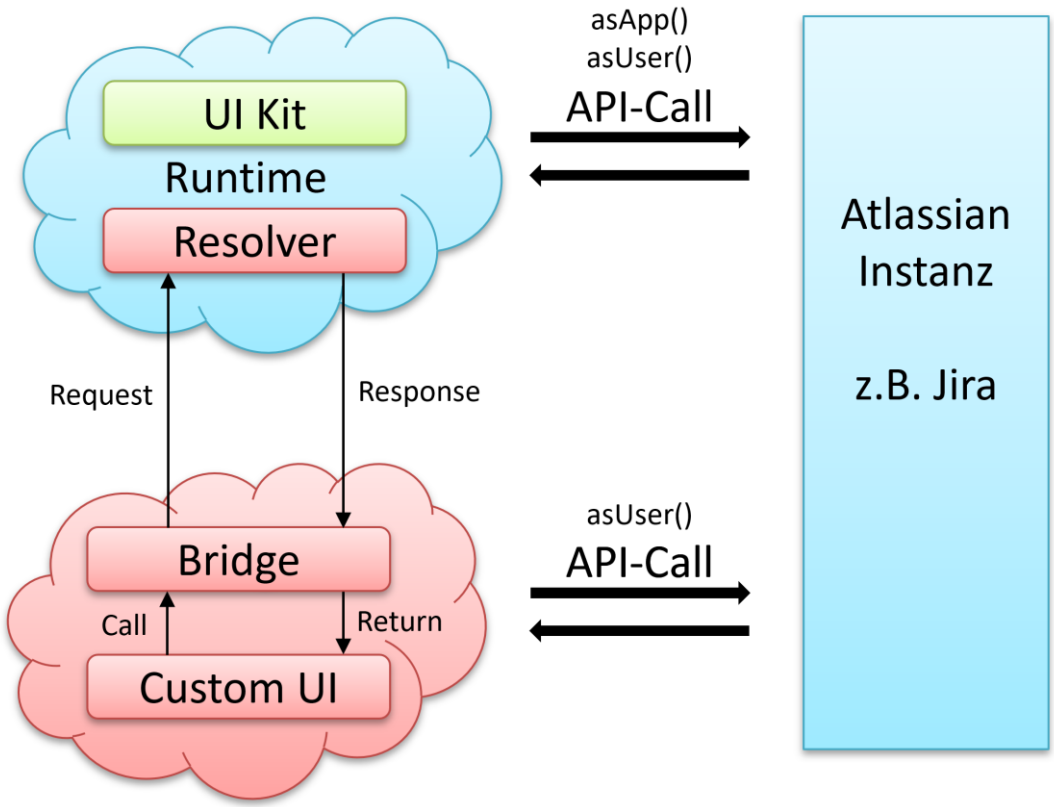
Forge Cheat Sheet

Die Forge Architektur



Links

Forge getting started

https://developer.atlassian.com/platform/forge/getting-started/

Atlassian Partner Account erstellen

https://id.atlassian.com/signup

API Token generieren

https://id.atlassian.com/manage/api-tokens

Atlassian Cloud Developer Account erstellen

http://go.atlassian.com/cloud-dev

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Atlassian Produkt Instanz erstellen

https://start.atlassian.com/

Atlassian Marketplace

https://marketplace.atlassian.com

Vendor Account erstellen

https://marketplace.atlassian.com/manage/vendor/create

CLI (Konsolenbefehle)

https://developer.atlassian.com/platform/forge/cli-reference/

Manifest (Module, Berechtigungen, Ressourcen)

https://developer.atlassian.com/platform/forge/manifest-reference/

Forge Runtime (APIs, Resolver)

https://developer.atlassian.com/platform/forge/runtime-reference/

Custom UI

https://developer.atlassian.com/platform/forge/custom-ui/iframe/

Custom UI Tunnel

https://developer.atlassian.com/platform/forge/tunneling/#tunneling-with-custom-ui

UI kit

https://developer.atlassian.com/platform/forge/ui-kit-components/

Events

https://developer.atlassian.com/platform/forge/events-reference/

Product Rest APIs

https://developer.atlassian.com/platform/forge/product-rest-api-reference/

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Code Snippets

App Manifest und UI Kit

Beispiel für ein Manifest mit zwei Custom UI Modulen (Dashboard, Issue Panel) und einem UI Kit Modul (Custom Field).

https://developer.atlassian.com/platform/forge/manifest-reference/

https://developer.atlassian.com/platform/forge/manifest-reference/modules/jira-custom-field/

https://developer.atlassian.com/platform/forge/manifest-reference/modules/jira-dashboard-gadget/

https://developer.atlassian.com/platform/forge/manifest-reference/modules/jira-issue-panel/

Manifest.yml

```
modules:
  jira:customField:
    - key: ui-kit-custom-field
      name: UI Kit Custom Field
      description: Custom Field with UI Kit
      icon: https://developer.atlassian.com/platform/forge/images/icons/issue-countries-icon.svg
      type: string
      formatter:
        expression: "`My Value: ${value}`"
      readOnly: false
      function: showCustomField
      edit:
        function: editCustomField
  jira:issuePanel:
    - key: exampleKey
      resource: issuePanelExample
      resolver:
        function: resolver
      title: Issue Panel Example
      viewportSize: large
      tooltip: Example issue panel custom ui module
  jira:dashboardGadget:
    - key: example-dashboard-gadget
      title: Dashboard
      description: Dashboard gadget example
      thumbnail: https://developer.atlassian.com/platform/forge/images/icons/issue-panel-icon.svg
```


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```
    resource: dashboard
    resolver:
      function: resolver
    edit:
      resource: dashboard
  function:
    - key: showCustomField
      handler: customFieldHandler.show
    - key: editCustomField
      handler: customFieldHandler.edit
    - key: resolver
      handler: index.handler
app:
  id: ari:cloud:ecosystem::app/xxxx-xxxx-xxxx-xxxx-xxxx
resources:
  - key: dashboard
    path: static/dashboard/build
  - key: issuePanelExample
    path: static/issuePanelExample/build
permissions:
  scopes:
    - storage:app
    - read:field:jira
  content:
    styles:
      - unsafe-inline
```

customFieldHandler.js

Im selben Ordner wie das Manifest

https://developer.atlassian.com/platform/forge/ui-kit-components/jira/custom-field/

https://developer.atlassian.com/platform/forge/ui-kit-components/jira/custom-field-edit/

```
import ForgeUI, { render, CustomField, CustomFieldEdit } from "@forge/ui";

export const show = render(
  <CustomField>
   // CustomField Layout
  </CustomField>
);
export const edit = render(
  <CustomFieldEdit>
   // CustomFieldEdit Modal Layout
  </CustomFieldEdit>
);
```


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AppID switch via Script

updateManifest.js

Aufruf des Scripts entweder über Command Line oder Node Script

```
const fs = require('fs');
const YAML = require('yaml');

const appIDFilePath = ".config/.app.id"; //developer app id in diesem file abgelegt

const appID = process.env.APPID ?? (fs.existsSync(appIDFilePath) ?
fs.readFileSync(appIDFilePath) : undefined);
if (appID === undefined) {
 console.log(`process.env.RNR_APPID and ${appIDFilePath} not set => will not update
manifest.yml`);
} else {
 const manifest = YAML.parse(fs.readFileSync('./manifest.yml', 'utf8'));
 manifest.app.id = "ari:cloud:ecosystem::app/" + appID;

 fs.writeFileSync("./manifest.yml", YAML.stringify(manifest));
}
```

package.json

```
"scripts": {
  "build:deploy": "cd static/dashboard && npm run build && cd ../.. && forge deploy -e $ENV",
  "build:deploy:win": "cd static/dashboard && npm run build && cd ../.. && forge deploy -e
%ENV%",
  "build:deploy:dev": "export ENV=development && npm-run-all appid:update build:deploy
appid:reset",
  "build:deploy:dev:win": "set ENV=development && npm-run-all appid:update
build:deploy:win appid:reset",
  "appid:update": "node util/updateManifest.js",
  "appid:reset": "git restore manifest.yml",
```

CI/CD Conditional Uninstall

Beispiel für ein CI/CD Script zur Deinstallation einer eventuell vorhandenen Forge App (hier nur für Develop-Environment).

Damit Befehle, die einen eingeloggten User voraussetzen, funktionieren, muss die passende Email und der API Token in den Umgebungsvariablen hinterlegt sein, z.B. in der Gitlab CI/CD Konfiguration, siehe:

https://developer.atlassian.com/platform/forge/getting-started/#using-environment-variables-to-login

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.gitlab-ci.yml

```
variables:
SITE: example.atlassian.net
STAGE: develop
NPM_VERSION: 8.1.2
FORGE_CLI_VERSION: 6.4.3

.init_forge: &init_forge
- npm install npm@${NPM_VERSION} -g
- npm install @forge/cli@${FORGE_CLI_VERSION} -g
- forge settings set usage-analytics false

.uninstall: &uninstall
- INSTALLATIONS=$(forge install list)
- if ! [[ "${INSTALLATIONS}" =~ .*"${SITE}".* ]]; then echo "no installation for site ${SITE} found"; exit 0; fi
- INSTALLATIONS_SITE=$(forge install list | grep "${SITE}")
- if ! [[ "${INSTALLATIONS_SITE}" =~ .*"${STAGE}".* ]]; then echo "no installation for stage ${STAGE} found"; exit 0; fi
- INSTALLATION_ID=$(forge install list | grep "${SITE}" | grep "${STAGE}" | cut -d " " -f 2)
- echo ${INSTALLATION_ID}
- if [ "$INSTALLATION_ID" != "" ]; then forge uninstall ${INSTALLATION_ID}; fi
```

Forge CLI

https://developer.atlassian.com/platform/forge/cli-reference/

Installieren

https://developer.atlassian.com/platform/forge/cli-reference/install/

```
npm install -g @forge/cli
```

Login

https://developer.atlassian.com/platform/forge/cli-reference/login/

```
forge login
```


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Neue App erstellen

https://developer.atlassian.com/platform/forge/cli-reference/create/

forge create bietet die Möglichkeit, verschiedene Beispiel-Apps bzw. Module auszuwählen, und erstellt dafür ein Grundgerüst. Dieses Grundgerüst kann als Startpunkt für die eigene Entwicklung verwendet werden.

```
forge create
```

Vorhandene App registrieren

https://developer.atlassian.com/platform/forge/cli-reference/register/

Vergibt eigene AppID und registriert die App auf den Developer Account, der gerade eingeloggt ist.

```
forge register
```

App deployen

https://developer.atlassian.com/platform/forge/cli-reference/deploy/

```
forge deploy -e development
forge deploy -e staging
forge deploy -e production
```

App auf Atlassian Instanz installieren

https://developer.atlassian.com/platform/forge/cli-reference/install/

```
forge install # wenn App noch nicht installiert
forge install --upgrade # wenn installierte App aktualisiert werden soll
```

Tunnel starten

https://developer.atlassian.com/platform/forge/cli-reference/tunnel/

Docker Desktop muss davor gestartet worden sein

```
forge tunnel
```


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Custom UI

https://developer.atlassian.com/platform/forge/custom-ui/iframe/

Test Setup

setupDefaultMock.js

Wird benötigt, damit automatisierte Tests nicht fehlschlagen, da das *window.__bridge* Objekt nicht vorhanden ist

```
import sinon from 'sinon';

window.__bridge = {
 callBridge: sinon.stub();
};
```

Require im Testscript vor allen anderen Setup-Files

package.json

```
"scripts": {
  "test": "mocha --require @babel/register --require global-jsdom/register --require
'test/setupDefaultMock.js' --require 'test/setup.js' './test/**/*.spec.js'"
}
```

Fix für Dashboard Edit Bug

Z.B. in App.js von Dashboard

```
document.documentElement.style.overflowY = 'visible';
```


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Custom UI Bridge

https://developer.atlassian.com/platform/forge/custom-ui-bridge/bridge/

Invoke

Diese Methode kommuniziert mit dem Custom UI Resolver der Forge Runtime.

```
import { invoke } from '@forge/bridge';

const getFoo = async () => await forgeBridge.invoke('get-foo');

const withPayload = async (payload) => await forgeBridge.invoke('with-payload', payload);
```

View

```
import { view } from '@forge/bridge';

await view.refresh();

const viewContext = view.getContext();
```

Fetch von Atlassian API

Fetch über die Custom UI Bridge werden immer mit User-Rechten ausgeführt

```
import { requestJira, requestConfluence } from '@forge/bridge';

const jiraResponse = requestJira('rest/api/3/issue/ISSUE-1');
const confluenceResponse = requestConfluence('/wiki/rest/api/content');
```


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Forge Runtime

https://developer.atlassian.com/platform/forge/runtime-reference/

Custom UI Resolver

https://developer.atlassian.com/platform/forge/runtime-reference/custom-ui-resolver/

```
import Resolver from '@forge/resolver';

const resolver = new Resolver();

resolver.define('get-foo', () => {
 return 'bar';
});

/*
context enthält Kontext der Atlassian-Umgebung in der die Forge Runtime läuft
payload enthält Wert der forgebridge.invoke('withPayloadAndContext', count) übergeben wird
*/
resolver.define('with-payload', async ({ payload, context }) => {
 const newPayload = payload.count + 1;
 await asyncMethod(newPayload, context.extension.issue.id);
});

export const handler = resolver.getDefinitions();
```

Fetch API

https://developer.atlassian.com/platform/forge/runtime-reference/fetch-api/

asUser(): Fetch von Atlassian API mit Rechten des Users, der die Forge App gerade benutzt

asApp(): Fetch von Atlassian API mit Rechten, die im Scope-Block des Manifests deklariert sind

```
import api, { route } from '@forge/api';

const userResponse = await api
    .asUser()
    .requestJira(route('/rest/api/3/field'));

const appResponse = await api
    .asApp()
    .requestJira(route('/rest/api/3/field'));
```


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Storage API

https://developer.atlassian.com/platform/forge/runtime-reference/storage-api/

```
import api, { storage } from '@forge/api';

const value = await storage.get(key);

await storage.set(key, value + 1);
```

UI Kit

https://developer.atlassian.com/platform/forge/ui-kit-components/

UseProductContext Hook

https://developer.atlassian.com/platform/forge/ui-kit-hooks-reference/#useproductcontext

```
import ForgeUI, { useProductContext } from "@forge/ui";

const platformContext = useProductContext().platformContext;
```


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