# Helium Online Repository with AWS Lambda

# **OVERVIEW**

This slide will explain how **Helium Online Repository** works with **AWS**. And each of page contains the location of resources. Since current approach doesn't rely on Apache but managed by ZEPL, I decided to write this short docs to help all ZEPL members understand how it works in back side. Hope this can help you.

First, you have to be signed in to your AWS account created under "NFLabs" admin.

#### **RELATED ISSUE & PR**

- ZEPPELIN-533: Helium umbrella issue
- ZEPPELIN-1973 / #1935: List all Helium packages in zeppelin.apache.org by Ahyoung
- ZEPPELIN-2004 / #1936 : List all Helium packages in Zeppelin GUI by Moon

#### **RESOURCES**

- <u>npm-pkg-searchBy-dependency</u> <u>source</u>
- Lambda: source
  - <u>fetchHeliumPkgInfo Lambda func</u>
  - createHeliumPkgFile Lambda func
- **S**3
  - <u>helium-package</u>
  - <u>helium-package-logs</u>
- CloudWatch: <u>rules</u>



fetch helium.js

#### **User - Create Package**

- 1. Create visualization npm package
- 2. Publish to npm registry



trigger Lambda function every 1 hour \w AWS CloudWatch event

#### AWS Lambda

- 1. Filter npm package that has 'zeppelin-vis' as its dependency in npm registry
- 2. Extract only valuable data field backage.json (e.g. name/description/ author/ latest version/ icon .. etc )
- 3. Create new JSON object using 2 and save it to helium.js

fetch helium.json

# Registry

http://registry.npmjs.org/

#### Load/Unload Packages

1. Default helium repo is set as both ZEPPELIN HOME/helium &

https://s3.amazonaws.com/helium-package/helium.json from PR #1936

2. User can enable/disable package from Zeppelin's Helium menu.

### zeppelin.apache.org

List all available pkgs \w short description at

https://zeppelin.apache.org/ helium\_packages.html

from PR #1935



fetch helium.js

#### User - Create Package

- 1. Create visualization npm package
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#### **Resource Location**

- 1. filter npm pkg by dependency https://github.com/AhyoungRyu/npm-pkg-s earchBy-dependency
- 2. Lambda function source code <a href="https://github.com/ZEPL/helium-package-registry">https://github.com/ZEPL/helium-package-registry</a>
- 3. In AWS
  - fetchHeliumPkgInfo Lambda func
  - createHeliumPkgFile Lambda func

# AWS Lambda

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zeppelin.apache.org

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short description at
<a href="https://zeppelin.apache.org/">https://zeppelin.apache.org/</a>
<a href="https://zeppelin.apache.org/">helium\_packages.html</a>

upload helium.js to 'helium-package' bucket

fetch helium.js

eppelin.apache.org

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AWS Lambda

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trigger Lambda function every 1 hour \w AWS CloudWatch event

fetch helium.json



http://registry.npmjs.org

#### **AWS CloudWatch Event**

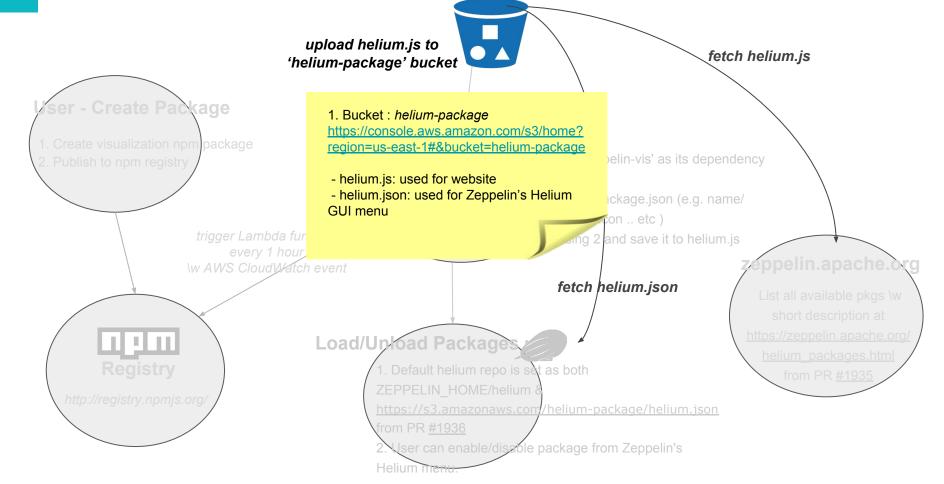
1. Event rule in AWS

https://console.aws.amazon.com/cloudwa tch/home?region=us-east-1#rules

<u>m-package/helium.jsor</u>

nole package from Zeppelin's

Helium menu.



AWS 53 https://s3.amazonaws.com/helium-package/helium.json



fetch helium.json

#### **User - Create Package**

- 1. Create visualization npm package
- 2. Publish to npm registry

# **Cloud Watch**

trigger Lambda function every 1 hour



http://registry.npmjs.org/

AWS Lambda

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Load/Unload Packages

AWS 53 https://s3.amazonaws.com/helium-package/helium.json

create helium.json under 'helium-package' bucket

fetch helium.json

Create Helium package

**Cloud Watch** 

trigger Lambda function every 1 hour





http://registry.npmjs.org/

AWS Lambda

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Load/Unload Packages