1 flow to rule them all

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#jenkinsconf

Where CI can go wrong

And how Jenkins can help you get back on track

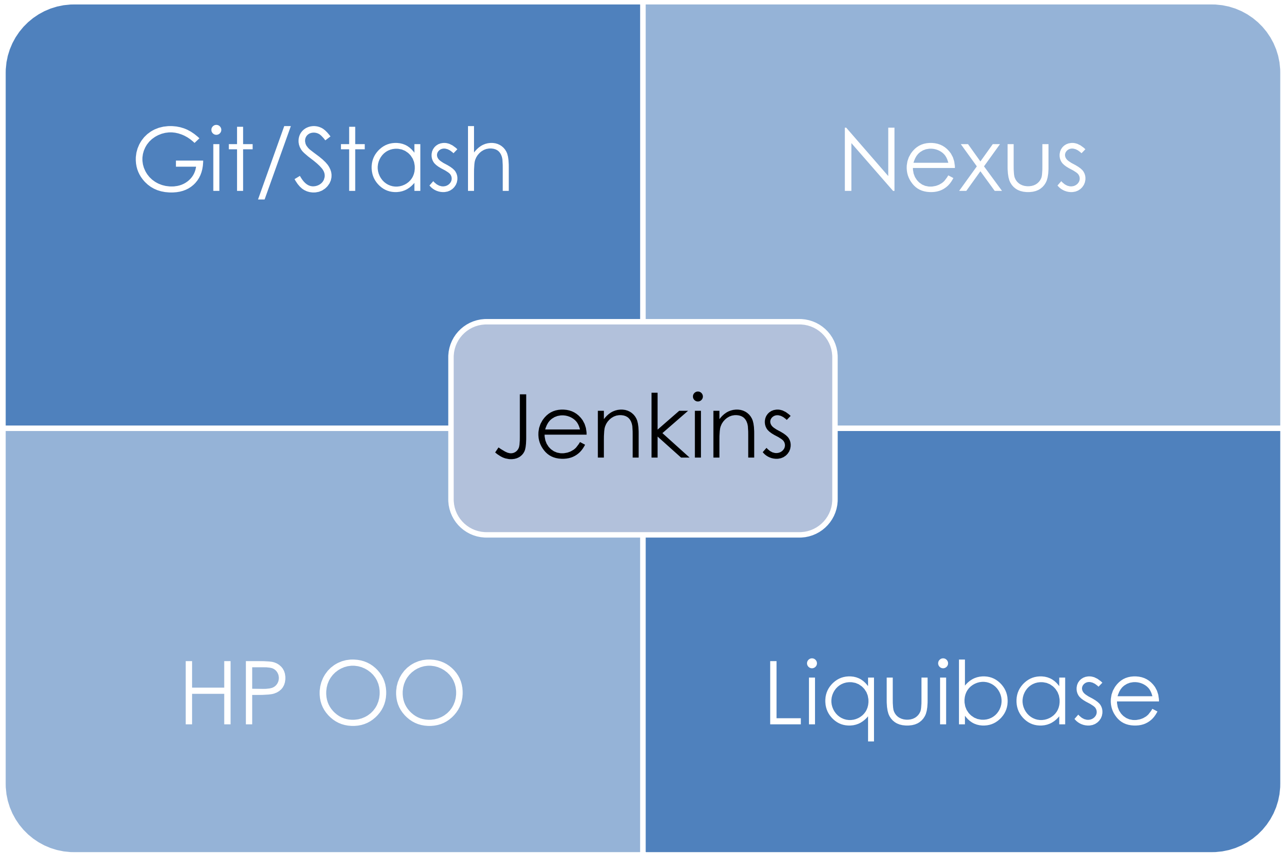
The Beginning

- Modernize a legacy project

Decide on tools

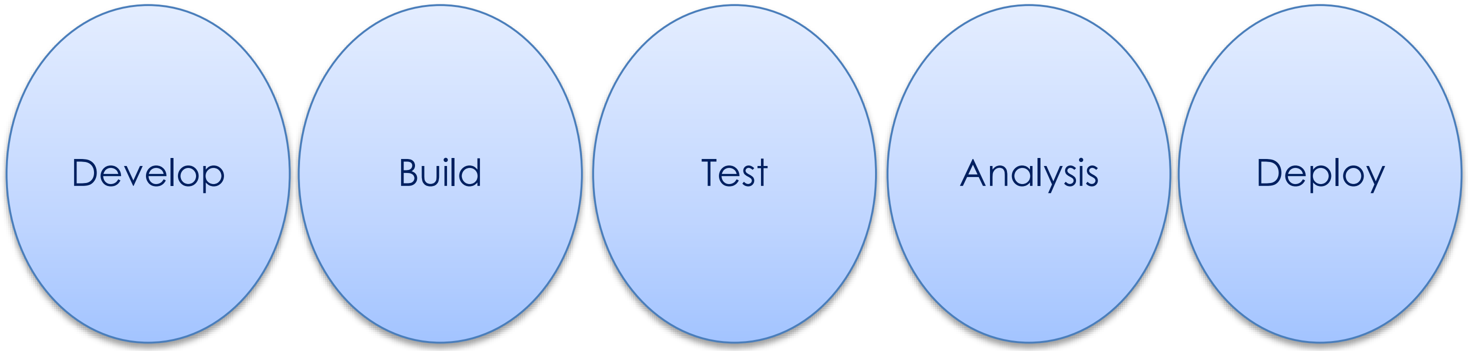
- CI Server
- SCM
- Artifact Repository
- Deployment
- DB source control / management

Tools:



Building a pipeline

- Started simple



- 1 pipeline for a CI environment

Stable state

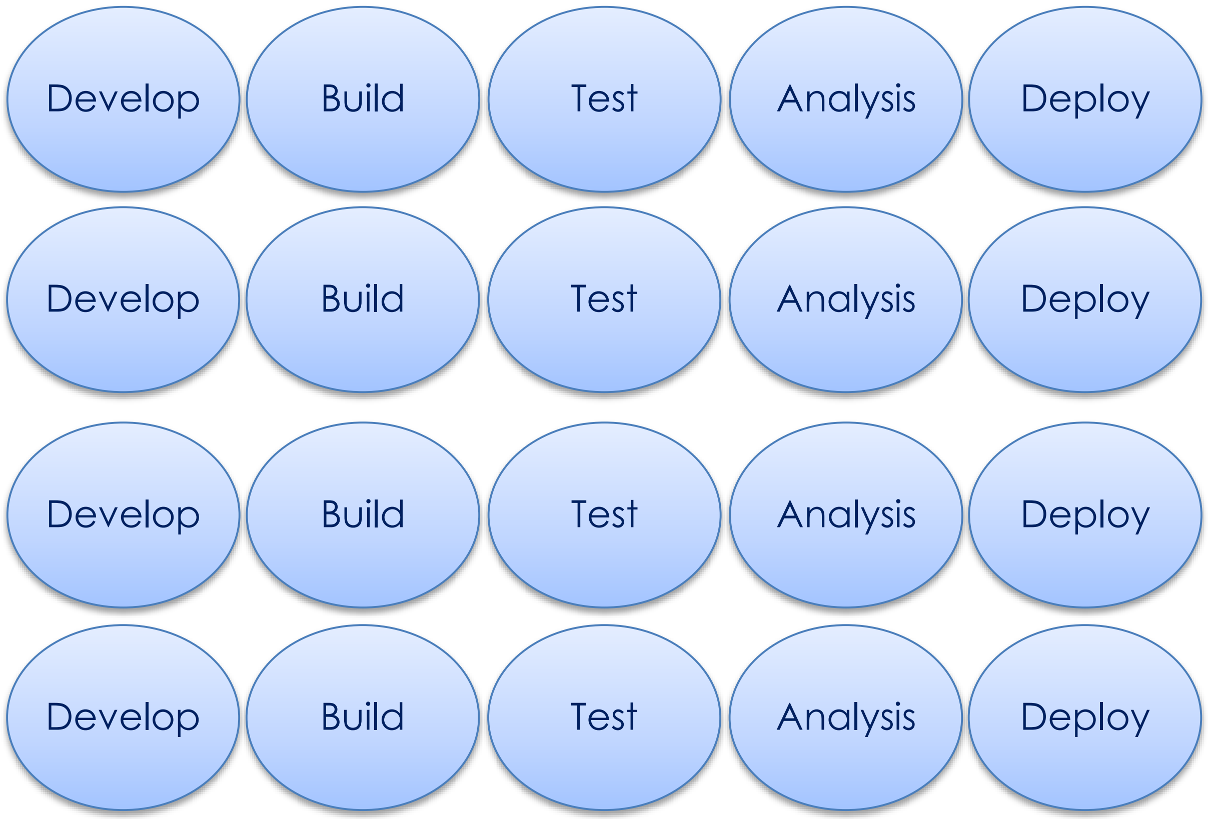
- Shorten production deployment cycle to a monthly deployment schedule
- Increased stability
- Decreased # of configuration issues

The plot thickens

- Multiple Environments

- Multiple Branches

Multiple pipelines



Too many pipelines…

10 pipelines with about 10-15 jobs each.

Maintenance headache

Too many dependencies

Too much manual work – leads to too many errors

The solution

Generic pipelines

What are the requirements?

Generic Jobs – a job that builds an artifact should be able to build any artifact flavor, same for any other job type (test, deploy, etc.).

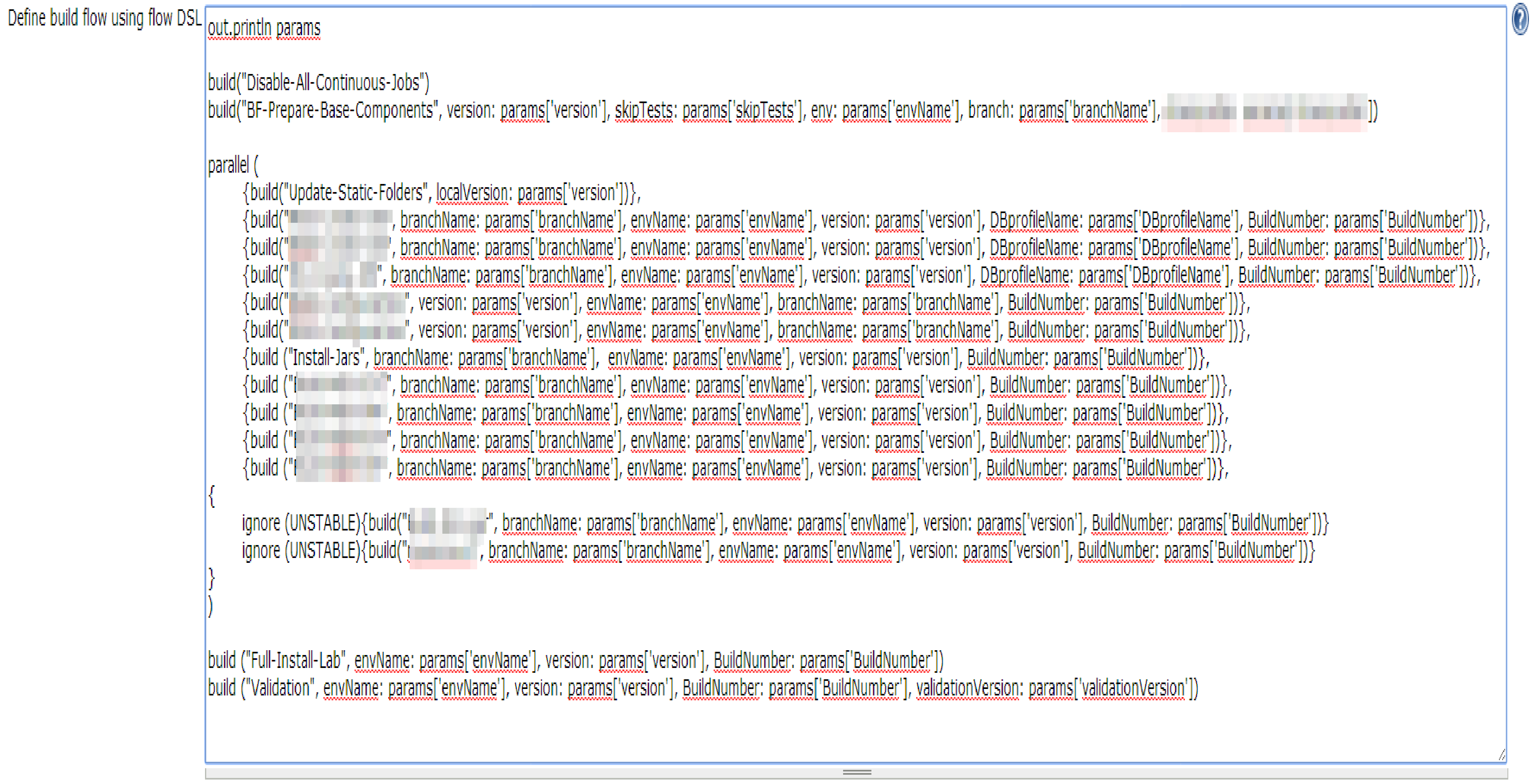
Independency – each job should be able to run alone without any dependency on other jobs.

Think of your pipeline as code, needs to be versioned, and managed

In practice

- BuildFlow plugin
- Dynamic parameters plugin
- Groovy plugin

BuildFlow plugin



Define build flow using flow DSL

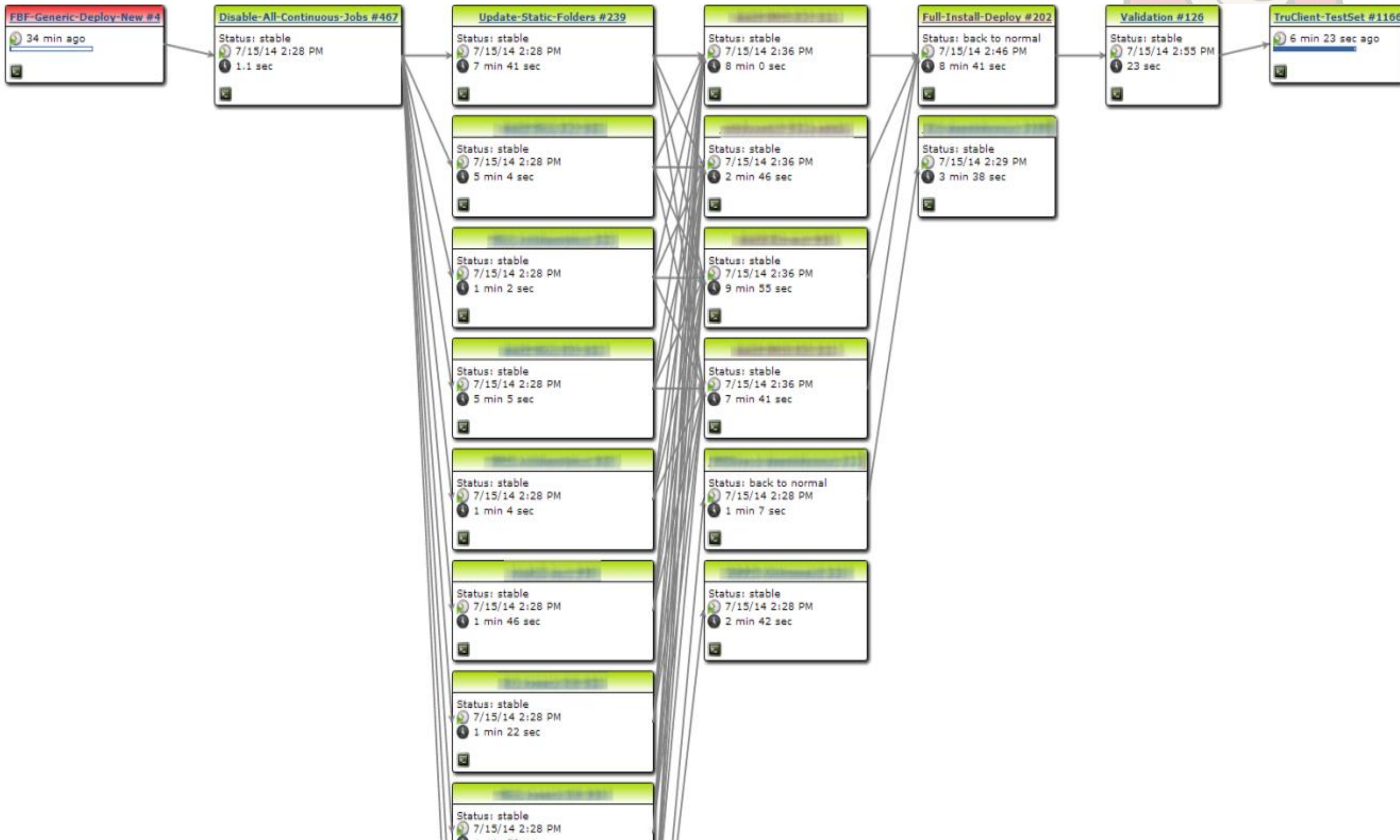
```
out.println params

build("Disable-All-Continuous-Jobs")
build("BF-Prepare-Base-Components", version: params['version'], skipTests: params['skipTests'], env: params['envName'], branch: params['branchName'], [redacted])

parallel (
      {build("Update-Static-Folders", localVersion: params['version'])},
      {build("[redacted], branchName: params['branchName'], envName: params['envName'], version: params['version'], DBprofileName: params['DBprofileName'], BuildNumber: params['BuildNumber'])},
      {build("[redacted]", branchName: params['branchName'], envName: params['envName'], version: params['version'], DBprofileName: params['DBprofileName'], BuildNumber: params['BuildNumber'])},
      {build("[redacted]", branchName: params['branchName'], envName: params['envName'], version: params['version'], DBprofileName: params['DBprofileName'], BuildNumber: params['BuildNumber'])},
      {build("[redacted]", version: params['version'], envName: params['envName'], branchName: params['branchName'], BuildNumber: params['BuildNumber'])},
      {build("[redacted]", version: params['version'], envName: params['envName'], branchName: params['branchName'], BuildNumber: params['BuildNumber'])},
      {build ("Install-Jars", branchName: params['branchName'],  envName: params['envName'], version: params['version'], BuildNumber: params['BuildNumber'])},
      {build ("[redacted]", branchName: params['branchName'], envName: params['envName'], version: params['version'], BuildNumber: params['BuildNumber'])},
      {build ("[redacted], branchName: params['branchName'], envName: params['envName'], version: params['version'], BuildNumber: params['BuildNumber'])},
      {build ("[redacted]", branchName: params['branchName'], envName: params['envName'], version: params['version'], BuildNumber: params['BuildNumber'])},
      {build ("[redacted], branchName: params['branchName'], envName: params['envName'], version: params['version'], BuildNumber: params['BuildNumber'])},
{
      ignore (UNSTABLE){build("[redacted]", branchName: params['branchName'], envName: params['envName'], version: params['version'], BuildNumber: params['BuildNumber'])}
      ignore (UNSTABLE){build("[redacted], branchName: params['branchName'], envName: params['envName'], version: params['version'], BuildNumber: params['BuildNumber'])}
}
)

build ("Full-Install-Lab", envName: params['envName'], version: params['version'], BuildNumber: params['BuildNumber'])
build ("Validation", envName: params['envName'], version: params['version'], BuildNumber: params['BuildNumber'], validationVersion: params['validationVersion'])
```

BuildFlow plugin



FBF-Generic-Deploy-New #4
34 min ago

Disable-All-Continuous-Jobs #467
Status: stable
7/15/14 2:28 PM
1.1 sec

Update-Static-Folders #239
Status: stable
7/15/14 2:28 PM
7 min 41 sec

[redacted]
Status: stable
7/15/14 2:28 PM
5 min 4 sec

[redacted]
Status: stable
7/15/14 2:28 PM
1 min 2 sec

[redacted]
Status: stable
7/15/14 2:28 PM
5 min 5 sec

[redacted]
Status: stable
7/15/14 2:28 PM
1 min 4 sec

[redacted]
Status: stable
7/15/14 2:28 PM
1 min 46 sec

[redacted]
Status: stable
7/15/14 2:28 PM
1 min 22 sec

[redacted]
Status: stable
7/15/14 2:28 PM

[redacted]
Status: stable
7/15/14 2:36 PM
8 min 0 sec

[redacted]
Status: stable
7/15/14 2:36 PM
2 min 46 sec

[redacted]
Status: stable
7/15/14 2:36 PM
9 min 55 sec

[redacted]
Status: stable
7/15/14 2:36 PM
7 min 41 sec

[redacted]
Status: back to normal
7/15/14 2:28 PM
1 min 7 sec

[redacted]
Status: stable
7/15/14 2:28 PM
2 min 42 sec

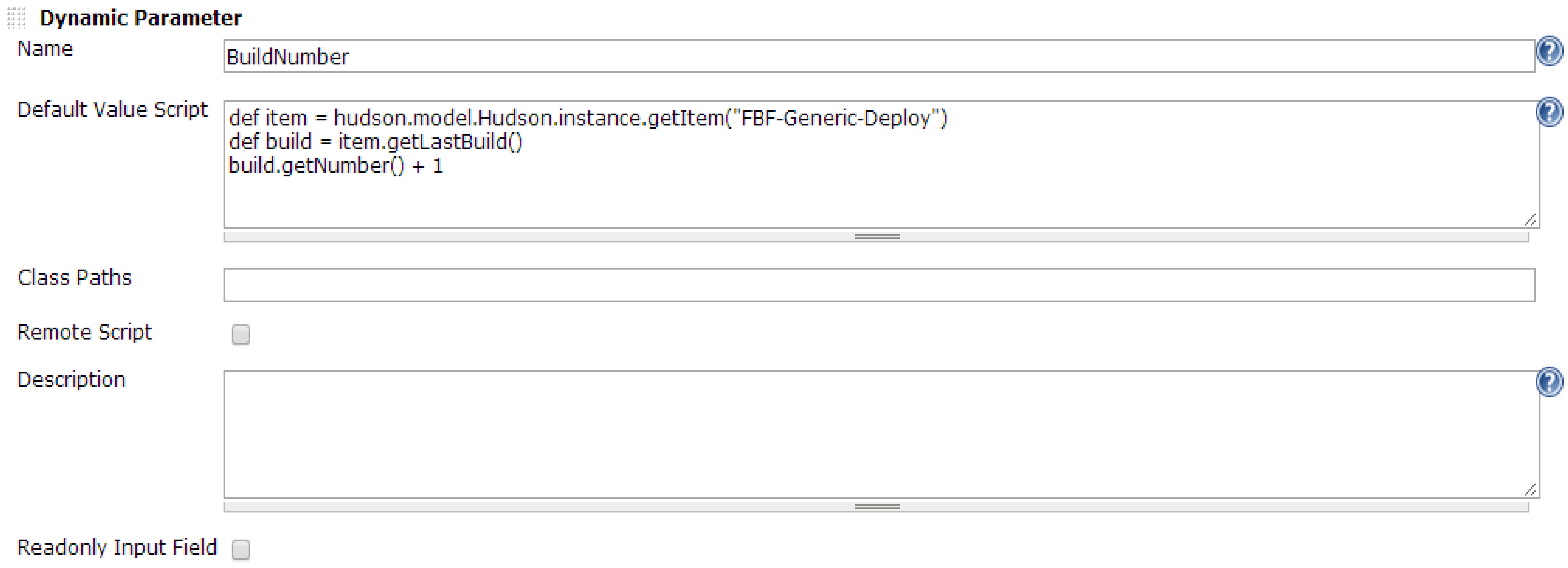
Full-Install-Deploy #202
Status: back to normal
7/15/14 2:46 PM
8 min 41 sec

[redacted]
Status: stable
7/15/14 2:29 PM
3 min 38 sec

Validation #126
Status: stable
7/15/14 2:55 PM
23 sec

TruClient-TestSet #1166
6 min 23 sec ago

Dynamic parameters plugin



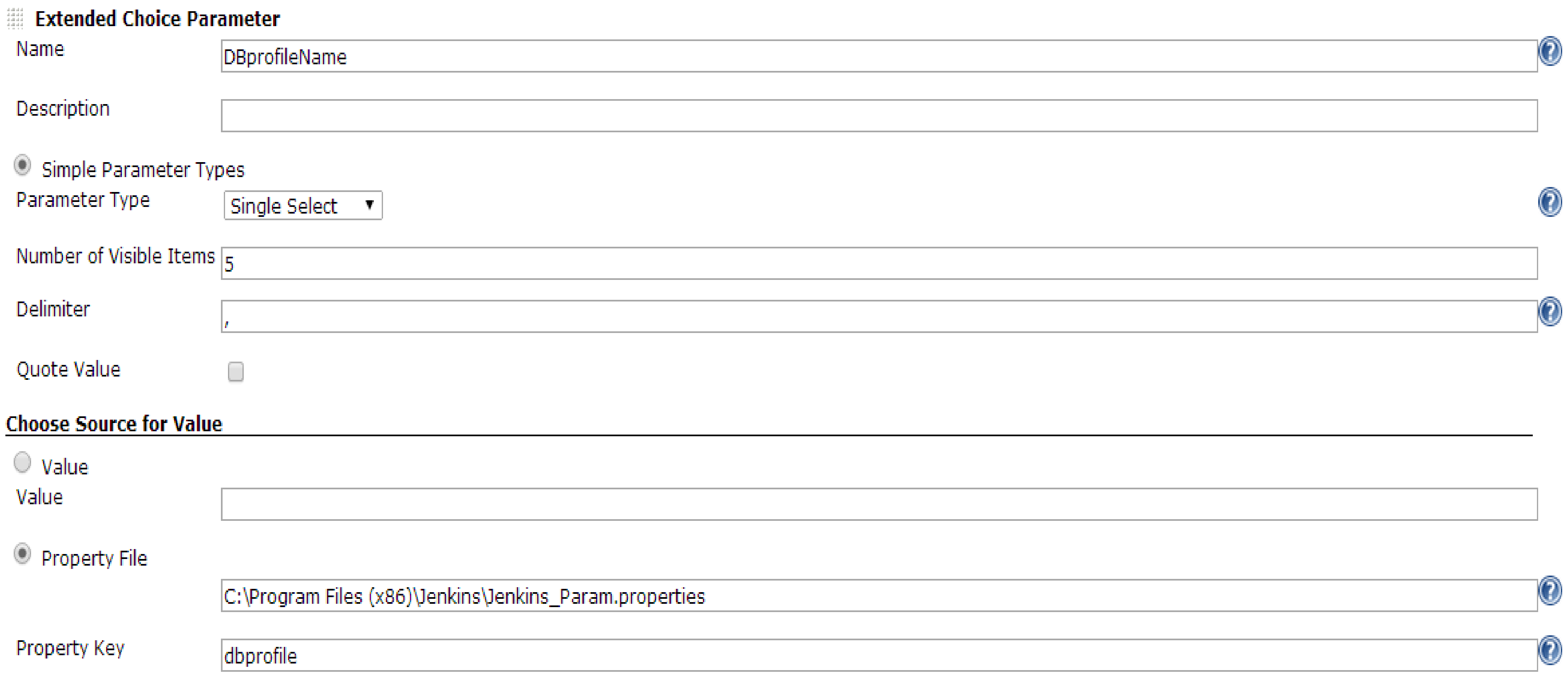
Dynamic Parameter

Name	BuildNumber

Default Value Script	`def item = hudson.model.Hudson.instance.getItem("FBF-Generic-Deploy")`
	`def build = item.getLastBuild()`
	`build.getNumber() + 1`

Class Paths	
Remote Script	☐
Description	
Readonly Input Field	☐

Dynamic parameters II Using property file



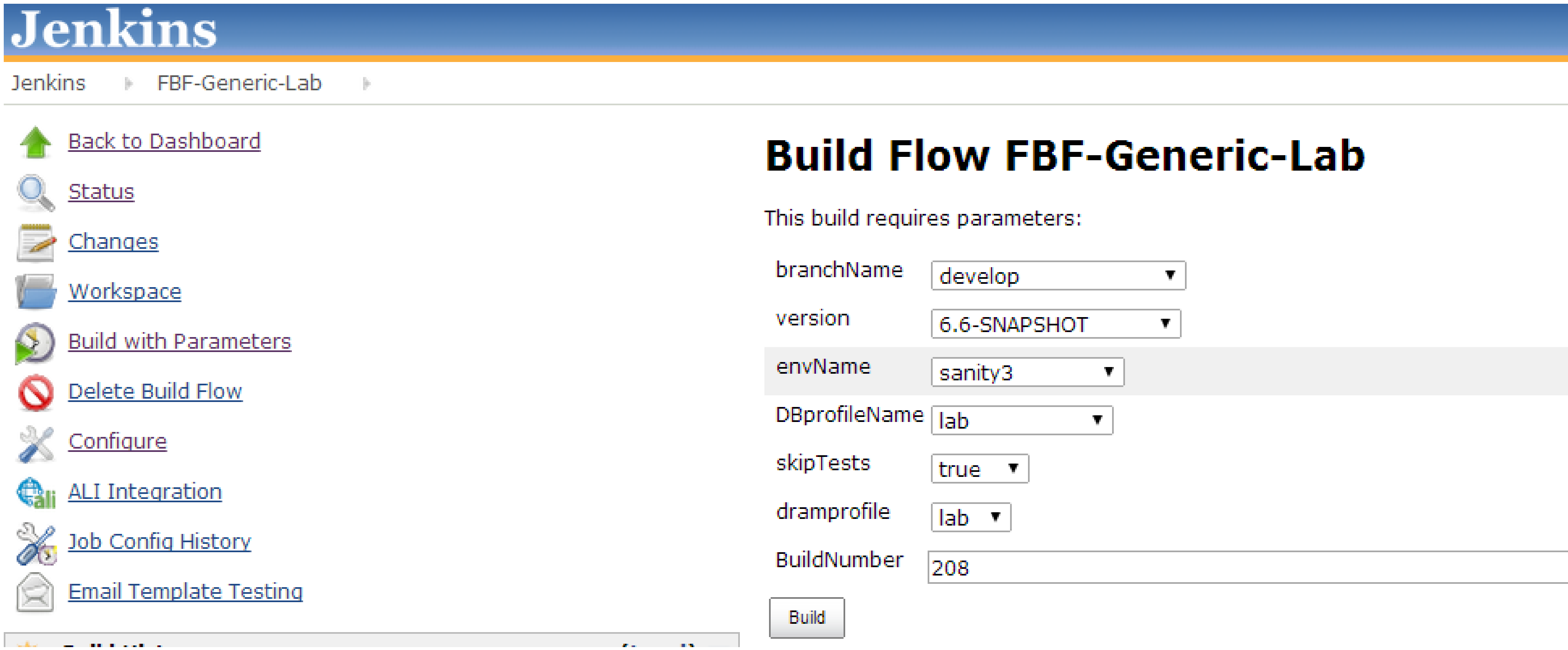
Extended Choice Parameter

Name	DBprofileName
Description	
[✓ Simple Parameter Types]	
Parameter Type	Single Select
Number of Visible Items	5
Delimiter	,
Quote Value	☐

Choose Source for Value

Value	
Value	
[✓ Property File]	C:\Program Files (x86)\Jenkins\Jenkins_Param.properties
Property Key	dbprofile

Easy to use



Build Flow FBF-Generic-Lab

This build requires parameters:

branchName	develop
version	6.6-SNAPSHOT
envName	sanity3
DBprofileName	lab
skipTests	true
dramprofile	lab
BuildNumber	208

Pipeline (as) Code

- Moving to use of build flows creates code inside jobs definition that needs to be managed.
- We've developed a job that stores the internal xml file of build flow jobs into git repository

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