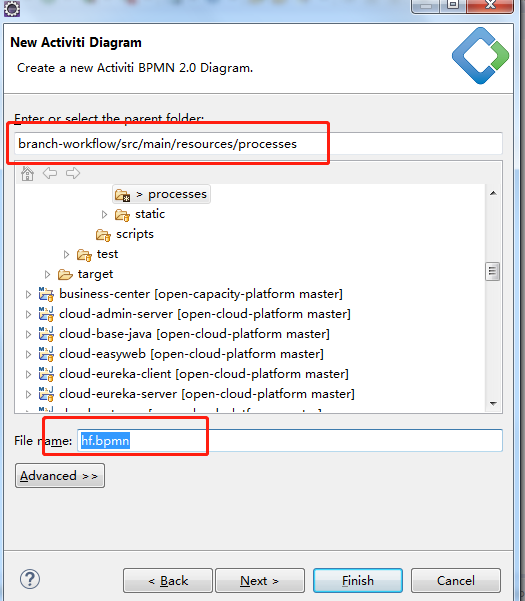
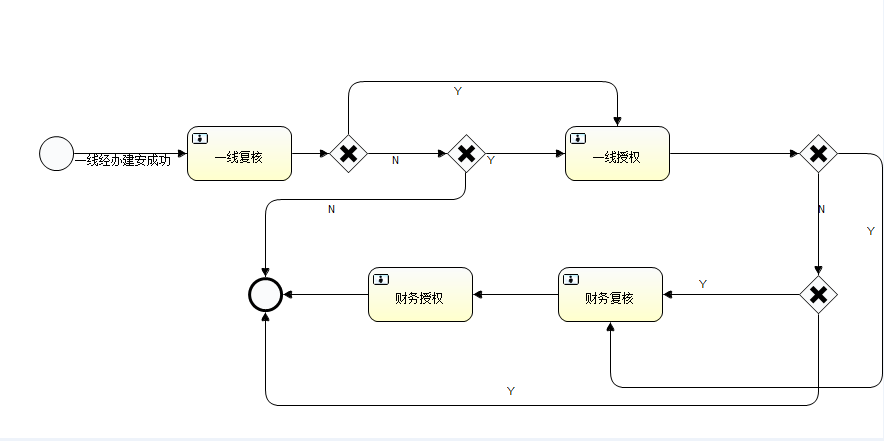
工作流引擎的定义采用eclipse插件Activiti BPMN 2.0 designer，流程定义文件描述完成生成的文件是文件名.bpmn，文件名建议是流程定义的主键（不可以为中文，建议根据业务的英文作文文件名）。流程定位文件存在应用的config/processes文件下。



流程图最终呈现如下效果：

已下是按照一个完整的从流程部署-🡪流程实例的创建-🡪流程实例的控制-🡪流程实例执行步骤查询的过程。

## 接口鉴权Token申请

新接入系统需要根据系统标识uid申请对应的token信息。新申请token的信息需要在后续交易和http header新增Authorization参数，参数值已Bearer开头+响应报文的result的值。

当前接口的http header不需要Authorization参数。

* 1. API：POST /v1/token/{uid}
  2. 请求报文示例：

http://127.0.0.1:8080/v1/token/123456

* 1. 响应报文体

{

"ret": {

"retCode": 200,

"retMsg": "OK",

"retTime": "2019-02-26T09:37:17"

},

"result": "eyJhbGciOiJIUzUxMiJ9.eyJleHAiOjE1NTEyMDUwMzYsInVpZCI6IjEyMzQ1NiIsImlhdCI6MTU1MTE0NTAzNn0.TunKLpbfIB5sU1NpfGoakebj2NoLLexQ5HhRkEO\_xOaydPUumfaEaEZLJoEVK44NfzP-dJg-6lRWFVGCgm9VAw"

}

## 流程部署

流程部署是系统定时去扫描流程文件所在的目录，只有流程定义的文件部署之后才可以进行流程实例的创建。

## 流程部署

* + 1. API：POST /v1/processes
    2. 特殊说明：自动任务

## 流程查询

流程查询是后续流程修改及权限审批的前提交易，根据返回的流程定义主键修改流程的状态和审批权限的控制；流程实例的创建也需要根据流程定义的key来执行。

* + 1. API：GET /v1/procdef
    2. 请求报文：

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzUxMiJ9' 'http://127.0.0.1:8080/v1/procdef'

* + 1. 响应报文：

{

"ret": {

"retCode": 200,

"retMsg": "OK",

"retTime": "2019-02-27T16:38:27"

},

"result": [

{

"id": "hf:1:10012",

"rev": 1,

"category": "http://www.activiti.org/test",

"name": "hf",

"key": "hf", 后续交易使用的关键字

"version": 1,

"deploymentId": "10009",

"resourceName": "hf.bpmn",

"dgrmResourceName": "hf.hf.png",

"description": "单笔息费调减",

"suspensionState": true, 只有为true的时候可用，false时流程定义文件不可用

"resourceTime": "2019-02-27T16:25:04"

}

]

}

## 流程修改

流程定义是否可用。true可用，false不可用。

* + 1. API：PATCH /v1/procdef
    2. 请求报文：

curl -X PATCH --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzUxMiJ9' 'http://127.0.0.1:8080/v1/procdef?suspensionState=true&key=hf'

* + 1. 响应报文：

{

"ret": {

"retCode": 999,

"retMsg": "系统异常[ActivitiException: Cannot set suspension state 'active' for ProcessDefinitionEntity[hf:1:10012]': already in state 'active'.]",

"retTime": "2019-02-27T16:44:23"

}

}

## 流程审批权限

权限信息的来源及处理。

* + 1. API：
    2. 请求报文：
    3. 响应报文：

## 流程实例

流程实例的创建依赖于流程定义，只有流程定义部署完成之后才可以创建新的流程实例。

## 创建流程实例

* + 1. API：POST /v1/runtime/process-instances
    2. 请求报文：

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzUxMiJ9' -d '{ \ "processDefinitionKey": "hf", \

"businessKey":"123456", \ "userId":"老王", \

"returnVariables": true, \

"variables": [{ \

"name": "contentSalary", \

"scope": "global", \

"type": "123", \

"value": "123", \

"valueUrl": "string", \

"variableScope": "GLOBAL" \

}] \

}' 'http://127.0.0.1:8080/v1/runtime/process-instances'

processDefinitionKey是流程文件定义的关键字，可以通过流程查询获取；

businessKey：业务关键字，作为流程实例的关键字，由对应的系统生成。

流程实例的查询接口需要已业务关键字作为查询条件的主键。

* + 1. 响应报文：

{

"ret": {

"retCode": 400,

"retMsg": "参数不合法businessKey重复",

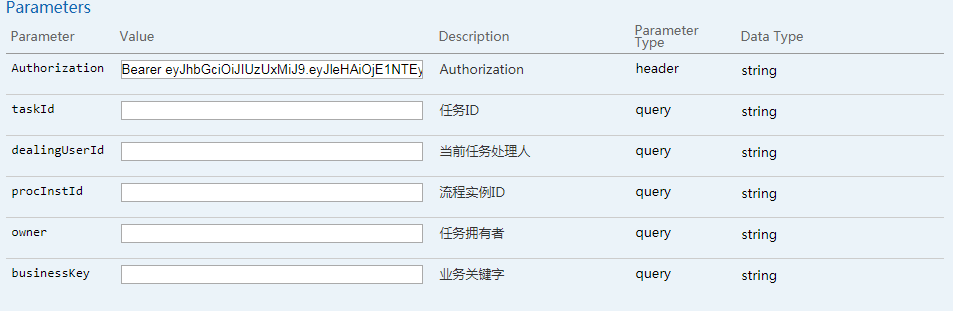
"retTime": "2019-03-01T09:30:07"

}

}

## 流程实例查询

* + 1. API： GET /v1/runtime/tasks
    2. 请求报文



curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzUxMiJ9' 'http://127.0.0.1:8080/v1/runtime/tasks? businessKey= 0123456'

* + 1. 响应报文：

{

"ret": {

"retCode": 200,

"retMsg": "OK",

"retTime": "2019-03-01T09:49:09"

},

"result": [

{

"id": "20190301000054", ---标示当前流程实例执行的任务执行ID，流程实例的控制需要依赖于此关键字

"rev": 1,

"procInstId": "2019030109464130001", ---标示当前流程实例的ID

"procDefId": "hf:2:12512",

"name": "一线复核",

"taskDefKey": "AineReview", ---标示当前流程实例执行的任务ID

"owner": "老王", ---流程实施的发起人

"dealingUserId": "老王", ---标示当前流程实例流转处理人

"priority": 5,

"createDate": "2019-03-01T09:46:41",

"suspensionState": true

}

]

}

## 流程实例控制

* + 1. API：POST /v1/runtime/executeTaskAction
    2. 请求报文：

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzUxMiJ9.eyJleHAiOjE1NTIwMDgyNjAsInVpZCI6IjEyMyIsImlhdCI6MTU1MTQwMzQ2MH0.wbrzEZdlff3sgePY4l8dTRtdBtGUMyFewNnC-6y8MTFbUNaoLT0QuihmUe3YHetoMUE5q34KTc0Qx7oNhc4TZw' -d '{ \

"actHiComments": [{ \ ---审批意见信息

"action": "string", \

"contentId": "string", \

"fullMsg": "string", \

"id": "string", \

"message": "string", \

"procInstId": "string", \

"taskId": "string", \

"time": "2019-01-24T06:42:52.118Z", \

"type": "string", \

"url": "string", \

"userId": "string" \

}], \

"action": "complete", \ --必传，枚举值，分为任务完成和任务申明

"assignee": "string", \ ---任务处理的人，必输

"taskId": "20190228000049", \

"variables": [{ \ ---任务执行的参数，分为全局和当前任务节点

"name": "i2sPass", \

"scope": "LOCAL", \ ---枚举值GLOBAL或者LOCAL

"type": "string", \

"value": "同意", \

"valueUrl": "string" \

}] \

}' 'http://127.0.0.1:8080/v1/runtime/executeTaskAction'

* + 1. 响应报文：

{

"ret": {

"retCode": 666,

"retMsg": "[BusinessException: 任务ID[20190228000049]不存在或者已完成]",

"retTime": "2019-03-01T10:00:38"

}

}

## 流程实例结果查询

显示流程执行的每一个详细步骤，以及当前流程的处理节点。

* + 1. API：GET /v1/runtime/acthiinst/{procInstId}
    2. 请求报文示例

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzUxMiJ9' 'http://127.0.0.1:8080/v1/runtime/acthiinst/2019022813381030001'

* + 1. 响应报文体

{

"ret": {

"retCode": 200,

"retMsg": "OK",

"retTime": "2019-03-01T10:08:43"

},

"result": [

{

"id": "20190228000049",

"procDefId": "hf:2:12512",

"procInstId": "2019022813381030001",

"actId": "AineReview",

"taskId": "20190228000049",

"actName": "一线复核",

"actType": "UserTask",

"startTime": "2019-02-28T13:38:11",

"endTime": "2019-02-28T14:48:09",

"duration": 4198

},

{

"id": "20190228000048",

"procDefId": "hf:2:12512",

"procInstId": "2019022813381030001",

"actId": "startevent1",

"actName": "开始",

"actType": "StartEvent",

"startTime": "2019-02-28T13:38:11",

"endTime": "2019-02-28T13:38:11",

"duration": 0,

"deleteReason": "启动节点"

},

{

"id": "20190228000050",

"procDefId": "hf:2:12512",

"procInstId": "2019022813381030001",

"actId": "usertask2",

"taskId": "20190228000050",

"actName": "一线授权",

"actType": "UserTask",

"startTime": "2019-02-28T14:48:09",

"endTime": "2019-02-28T14:53:32",

"duration": 322

},

{

"id": "20190228000051",

"procDefId": "hf:2:12512",

"procInstId": "2019022813381030001",

"actId": "usertask3",

"taskId": "20190228000051",

"actName": "财务复核",

"actType": "UserTask",

"startTime": "2019-02-28T14:53:32",

"endTime": "2019-02-28T14:54:06",

"duration": 34

},

{

"id": "20190228000052",

"procDefId": "hf:2:12512",

"procInstId": "2019022813381030001",

"actId": "usertask4",

"taskId": "20190228000052",

"actName": "财务授权",

"actType": "UserTask",

"startTime": "2019-02-28T14:54:07",

"endTime": "2019-02-28T14:54:25",

"duration": 17

}

]

}