



JENKINS AUTO BUILD FOR ALL APPLICATIONS

Cognitive Assistant for Networks (CAN) 7.0



AUGUST 3, 2023
AVANSEUS TECHNOLOGIES PVT. LTD.

REVISION HISTORY

| Version | Date | Change description | Created by | Updated by | Reviewed by |
|---------|--------------|--------------------|------------|---------------|-------------|
| V 1.0 | July, 2021 | Initial Release | Naveen | Sandeep Singh | Chiranjib |
| V 2.0 | August, 2023 | Beta Release | Neha | Raksha | Chiranjib |

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1. Focus

This document focuses on steps to be performed to initiate Jenkins build which compiles and builds all the applications, creates docker build & pushes them to desired Docker registry repository.

2. Modules Built in Jenkins

Mentioned below are the modules that are needed for CAN application to run successfully.

1. CAN - Tomcat WAR application
2. Prediction controller - Spring boot WAR application
3. Prediction worker - CPP application
4. Performance Counter Prediction
5. VBI - Python application
6. LDAP - We use OpenDS
7. MongoDB - We use MongoDB-4.4.5
8. BatchHandler
9. RecordProcessor
10. PythonProcessor
11. JSProcessor
12. RTSP
13. BCXP
14. 3GPP
15. AnsibleProcessor

From the application list mentioned above, VBI, LDAP & MongoDB binary would never change. Hence, we need not build their docker images repeatedly. For rest of the applications, we would have to build the binary and then create a docker image. There is a document available named "**Docker image building for CAN deployment**" on how to build docker images for CAN applications. However, using Jenkins, we can prevent using manual step and automatically build required applications & create Docker images.

3. Steps to Initiate Build

Mentioned below are the steps to take the build.

1. Click [here](#) for the Jenkins URL. This URL is available only when you are connected to VPN.
2. You would find a form that needs to be filled up. Snapshot of the form is pasted below.

Maven project Docker_build_7.0

This build requires parameters:

BRANCH

master7.0

Please provide the branch name from GIT repository.

EMAIL_ID

naveenmahale@avanseus.com

Please provide an E-mail ID to which the build process has to be notified.

CAN

Build CAN only. If nothing is checked among the checkboxes, default is to build all modules.

PredictionController

Build PredictionController only. If nothing is checked among the checkboxes, default is to build all modules.

PredictionWorker

Build PredictionWorker only. If nothing is checked among the checkboxes, default is to build all modules.

PerformanceCounterPrediction

select all

Real Time Streaming Threshold Breach Health Index Select the interested feature to be included in PCP build.

BatchHandler

Build BatchHandler only. If nothing is checked among the checkboxes, default is to build all modules.

RecordProcessor

Build RecordProcessor only. If nothing is checked among the checkboxes, default is to build all modules.

PythonProcessor

Build PythonProcessor only. If nothing is checked among the checkboxes, default is to build all modules.

JSProcessor

Build JSProcessor only. If nothing is checked among the checkboxes, default is to build all modules.

Build JSProcessor only. If nothing is checked among the checkboxes, default is to build all modules.

RTSP

Build RTSP only. If nothing is checked among the checkboxes, default is to build all modules.

BCXP

Build BCXP only. If nothing is checked among the checkboxes, default is to build all modules.

ThreeGPP

Build ThreeGPP only. If nothing is checked among the checkboxes, default is to build all modules.

AnsibleProcessor

Build AnsibleProcessor only. If nothing is checked among the checkboxes, default is to build all modules.

DOCKER_BUILD

Do you want docker images to be built and pushed to Docker repository? You need to installed the Docker repository details below.

DOCKER_REPOSITORY_URL

Enter the Repository URL.

DOCKER_URL_PATH

release/7.0

Path to image directory

DOCKER_USER

Enter the username with Push access

DOCKER_PASSWORD

 Concealed

Enter the docker user password

Change Password

CAN_IMAGE_AND_TAG

can:v1

Image and tag name of CAN docker image

| | |
|--|--|
| PREDICTION_CONTROLLER_IMAGE_AND_TAG | |
| <input type="text" value="predictioncontroller:v1"/> | Image and tag name of Prediction controller docker image |
| PREDICTION_WORKER_IMAGE_AND_TAG | |
| <input type="text" value="predictionworker:v1"/> | Image and tag name of Prediction worker docker image |
| BATCH_HANDLER_IMAGE_AND_TAG | |
| <input type="text" value="batchhandler:v1"/> | Image and tag name of Batch handler docker image |
| RECORD_PROCESSOR_IMAGE_AND_TAG | |
| <input type="text" value="recordprocessor:v1"/> | Image and tag name of Record processor docker image |
| PYTHON_PROCESSOR_IMAGE_AND_TAG | |
| <input type="text" value="pythonprocessor:v1"/> | Image and tag name of Python processor docker image |
| JS_PROCESSOR_IMAGE_AND_TAG | |
| <input type="text" value="jsprocessor:v1"/> | Image and tag name of JavaScript processor docker image |
| RTSP_IMAGE_AND_TAG | |
| <input type="text" value="rtsp:v1"/> | Image and tag name of RTSP docker image |
| BCXP_IMAGE_AND_TAG | |
| <input type="text" value="bcxp:v1"/> | Image and tag name of BCXP docker image |

| | |
|--|---|
| PYTHON_PROCESSOR_IMAGE_AND_TAG | |
| <input type="text" value="pythonprocessor:v1"/> | Image and tag name of Python processor docker image |
| JS_PROCESSOR_IMAGE_AND_TAG | |
| <input type="text" value="jsprocessor:v1"/> | Image and tag name of JavaScript processor docker image |
| RTSP_IMAGE_AND_TAG | |
| <input type="text" value="rtsp:v1"/> | Image and tag name of RTSP docker image |
| BCXP_IMAGE_AND_TAG | |
| <input type="text" value="bcxp:v1"/> | Image and tag name of BCXP docker image |
| THREEGPP_IMAGE_AND_TAG | |
| <input type="text" value="threegpp:v1"/> | Image and tag name of ThreeGPP docker image |
| ANSIBLE_PROCESSOR_IMAGE_AND_TAG | |
| <input type="text" value="ansibleprocessor:v1"/> | Image and tag name of Ansible Processor docker image |
| PCP_IMAGE_AND_TAG | |
| <input type="text" value="pcp:v1"/> | Image and tag name of PCP docker image |

Build

Jen

3. Description of each field in the form is provided below.
 - a. BRANCH – Enter the branch name from GIT from where build needs to be taken
 - b. EMAIL_ID – Enter your Email ID to which Email notifications on build status needs to be sent

- c. CAN – Checkbox to build only CAN
- d. PredictionController – Checkbox to build only Prediction controller
- e. PredictionWorker – Checkbox to build only Prediction worker
- f. PerformanceCounterPrediction -
 - Checkbox Real Time Streaming to build only Real Time Streaming
 - Checkbox Threshold Breach to build only Threshold Breach
 - Checkbox Health Index to build only Heath Index
 - Checkbox select all to build all the three modules
- g. BatchHandler – Checkbox to build only BatchHandler
- h. RecordProcessor – Checkbox to build only RecordProcessor
- i. PythonProcessor – Checkbox to build only PythonProcessor
- j. JSProcessor - Checkbox to build only JSProcessor
- k. RTSP – Checkbox to build only RTSP
- l. BCXP – Checkbox to build only BCXP
- m. ThreeGPP – Checkbox to build only ThreeGPP
- n. AnsibleProcessor – Checkbox to build only AnsibleProcessor
- o. DOCKER_BUILD – Checkbox to confirm if Docker images need to be created. If checked, then other parameters related to Docker registry needs to be provided
- p. DOCKER_REPOSITORY_URL – Docker container registry domain
- q. DOCKER_URL_PATH – Docker URL path
- r. DOCKER_USER – Username which has push access to Docker registry
- s. DOCKER_PASSWORD – Password of the username mentioned above
- t. CAN_IMAGE_AND_TAG – CAN docker image & tag name
- u. CAS_IMAGE_AND_TAG – CAS docker image & tag name
- v. PREDICTION_CONTROLLER_IMAGE_AND_TAG – Prediction controller image & tag name
- w. PREDICTION_WORKER_IMAGE_AND_TAG – Prediction worker image & tag name
- x. PCP_IMAGE_AND_TAG – PCP image & tag name
- y. BATCH_HANDLER_IMAGE_AND_TAG – BatchHandler image & tag name
- z. RECORD_PROCESSOR_IMAGE_AND_TAG – RecordProcessor image & tag name
- aa. PYTHON_PROCESSOR_IMAGE_AND_TAG – PythonProcessor image & tag name
- bb. JS_PROCESSOR_IMAGE_AND_TAG – JSProcessor image and tag name
- cc. RTSP_IMAGE_AND_TAG – RTSP image & tag name
- dd. BCXP_IMAGE_AND_TAG – BCXP image & tag name
- ee. THREEGPP_IMAGE_AND_TAG – ThreeGPP image & tag name
- ff. ANSIBLE_PROCESSOR_IMAGE_AND_TAG – AnsibleProcessor image & tag name

Note:

- If CAN, CAS, PredictionController, PredictionWorker, PerformanceCounterPrediction, BatchHandler, RecordProcessor, PythonProcessor, JSProcessor, RTSP, BCXP, ThreeGPP, AnsibleProcessor are unchecked, then all the applications will be build.
- If DOCKER_BUILD parameter is checked and related information of docker registry is provided, then Jenkins would create docker builds for the applications & upload them to the configured Docker registry server.
- If DOCKER_BUILD parameter is unchecked, then only binary will be built & would

be available for download over a HTTP server [here](#) .

4. Provided below is a filled-up form snapshot which takes build of all applications & uploads to development docker registry container.

Maven project Docker_build_7.0

This build requires parameters:

BRANCH

Please provide the branch name from GIT repository.

EMAIL_ID

Please provide an E-mail ID to which the build process has to be notified.

CAN
Build CAN only. If nothing is checked among the checkboxes, default is to build all modules.

PredictionController
Build PredictionController only. If nothing is checked among the checkboxes, default is to build all modules.

PredictionWorker
Build PredictionWorker only. If nothing is checked among the checkboxes, default is to build all modules.

PerformanceCounterPrediction

select all
 Real Time Streaming Threshold Breach Health Index Select the interested feature to be included in PCP build.

BatchHandler
Build BatchHandler only. If nothing is checked among the checkboxes, default is to build all modules.

RecordProcessor
Build RecordProcessor only. If nothing is checked among the checkboxes, default is to build all modules.

PythonProcessor
Build PythonProcessor only. If nothing is checked among the checkboxes, default is to build all modules.

JSProcessor
Build JSProcessor only. If nothing is checked among the checkboxes, default is to build all modules.

RTSP
Build RTSP only. If nothing is checked among the checkboxes, default is to build all modules.

BCXP
Build BCXP only. If nothing is checked among the checkboxes, default is to build all modules.

ThreeGPP
Build ThreeGPP only. If nothing is checked among the checkboxes, default is to build all modules.

AnsibleProcessor
Build AnsibleProcessor only. If nothing is checked among the checkboxes, default is to build all modules.

DOCKER_BUILD
Do you want docker images to be built and pushed to Docker repository? You need to install the Docker repository details below.

DOCKER_REPOSITORY_URL

Enter the Repository URL

DOCKER_URL_PATH

Path to image directory

DOCKER_USER

Enter the username with Push access

DOCKER_PASSWORD

| | |
|--|-------------------------|
| CAN_IMAGE_AND_TAG | can:v1 |
| Image and tag name of CAN docker image | |
| PREDICTION_CONTROLLER_IMAGE_AND_TAG | predictioncontroller:v1 |
| Image and tag name of Prediction controller docker image | |
| PREDICTION_WORKER_IMAGE_AND_TAG | predictionworker:v1 |
| Image and tag name of Prediction worker docker image | |
| BATCH_HANDLER_IMAGE_AND_TAG | batchhandler:v1 |
| Image and tag name of Batch handler docker image | |
| RECORD_PROCESSOR_IMAGE_AND_TAG | recordprocessor:v1 |
| Image and tag name of Record processor docker image | |
| PYTHON_PROCESSOR_IMAGE_AND_TAG | pythonprocessor:v1 |
| Image and tag name of Python processor docker image | |
| JS_PROCESSOR_IMAGE_AND_TAG | jsprocessor:v1 |
| Image and tag name of JavaScript processor docker image | |
| RTSP_IMAGE_AND_TAG | rtsp:v1 |
| Image and tag name of RTSP docker image | |

| | |
|---|---------------------|
| PYTHON_PROCESSOR_IMAGE_AND_TAG | pythonprocessor:v1 |
| Image and tag name of Python processor docker image | |
| JS_PROCESSOR_IMAGE_AND_TAG | jsprocessor:v1 |
| Image and tag name of JavaScript processor docker image | |
| RTSP_IMAGE_AND_TAG | rtsp:v1 |
| Image and tag name of RTSP docker image | |
| BCXP_IMAGE_AND_TAG | bcxp:v1 |
| Image and tag name of BCXP docker image | |
| THREEGPP_IMAGE_AND_TAG | threegpp:v1 |
| Image and tag name of ThreeGPP docker image | |
| ANSIBLE_PROCESSOR_IMAGE_AND_TAG | ansibleprocessor:v1 |
| Image and tag name of Ansible Processor docker image | |
| PCP_IMAGE_AND_TAG | pcp:v1 |
| Image and tag name of PCP docker image | |
| Build | |

5. Initiate build on clicking “BUILD” button. The user would receive Email notifications on the build status.