JIRA插件开发



汇科天下 www.hktxcn.com

内容

JIRA插件开发环境
JIRA插件架构
Module是什么
简单的实现
Data Center版本

为什么要用插件

增强JIRA的功能,满足业务的需求

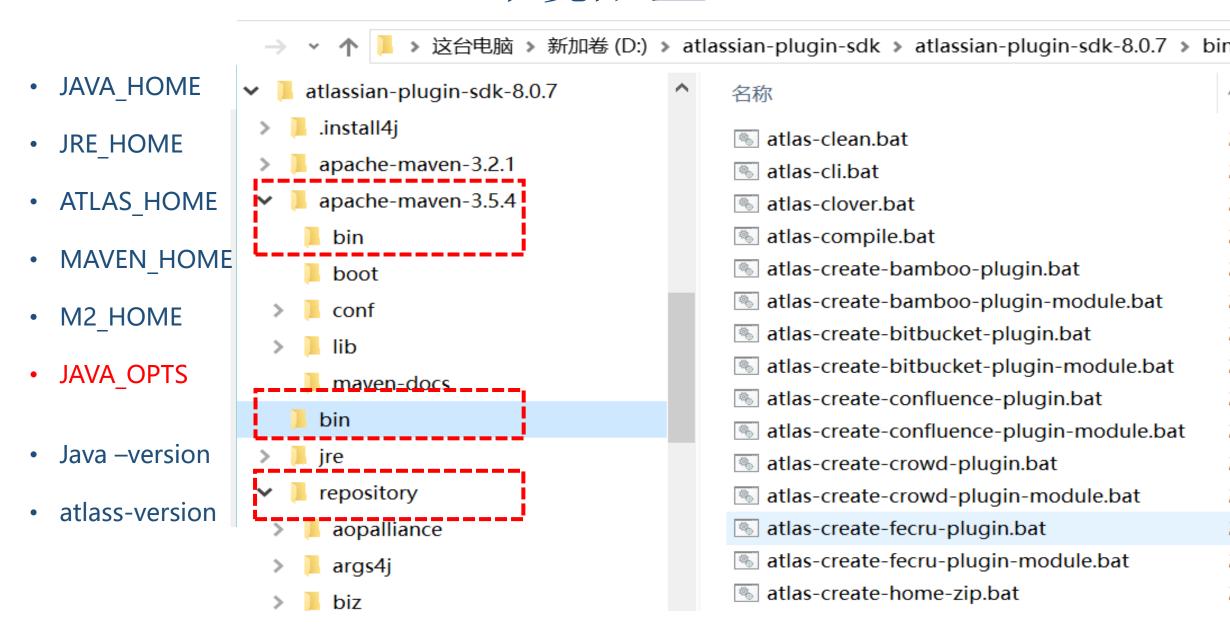
提升工作管理水平

准备环境

- 提供良好的开发机,建议提供16G内存,4核CPU
- 有良好的网络,能够访问Atlassian的相关资源

- 安装JDK
- 安装SDK
- 配置环境

环境配置



atlas命令

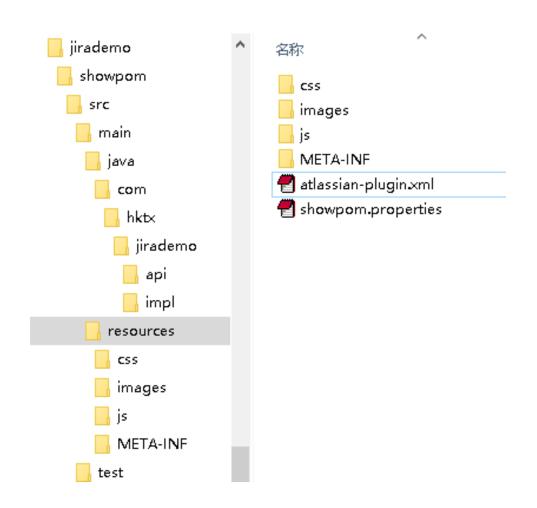
atlas-create-jira-plugin
atlas-create-jira-plugin-module
atlas-debug
atlas-package
atlas-create-home-zip
atlas-clean

•••••

atlas-create-jira-plugin

```
Define value for groupId: : com.hktx.jirademo
Define value for artifactId: : showpom
Define value for version: 1.0.0-SNAPSHOT: :
Define value for package: com.hktx.jirademo: :
Confirm properties configuration:
groupId: com.hktx.jirademo
artifactId: showpom
version: 1.0.0-SNAPSHOT
package: com.hktx.jirademo
Y: : y
```

插件目录结构



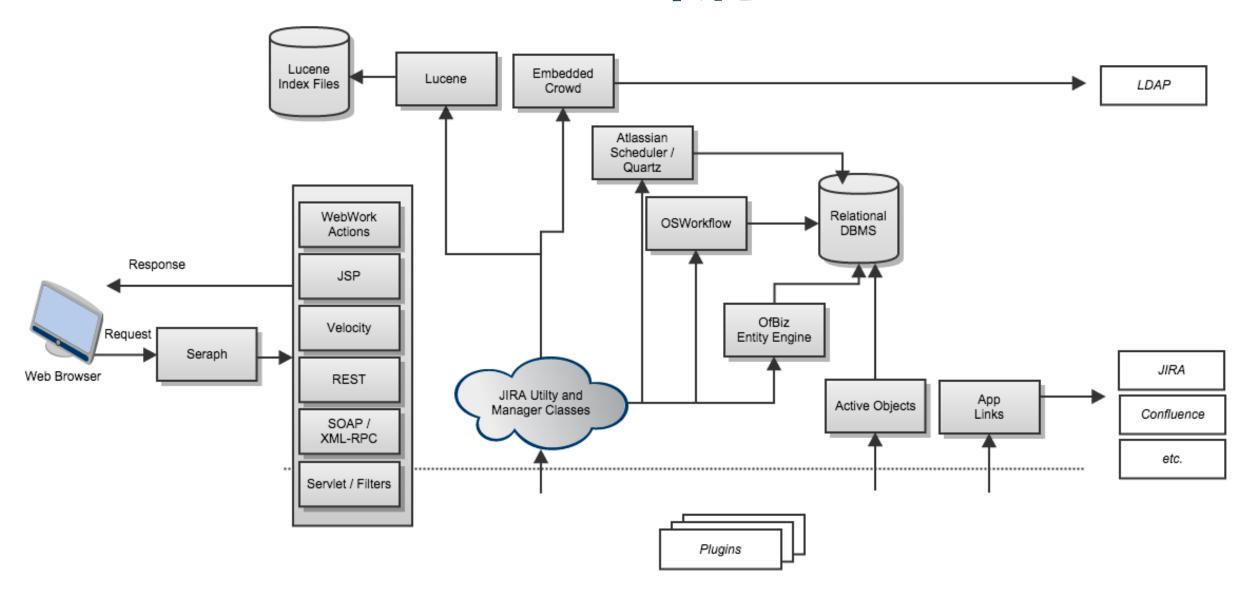




atlas-create-jira-plugin-module

```
🔤 命令提示符 - atlas-create-jira-plugin-module
                                                                                                 \times
E:\workspace\demo\jira-demo>atlas-create-jira-plugin-module
Executing: "D:\atlassian-plugin-sdk\atlassian-plugin-sdk-8.0.7\apache-maven-3.5.4\bin\mvn.cmd" com.
atlassian.maven.plugins:jira-maven-plugin:8.0.0:create-plugin-module -gs D:\atlassian-plugin-sdk\at
lassian-plugin-sdk-8.0.7\apache-maven-3.5.4/conf/settings.xml
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=256M; support was removed in
8.0
 NFO] Scanning for projects...
      Building jira-study-demo 1.0.0-SNAPSHOT
                                -[ atlassian-plugin ]-----
   [70] --- jira-maven-plugin:8.0.0:create-plugin-module (default-cli) @ jira ---
Choose Plugin Module:
   Component Import
   Component
  Component Tab Panel
   Custom Field
  Custom Field Searcher
  Downloadable Plugin Resource
7: Gadget Plugin Module
8: Issue Tab Panel
9: Keyboard Shortcut
10: JQL Function
11: Licensing API Support
12: Module Type
13: Project Tab Panel
14 REST Plugin Module
```

JIRA架构



插件架构

Plugin development platform

Your plugin

Common components

Shared Access Layer AUI User Interface Library Atlassian Template Renderer

Event

Activity Streams

Gadgets

Universal Plugin Manager

REST

Trusted Apps

AppLinks

OAuth

Auxiliary components

Active Objects

Speakeasy

JIRA Issue Collector

Application - JIRA, or Confluence, or other

API

Host components

Plugin Framework

Libraries

技术

Webwork: 一个以mvc为设计的web应用程序的架构设计,类似于struts

Velocity: 页面模板语言

PropertySet: 存储一个实体的键值对,保存全局变量等信息

ActiveObject: 用于插件自定义表的数据存储工具(ORM)

OSWorkflow: 工作流引擎

OfBiz Entity Engine: 实体关系数据库存储引擎,用于JIRA自有表

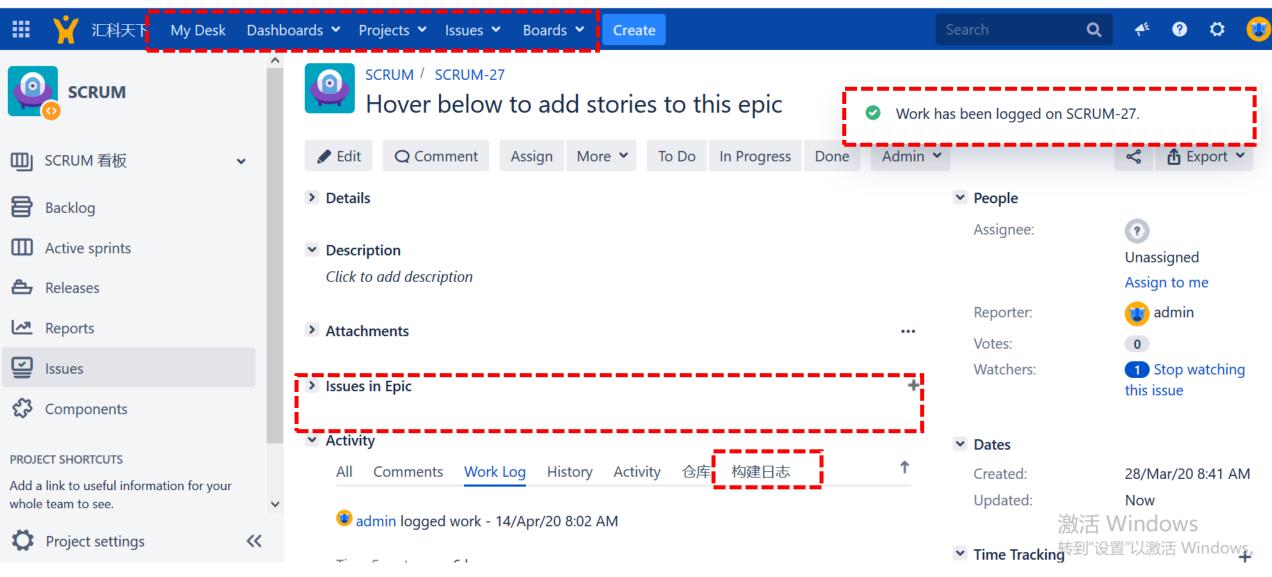
Atlassian Gadget JavaScript Framework: 前端小工具框架

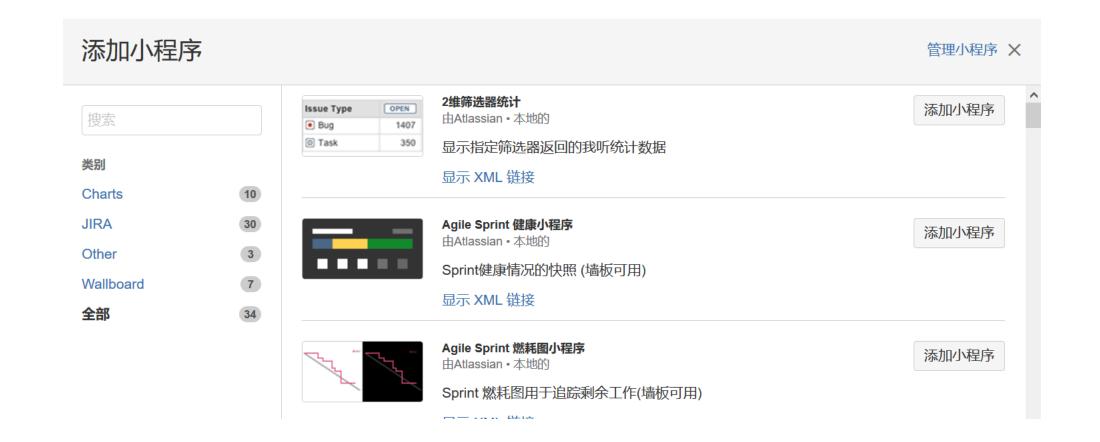
Embedded Crowd: Atlassian的统一用户管理和单点登录工具

SOY:是Google的一个闭包模板语言,一组帮助开发人员使用JavaScript构建富web应用程序的工具。

Seraph: atlassian自有的用户认证框架

OSGi:开放服务网关协议, Java动态化模块化系统的一系列规范





转换: Start Progress



界面: 无 - 将会立即发生

触发器 0 条件 1 验证器 0 后处理功能 7

转换后将处理下列工作

添加后处理功能

旦自馮性

- 1. GitCreateNewBranchPostFunction
- 2. 问题的 解决结果 将被 清除。
- 3. 将问题状态设置为目标工作流步骤的链接状态。
- 4. 如果转换过程中输入了评论,将评论添加到问题。
- 5. 更新问题的变动历史记录,并把问题保存到数据库。
- 6. 重新索引问题,保持索引与数据库同步。

Gears Jenkins Integration

Gears Jenkins Integration

Uninstall

serviceSend

(serviceSend)

Disable

Loading screenshots...

Version: 1.4.0

Vendor: 武汉汇科天下科技有

限公司

App key: com.hktx.gears.jenki

ns-integration

□ 25 of 25 modules enabled

gears-bitbucket-base

devops-ao-module (devops-ao-module)

applicationProperties

ao

serviceBitbucket (serviceBitbucket)

Module配置

```
<workflow-function key="MyParamPostFunction"</pre>
                    name="MyParamPostFunction"
class="com.hktx.demo.jira.workflow.PostFunctionFactory">
    <description key="MyParamPostFunction"/>
    <function-class>
        com.hktx.demo.jira.workflow.MyParamPostFunction
    </function-class>
    <resource type="velocity" name="view"</pre>
              location="templates/workflow/myparampostfunction/view.vm"/>
    <resource type="velocity" name="input-parameters"</pre>
              location="templates/workflow/myparampostfunction/input.vm"/>
    <resource type="velocity" name="edit-parameters"</pre>
              location="templates/workflow/myparampostfunction/edit.vm"/>
    <orderable>true</orderable>
    <unique>false</unique>
    <deletable>true</deletable>
</workflow-function>
```

Module的几个实现

atlassian-plugin.xml

导航菜单定义一个链接

请求处理

```
public class DemoAction extends JiraWebActionSupport {
    private List<Issue> issueList = new ArrayList();
    @Override
    public String doExecute() throws Exception {
        ApplicationUser user = this.getLoggedInUser();
        JqlQueryBuilder jqlQueryBuilder = JqlQueryBuilder.newBuilder();
        JqlClauseBuilder clauseBuilder = jqlQueryBuilder.where();
        clauseBuilder.statusCategory(StatusCategory. TO_DO);
        Query query = clauseBuilder.buildQuery();
        SearchService searchService = ComponentAccessor.getComponentOfType(SearchService.class);
        SearchResults searchResults = searchService.search(user, query, PagerFilter.getUnlimitedFilter());
        issueList = searchResults.getIssues();
        return "success";
    }
}
```

对访问的地址进行业务处理



```
<thead>
  <tr>
    <th>问题编号</th>
    主题
  <tr>
  </thead>
  #foreach($data in $!issueList)
    <tr>
      $!data.getKey()
      $!data.getSummary()
    #end
```

将处理的结果显示在界面



V Da	ishboards Y Projects Y Issues Y Boards Y Create	Search	α	42	o :	Ö	V
Λ		beardi		`			W
问题编号	主题						
DEMO-14	As a user, I can find important items on the board by using the customisable "Quick Filters" above >> Try clicking the "Only My Issues" Quick Filter at	oove					
DEMO-13	As a developer, I can update details on an item using the Detail View >> Click the "DEMO-13" link at the top of this card to open the detail view						
DEMO-9	As a developer, I'd like to update story status during the sprint >> Click the Active sprints link at the top right of the screen to go to the Active sprint	ts where the current Sp	rint's itei	ms ca	n be up	odated	d
DEMO-8	As a product owner, I'd like to include bugs, tasks and other issue types in my backlog >> Bugs like this one will also appear in your backlog but they	are not normally estim	ated				
DEMO-7	This is a sample task. Tasks are used to break down the steps to implement a user story						
DEMO-6	As a scrum master, I'd like to break stories down into tasks we can track during the sprint >> Try creating a task by clicking the Sub-Tasks tab in the I	Detail View on the right	•				
DEMO-5	As a team, I'd like to commit to a set of stories to be completed in a sprint (or iteration) >> Click "Create Sprint" then drag the footer down to select in moment because one is already active)	issues for a sprint (you	can't sta	rt a s _i	print at	the	
DEMO-4	As a team, I'd like to estimate the effort of a story in Story Points so we can understand the work remaining >> Try setting the Story Points for this st	ory in the "Estimate" fic	ıld				
DEMO-3	As a product owner, I'd like to rank stories in the backlog so I can communicate the proposed implementation order >> Try dragging this story up about	ove the previous story					
DEMO-2	As a product owner, I'd like to express work in terms of actual user problems, aka User Stories, and place them in the backlog >> Try creating a new s screen)	tory with the "+ Create	lssue" k	outtor	ו (top ri	ight o	of
DEMO-1	As an Agile team, I'd like to learn about Scrum >> Click the "DEMO-1" link at the left of this row to see detail in the Description tab on the right						

样式引入



JIRA Demo	Dashboards 🕶	Projects 🕶	Issues 🕶	DbConsole	Create	Search	Q	≠ €	8
问题编号			主题 ↓						
DEMO-6			What's nex	kt?					
DEMO-5			Keyboard s	shortcuts					
DEMO-4			Searching	for information					
DEMO-3			Editing tas	ks					
DEMO-2			Workflows	and statuses					
Atlassian Jira Project Management Software (v7.12.1#712002-sha1:609a505) · About Jira · Report a problem Powered by a free Atlassian Jira evaluation license. Please consider purchasing it today.									
				A ATLAS	SIAN				

web panel

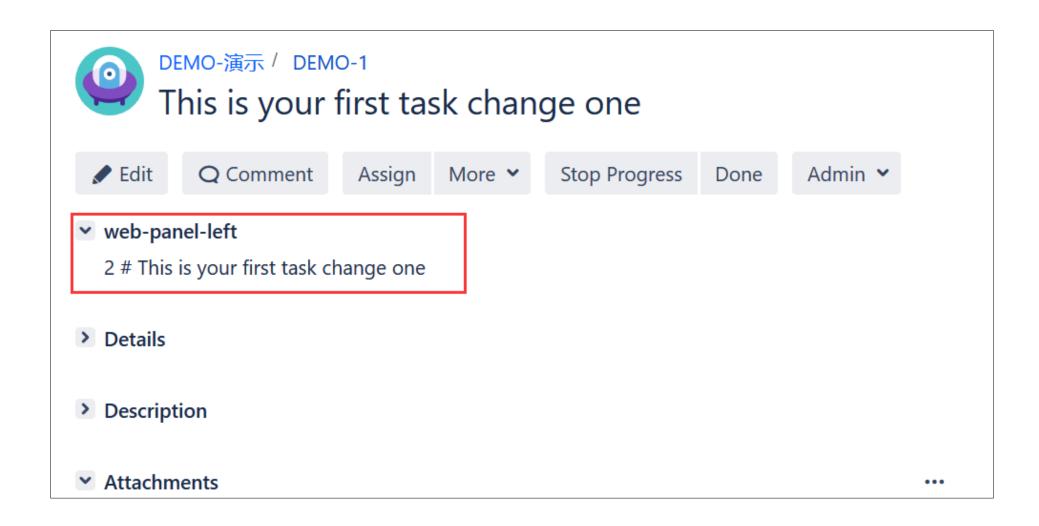
展示内容处理

```
public class IssueLeftContextProvider implements ContextProvider {
    private static int step = 0;
    @Override
    public void init(Map<String, String> map) throws PluginParseException {
    @Override
    public Map<String, Object> getContextMap(Map<String, Object> context) {
        Map map = new HashMap();
        final Issue issue = (Issue) context.get("issue");
        map.put("summary", step+++" # "+issue.getSummary());
        return map;
```



```
public class IssueLeftContextProvider implements ContextProvider {
    private static int step = 0;
    @Override
    public void init(Map<String, String> map) throws PluginParseException {
    @Override
    public Map<String, Object> getContextMap(Map<String, Object> context) {
        Map map = new HashMap();
        final Issue issue = (Issue) context.get("issue");
        map.put("summary", step+++" # "+issue.getSummary());
        return map;
```

效果



Data Center版本

Data Center 差异

缓存

本地文件读写

长时间运行的任务、事务管理

线程池

群集锁

计划的作业和任务

Data Center 差异

```
final JobConfig jobConfig
        = JobConfig. for JobRunnerKey(jobRunnerKey)
        . withRunMode (RunMode. RUN LOCALLY)
        . withSchedule(schedule);
final JobConfig jobConfig
        = JobConfig. for JobRunner Key (jobRunner Key)
        . withRunMode (RunMode. RUN ONCE PER CLUSTER)
        . withSchedule(schedule);
```

Data Center 差异

开发资源

https://developer.atlassian.com/

https://community.developer.atlassian.com/

https://docs.atlassian.com/

https://docs.atlassian.com/aui/



www.hktxcn.com 客户 专注 专业 创新 释放每一个团队的潜力







组件相关

```
ComponentAccessor.getConstantsManager().getResolutions();
ComponentAccessor.getConstantsManager().getAllIssueTypeObjects();
ComponentAccessor.getConstantsManager().getRegularIssueTypeObjects();
ComponentAccessor.getConstantsManager().getSubTaskIssueTypeObjects();
ComponentAccessor.getConstantsManager().getPriorities();
ComponentAccessor.getConstantsManager().getStatuses();
ComponentAccessor.getIssueLinkManager();
ComponentAccessor.getCustomFieldManager();
ComponentAccessor.getProjectManager();
ComponentAccessor.getProjectFactory();
ComponentAccessor.getOptionsManager();
ComponentAccessor.getTranslationManager();
```

问题相关

```
ComponentAccessor.getIssueService();
ComponentAccessor.getIssueManager();
ComponentAccessor.getVoteManager();
ComponentAccessor.getSubTaskManager();
ComponentAccessor.getCommentManager();
ComponentAccessor.getProjectComponentManager();
ComponentAccessor.getIssueFactory();
ComponentAccessor.getIssueEventManager();
ComponentAccessor.getChangeHistoryManager();
ComponentAccessor.getWatcherManager();
ComponentAccessor.getWorklogManager();
```

用户相关

```
ComponentAccessor.getUserManager();
ComponentAccessor.getUserPreferencesManager();
ComponentAccessor.getUserPropertyManager();
ComponentAccessor.getUserUtil();
ComponentAccessor.getUserKeyService();
ComponentAccessor.getUserSearchService();
```

权限相关

```
ComponentAccessor.getPermissionManager();
ComponentAccessor.getPermissionSchemeManager();
```

ComponentAccessor.getGlobalPermissionManager();

字段相关

```
ComponentAccessor.getFieldScreenManager();
ComponentAccessor.getFieldScreenRendererFactory();
ComponentAccessor.getFieldConfigSchemeManager();
ComponentAccessor.getFieldLayoutManager();
ComponentAccessor.getFieldManager();
```

工作流相关

ComponentAccessor.getWorkflowManager();

ComponentAccessor.getWorkflowSchemeManager();

其它实用类

```
ComponentAccessor.getVelocityManager();
ComponentAccessor.getVelocityParamFactory();
ComponentAccessor.getRendererManager();
ComponentAccessor.getOfBizDelegator();
ComponentAccessor.getMailServerManager();
ComponentAccessor.getJiraDurationUtils();
```



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