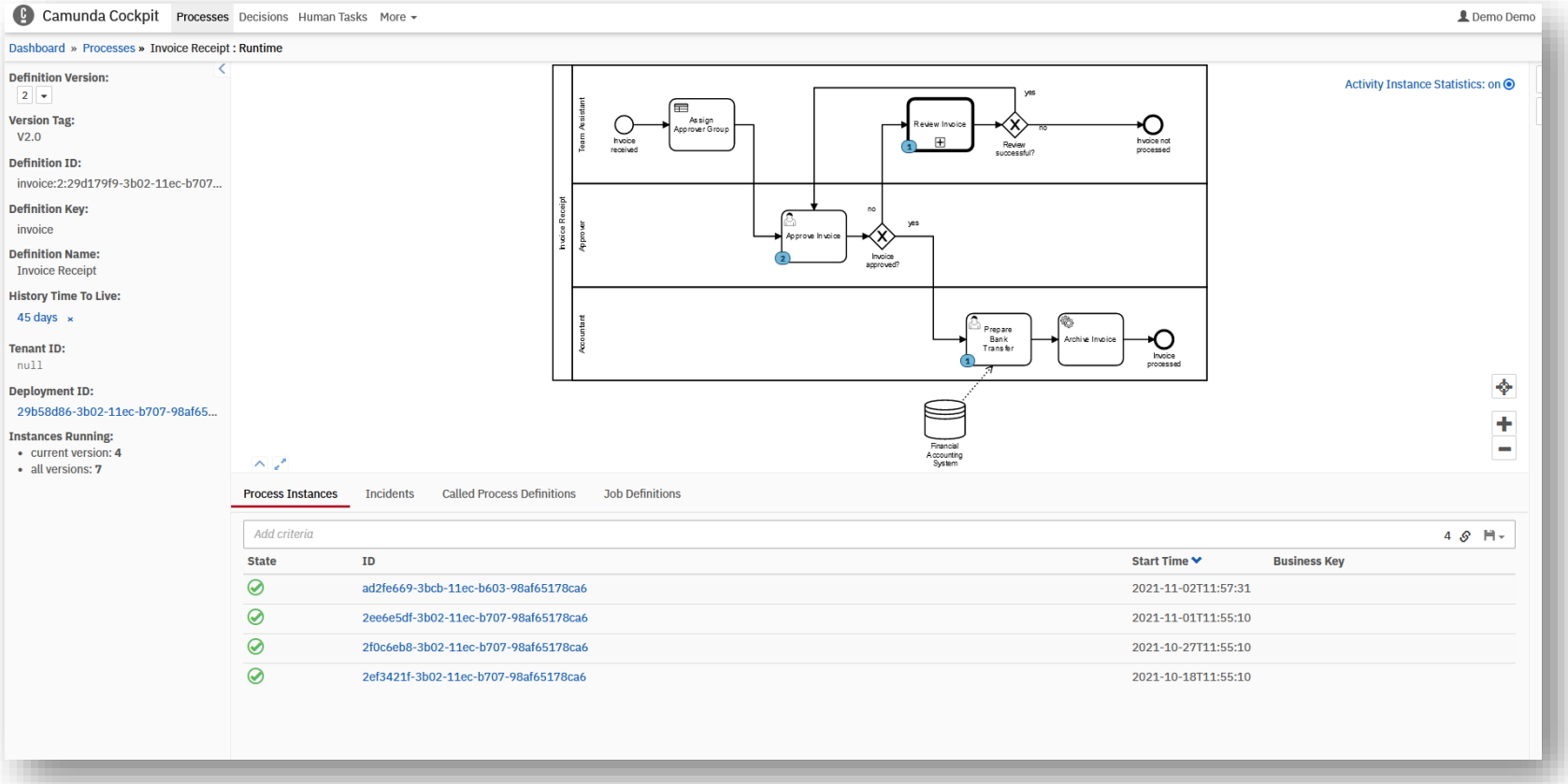
Deployment


Help
payment.bpmn
payment.form
approvepayment.dmn
Payment Amount?
< 1000 €
>= 1000 €
Payment Retrieval Requested
Approve Payment
Approved?
Yes
Deploy Diagram to Camunda Platform
Deployment Name
payment#test
Tenant ID
Optional
Endpoint Configuration
REST Endpoint
http://localhost:8080/engine-rest
Include additional files
Select files
payment.form
Cancel
Deploy

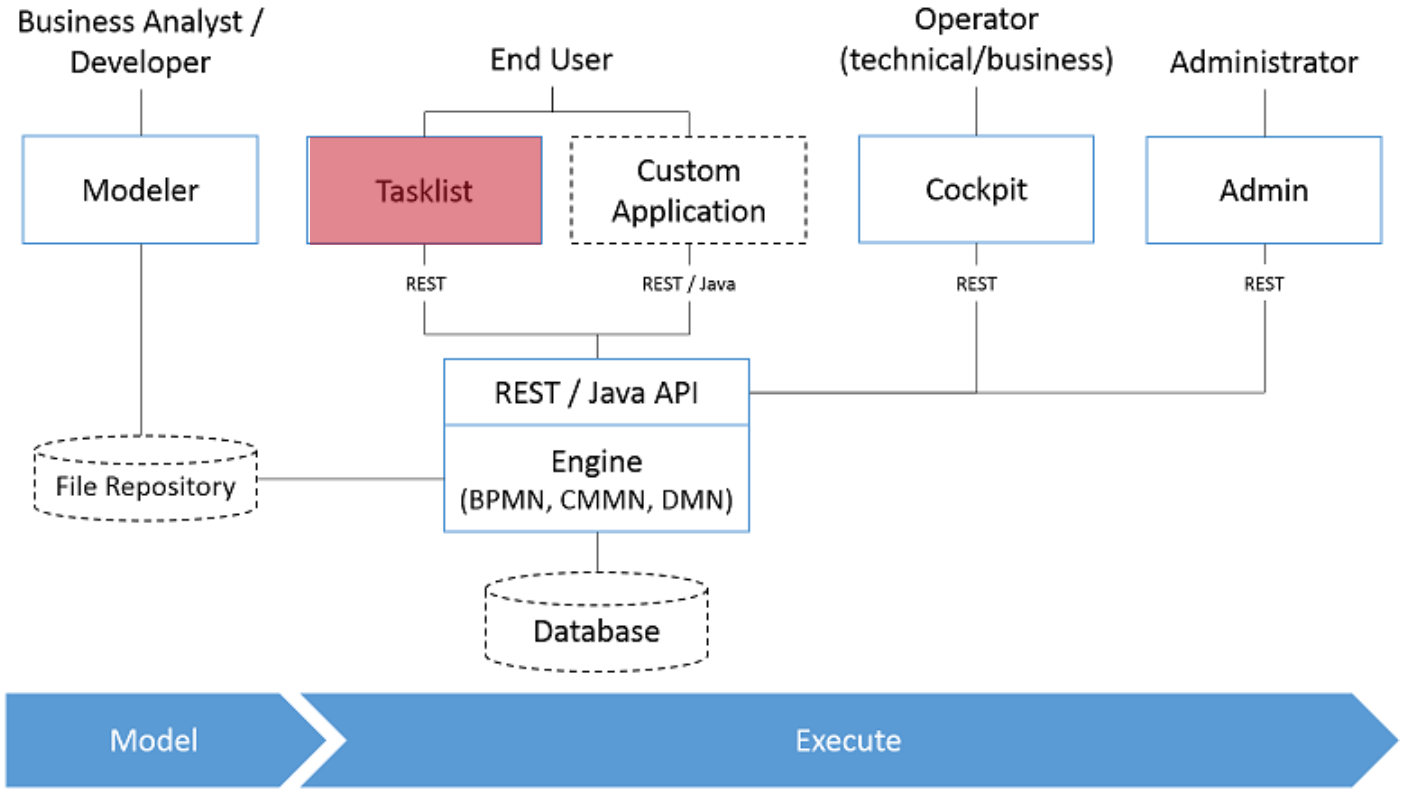
Architecture of Camunda Plattform



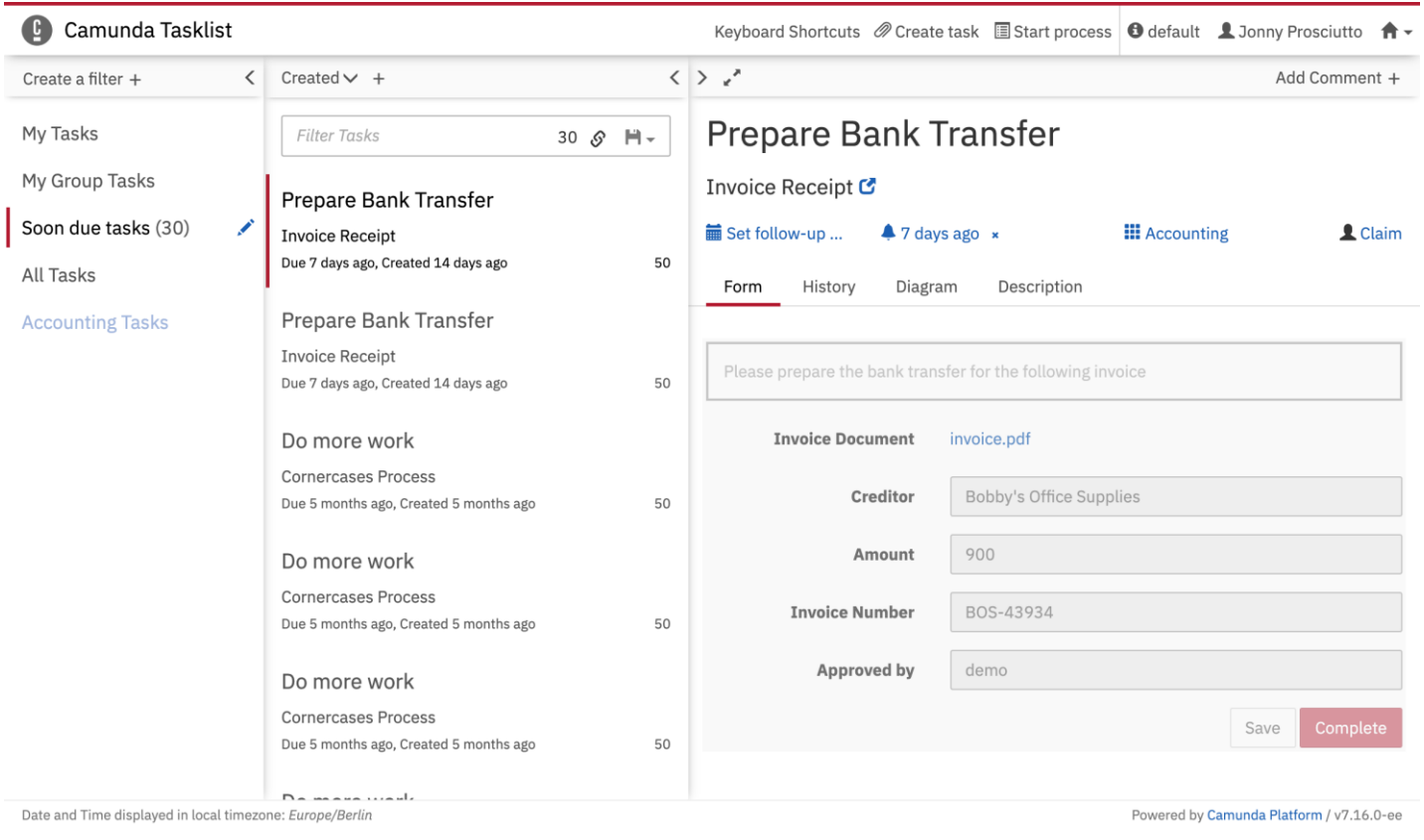
Cockpit


Camunda Cockpit
Processes
Decisions
Human Tasks
More
Demo Demo
Dashboard » Processes » Invoice Receipt : Runtime
Definition Version:
2
Version Tag:
V2.0
Definition ID:
invoice:2:29d179f9-3b02-11ec-b707...
Definition Key:
invoice
Definition Name:
Invoice Receipt
History Time To Live:
45 days
Tenant ID:
null
Deployment ID:
29b58d86-3b02-11ec-b707-98af65...
Instances Running:
current version: 4
all versions: 7
Activity Instance Statistics: on
Team Assistant
Approver
Accountant
Invoice Receipt
Invoice received
Assign Approver Group
Review Invoice
Review successful?
yes
no
Invoice not processed
Approve Invoice
Invoice approved?
no
yes
Prepare Bank Transfer
Archive Invoice
Invoice processed
Financial Accounting System
Process Instances
Incidents
Called Process Definitions
Job Definitions
Add criteria
4
State
ID
Start Time
Business Key
ad2fe669-3bcb-11ec-b603-98af65178ca6
2021-11-02T11:57:31
2ee6e5df-3b02-11ec-b707-98af65178ca6
2021-11-01T11:55:10
2f0c6eb8-3b02-11ec-b707-98af65178ca6
2021-10-27T11:55:10
2ef3421f-3b02-11ec-b707-98af65178ca6
2021-10-18T11:55:10

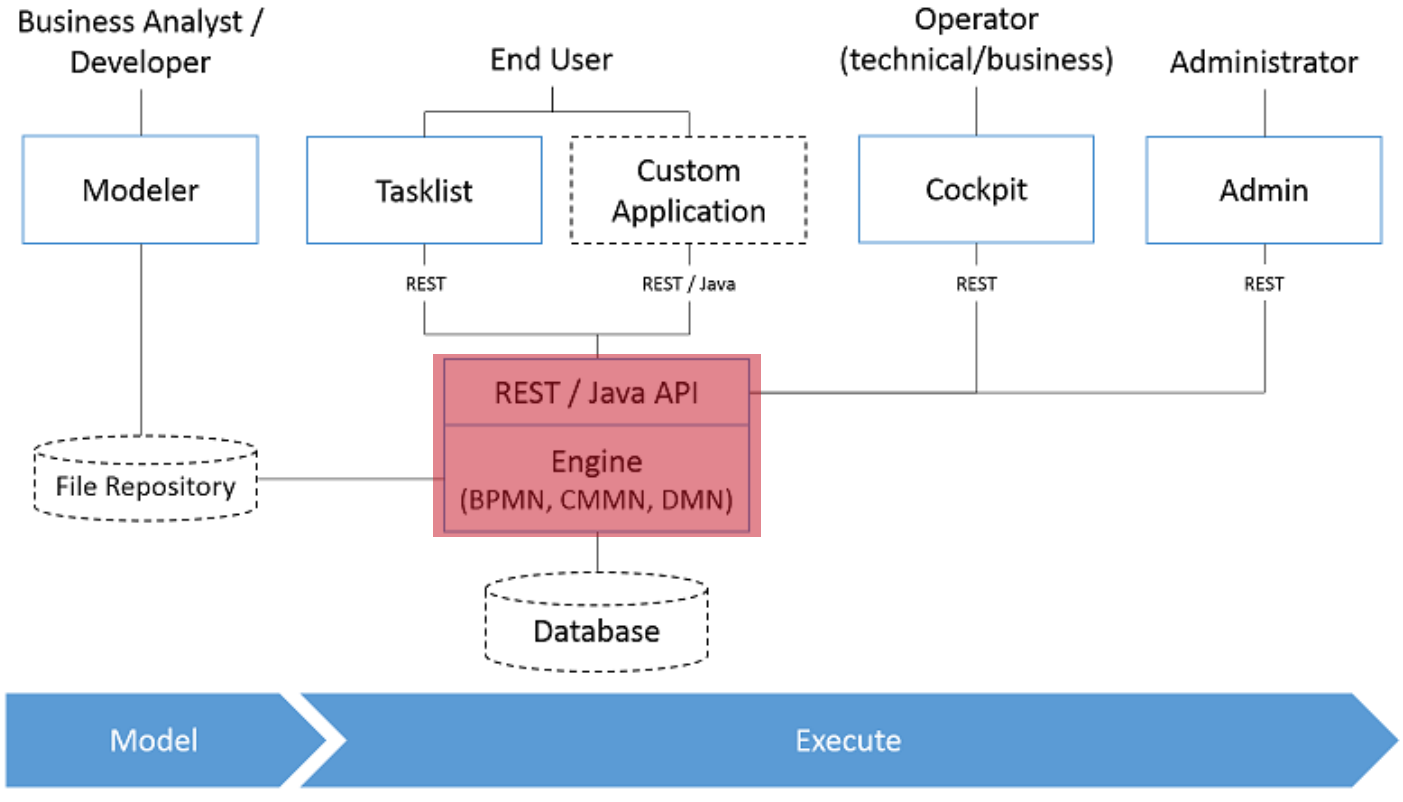
Architecture of Camunda Plattform



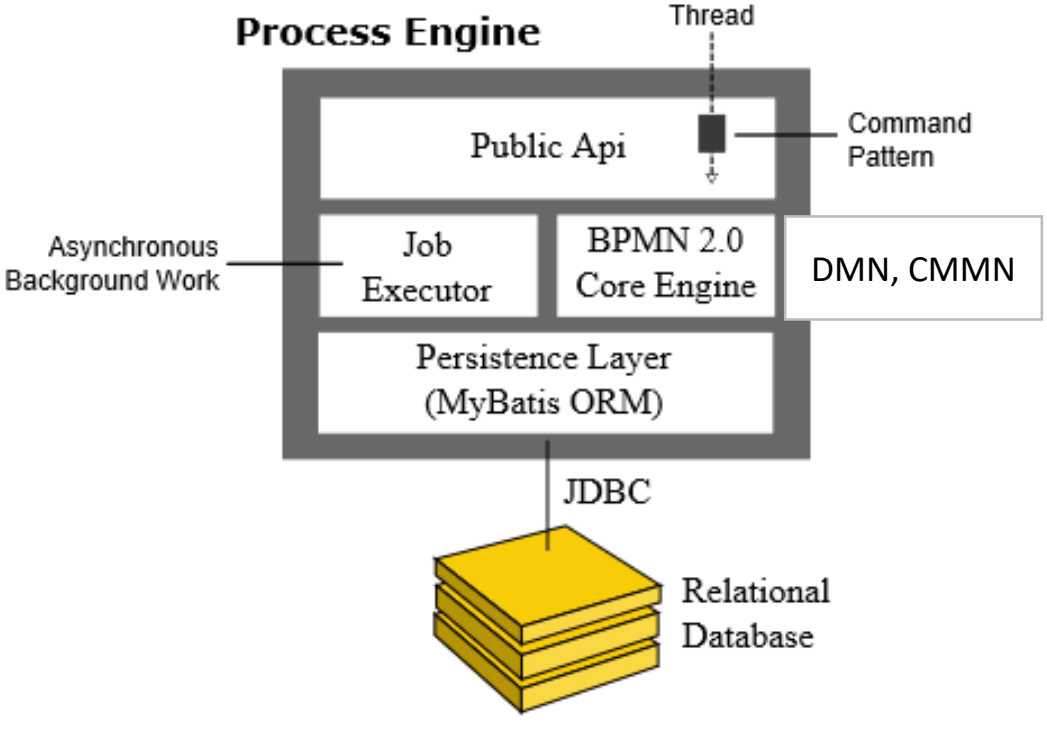
Tasklist


Camunda Tasklist
Keyboard Shortcuts
Create task
Start process
default
Jonny Prosciutto
Create a filter +
Created +
Add Comment +
My Tasks
My Group Tasks
Soon due tasks (30)
All Tasks
Accounting Tasks
Filter Tasks
30
Prepare Bank Transfer
Invoice Receipt
Due 7 days ago, Created 14 days ago
50
Prepare Bank Transfer
Invoice Receipt
Due 7 days ago, Created 14 days ago
50
Do more work
Cornercases Process
Due 5 months ago, Created 5 months ago
50
Do more work
Cornercases Process
Due 5 months ago, Created 5 months ago
50
Do more work
Cornercases Process
Due 5 months ago, Created 5 months ago
50
Prepare Bank Transfer
Invoice Receipt
Set follow-up ...
7 days ago
Accounting
Claim
Form
History
Diagram
Description
Please prepare the bank transfer for the following invoice
Invoice Document
invoice.pdf
Creditor
Bobby's Office Supplies
Amount
900
Invoice Number
BOS-43934
Approved by
demo
Save
Complete
Date and Time displayed in local timezone: Europe/Berlin
Powered by Camunda Platform / v7.16.0-ee

Architecture of Camunda Plattform



Process Engine Architecture



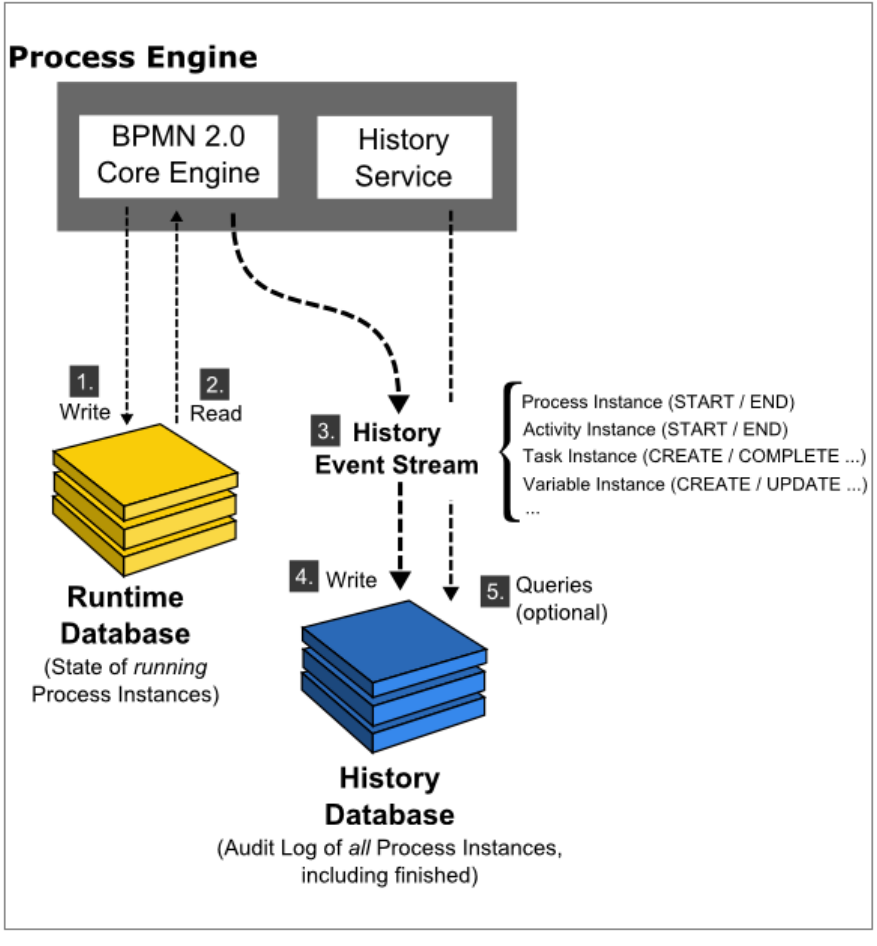
master ▾ camunda-bpm-platform / engine / src / main / java / org / camunda / bpm / engine

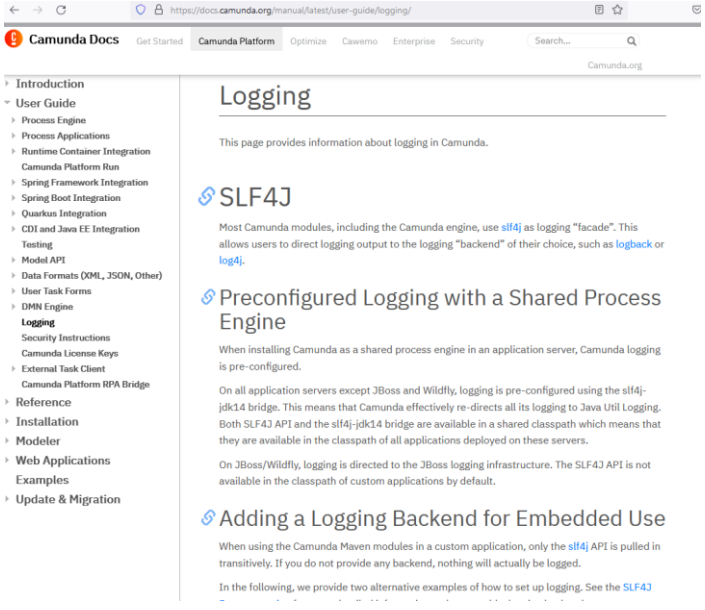
koevskinikola and mboskamp chore(engine): fix typo in method argument ...

..

AbstractBpmnActivityBehavior.java	feat(engine): throw a BpmnError from listeners
BoundaryConditionalEventActivityBehavior.java	chore(platform): update license headers
BoundaryEventActivityBehavior.java	chore(platform): update license headers
BpmnActivityBehavior.java	chore(engine): fix typo in method argument
BpmnBehaviorLogger.java	feat(engine): handle escalation for user tasks
CallActivityBehavior.java	chore(platform): update license headers
CallableElementActivityBehavior.java	chore(platform): update license headers
CancelBoundaryEventActivityBehavior.java	chore(platform): update license headers
CancelEndEventActivityBehavior.java	chore(platform): update license headers
CaseCallActivityBehavior.java	chore(platform): update license headers
ClassDelegateActivityBehavior.java	chore(platform): update license headers
CompensationEventActivityBehavior.java	chore(platform): update license headers
ConditionalEventBehavior.java	chore(platform): update license headers
CustomActivityBehavior.java	chore(platform): update license headers
DmnBusinessRuleTaskActivityBehavior.java	chore(platform): update license headers

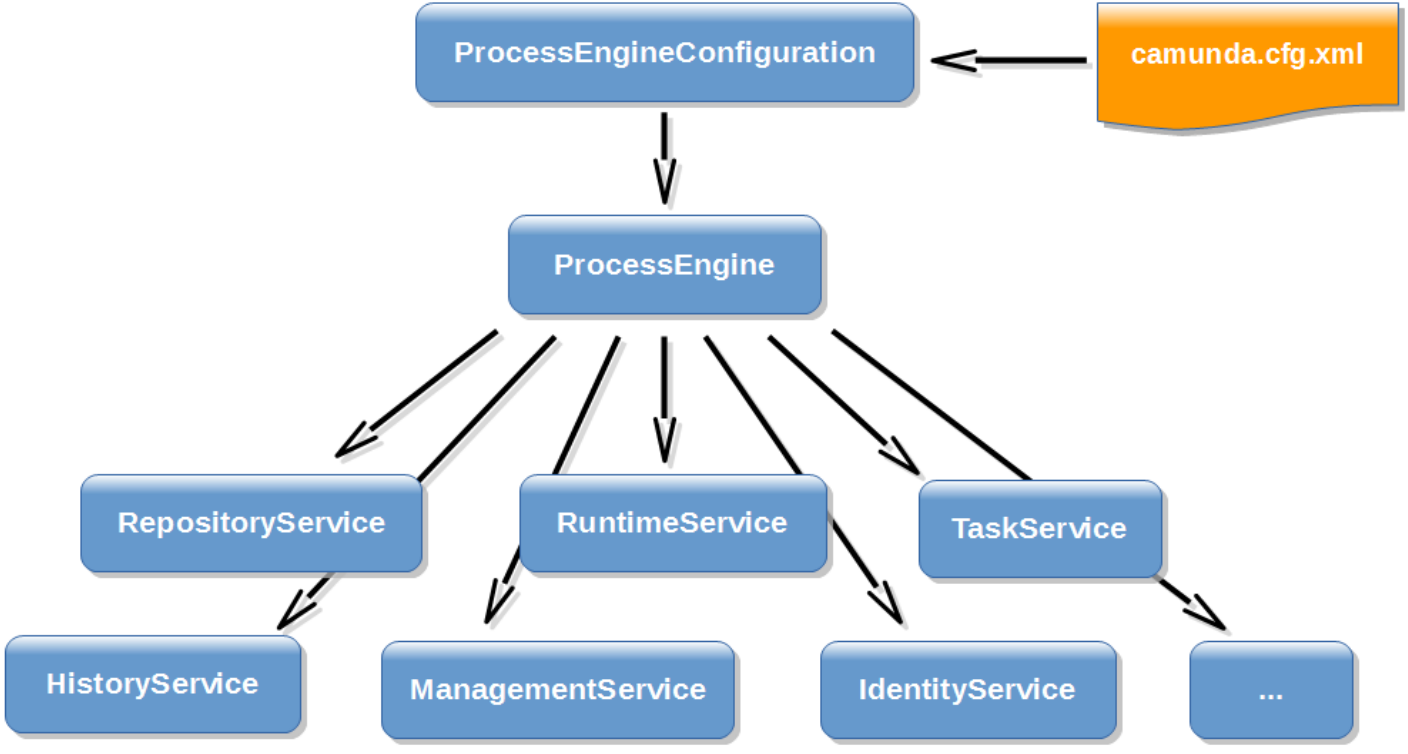
Execution data stored



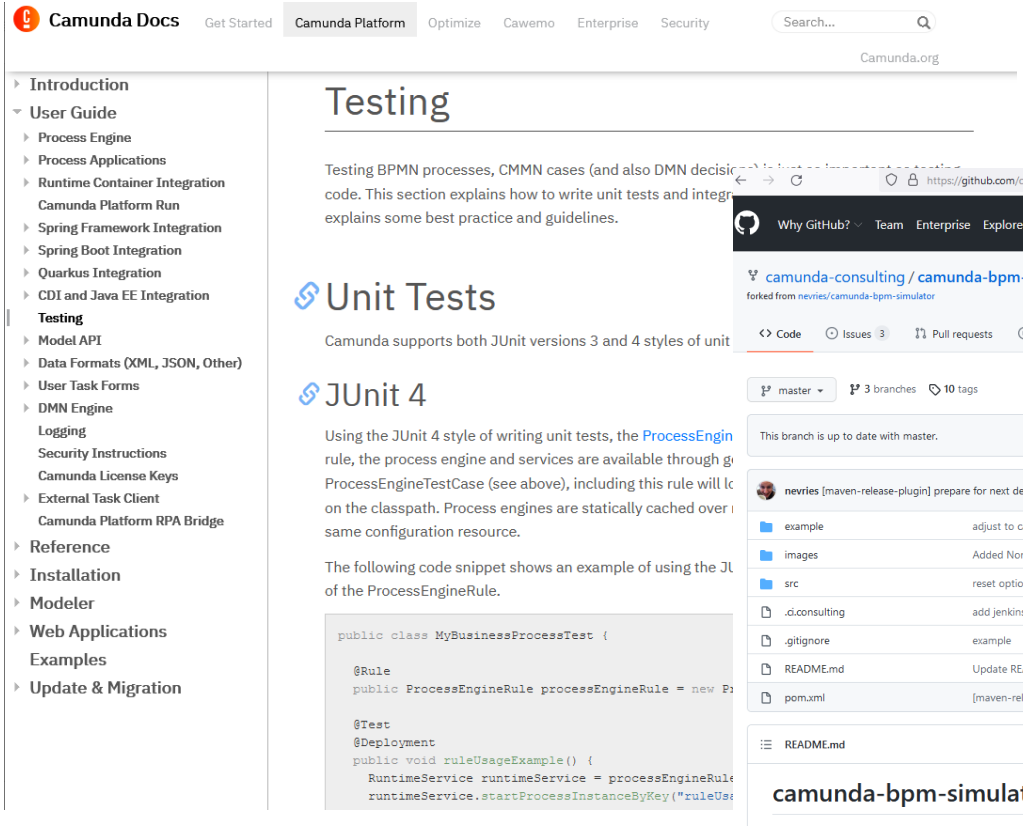


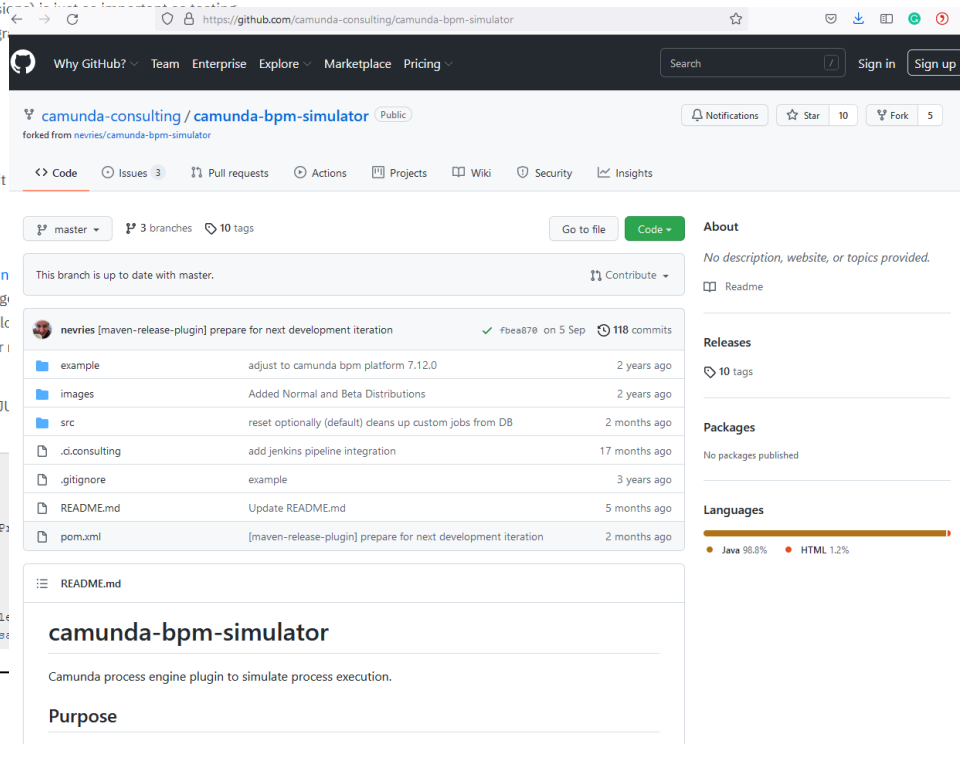
- https://arxiv.org/pdf/2009.06209.pdf

Services


ProcessEngineConfiguration
camunda.cfg.xml
ProcessEngine
RepositoryService
RuntimeService
TaskService
HistoryService
ManagementService
IdentityService
...

How to Simulate Process Executions?





Next Steps

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- Identify how you want to log data, where, and in which format
- Identify how you can get the data from the process engine
- Decide how you want to simulate process executions