Test system Build Diary

2022 R1 (V12 patch 29) Automated Test Platform (ATP) new installation

Disclaimer

This document is provided "as is" and is for your guidance and educational purposes only. It does not replace the Online documentation, nor is any warranty expressed nor implied for the steps described herein.

Document Information

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Contents

Introduction

What is a ”Build Diary”

A Build Diary simply describes the steps taken by Sage Support to perform a task or tasks on our internal test systems. Build diaries could be created for major multi-node installations but may also just be describing the steps taken when installing a small hotfix, or anything in-between.

Why is this being shared

It may be useful for you to see the steps we have taken to create or implement some feature or installation, as this may highlight “gotcha’s”, issues encountered or just give you some guidance if you are planning something similar yourself.

You could potentially use these documents as the base for your own “Workplan document” (Described in “Overview of patching X3 and supporting technologies” https://www.sagecity.com/gb/sage-x3-uk/b/sage-x3-uk-support-insights/posts/sage-x3-technical-support-tips-and-tricks---march-2021-index) when you are planning your own activities

Target Audience

This document is aimed at Sage X3 Certified Technical consultants. Sage prescribe that X3 system installation, maintenance, migrations, etc. should be performed by suitably qualified Sage X3 consultants. The prerequisite consideration would be for them to have the latest “Sage X3 Certified Technical Consultant” certification. You can read more about the Sage X3 qualifications and requirements in Sage University (https://sageu.csod.com/catalog/CustomPage.aspx?id=20000242#tc)

Additional things to note

- This document does NOT purport to illustrate “best practice” for the task being described
- The steps described will not necessarily be for a “perfect” task, as there may have been issues that needed to be overcome, worked around, or ignored
- The Sage internal test system has network and hardware configuration specific to Sage
- The Sage internal test system does not necessarily include a Windows Domain and has Sage sandbox specific Windows security setup, so operating system permissions are generally not discussed
- If you intend to use these notes as a guide for your own activities, use with caution and perform your own testing to ensure the described steps are suitable and identify any additional considerations that apply to your own situation
- Ensure you only install and use software you are licensed for

What does this Build Diary describe?

This build diary describes how to install Automated Test Platform (ATP) into an existing 2022 R1 X3 installation.

2022 R1 – ATP installation build diary

Objective

Install ATP into an existing 2022 R1 environment

Starting architecture and notes

My X3 instance comprises two Windows Server 2019 servers (Server names X3ERPV12SQLVM and SECOND)

Server: X3ERPV12SQLVM
    General Software:
        Windows Server 2019, SQL Server 2019, Apache 2.4, JDK
    Sage X3 2022 R1
        Syracuse, MongoDB, Elastic Search, Application, Runtime, Console, Print Server
    Windows users setup (Local users)
        “x3admin” for installation and management
        “X3run” for service runtime

Server: SECOND
    General Software:
        Windows Server 2019, JDK
    Sage X3 2022 R1
        Syracuse, Additional Runtime
    Windows users setup (Local users)
        “x3admin” for installation and management
        “X3run” for service runtime

I will be installing the ATP components onto the SECOND server.   There is no specific need for ATP or Jenkins to be installed onto a server running X3, but I am choosing to do so for my own convenience.

Summary of steps

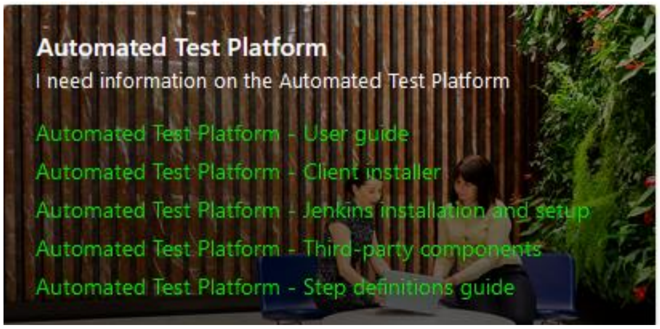
- Install ATP client
- Setup X3
- Test ATP is working OK
- Jenkins installation
- Setup Jenkins Pipeline

Documentation to use for planning and execution of this task

Sage Online documentation

Pre-requisites
http://online-help.sageerpx3.com/erp/12/public/Prerequisites-(Last-version).html
http://online-help.sageerpx3.com/erp/12/public/prerequisites_overview.html

Refer to ATP documentation via https://online-help.sageerpx3.com/erp/12/public/index.html



Automated Test Platform
I need information on the Automated Test Platform

Automated Test Platform - User guide
Automated Test Platform - Client installer
Automated Test Platform - Jenkins installation and setup
Automated Test Platform - Third-party components
Automated Test Platform - Step definitions guide

Sage Knowledgebase articles

ERROR: "The input line is too long" when running multiple scripts in Jenkins (ATP)

ERROR: "There are no nodes with the label 'master'" and ATP job hangs in Jenkins

Initial steps

Download latest stable release of Jenkins from https://www.jenkins.io/download/

Version 2.319.3 LTS, Windows (Jenkins.msi) at the time of writing

Check Java version and location. In my case this is:

```
C:\OpenJDK\zulu8.60.0.21-ca-jdk8.0.322-win_x64
openjdk version "1.8.0_322"
```

Download the latest ATP version from Sage X3 FTP site (atp-2.6.0-win.zip at the time of writing)

Install ATP client

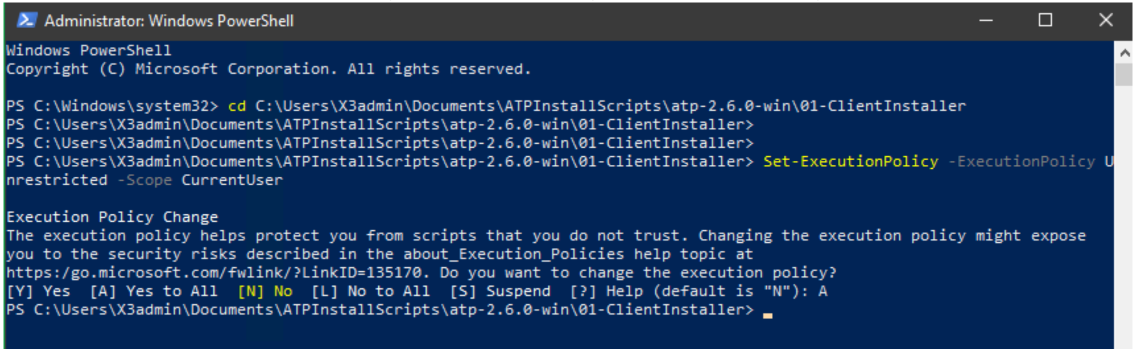
For the installation, I will be logging in as Windows user “X3admin” which has administrator rights.

Start with the “Client Installer” document https://online-help.sageerpx3.com/erp/12/wp-static-content/public/ATP%20Client%20Installer/Content/How-to%20guides/Platform/ATP_Client_Installer/T1%20ATP%20Client%20Installer.htm

Create directory D:\Sage\ATP
Create folder C:\Users\X3admin\Documents\ATPInstallScripts
    Extract atp-2.6.0-win.zip into this directory

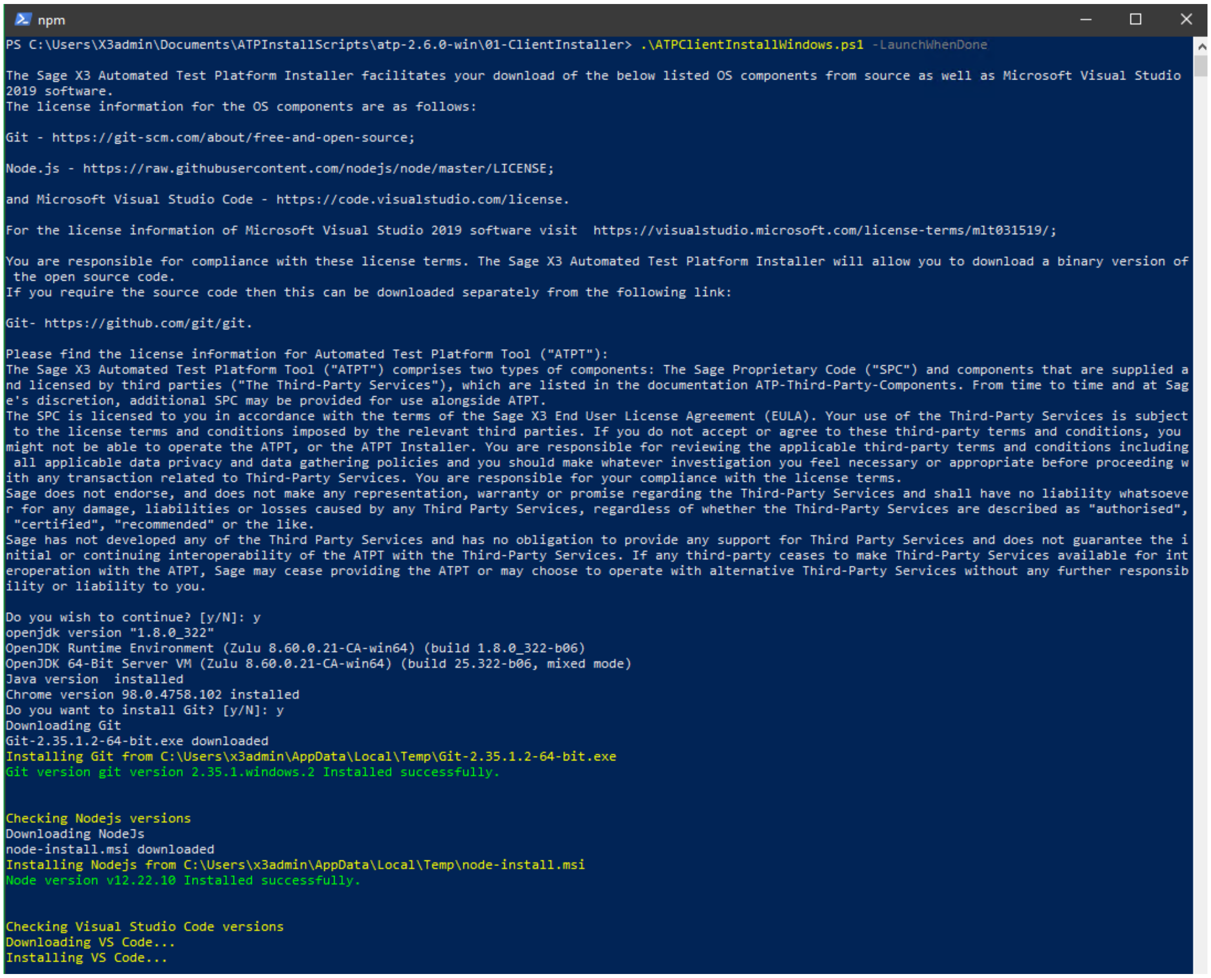
Create folder C:\Users\X3admin\Documents\ATP
Create folder D:\sage\ATP\tmp
Create folder D:\Sage\ATP\DownloadFolder

Launch powershell “as administrator”
    cd C:\Users\X3admin\Documents\ATPInstallScripts\atp-2.6.0-win\01-ClientInstaller
    Run “Set-ExecutionPolicy -ExecutionPolicy Unrestricted -Scope CurrentUser”

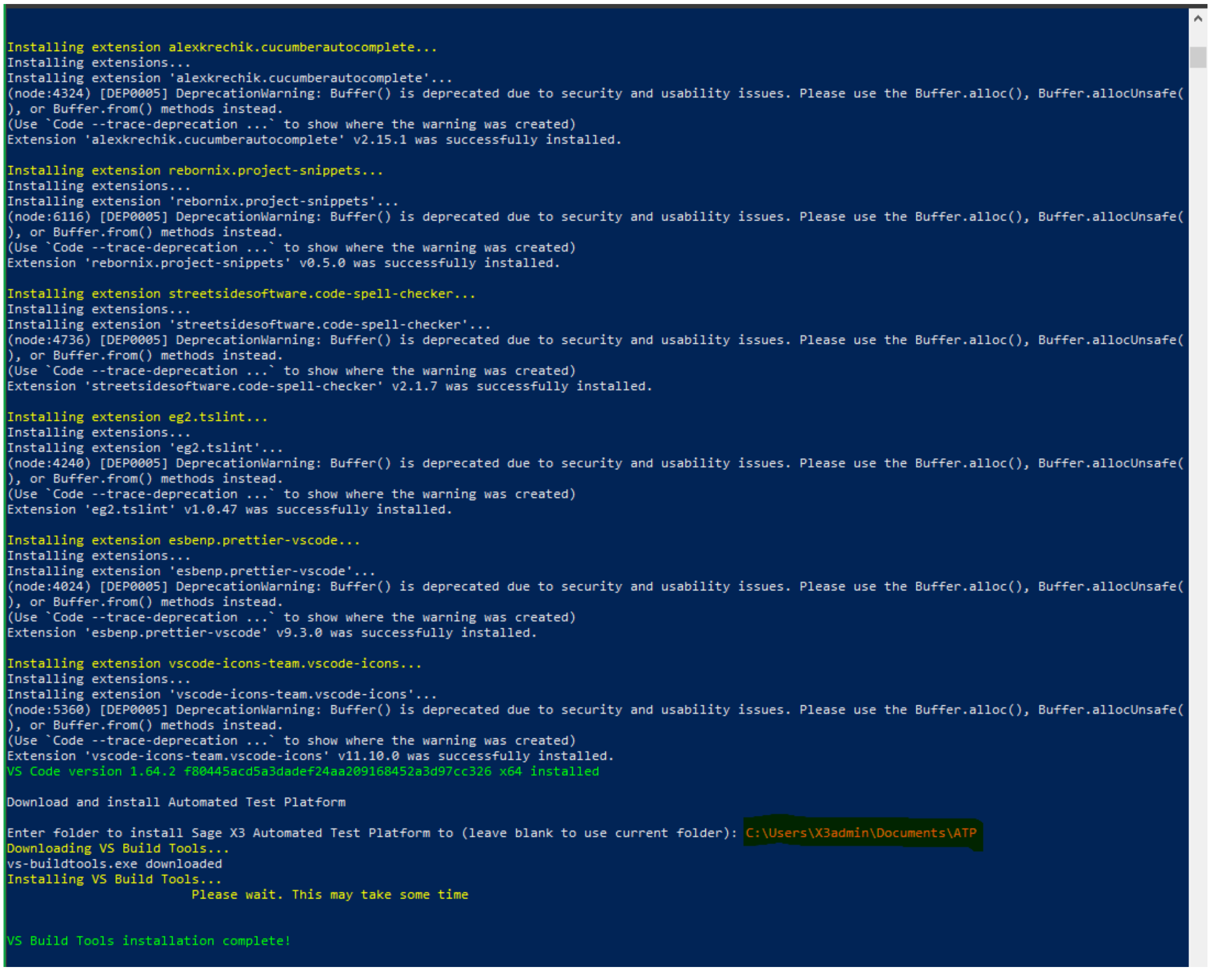


```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Windows\system32> cd C:\Users\X3admin\Documents\ATPInstallScripts\atp-2.6.0-win\01-ClientInstaller
PS C:\Users\X3admin\Documents\ATPInstallScripts\atp-2.6.0-win\01-ClientInstaller>
PS C:\Users\X3admin\Documents\ATPInstallScripts\atp-2.6.0-win\01-ClientInstaller>
PS C:\Users\X3admin\Documents\ATPInstallScripts\atp-2.6.0-win\01-ClientInstaller> Set-ExecutionPolicy -ExecutionPolicy U
nrestricted -Scope CurrentUser

Execution Policy Change
The execution policy helps protect you from scripts that you do not trust. Changing the execution policy might expose
you to the security risks described in the about_Execution_Policies help topic at
https:/go.microsoft.com/fwlink/?LinkID=135170. Do you want to change the execution policy?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "N"): A
PS C:\Users\X3admin\Documents\ATPInstallScripts\atp-2.6.0-win\01-ClientInstaller>
```

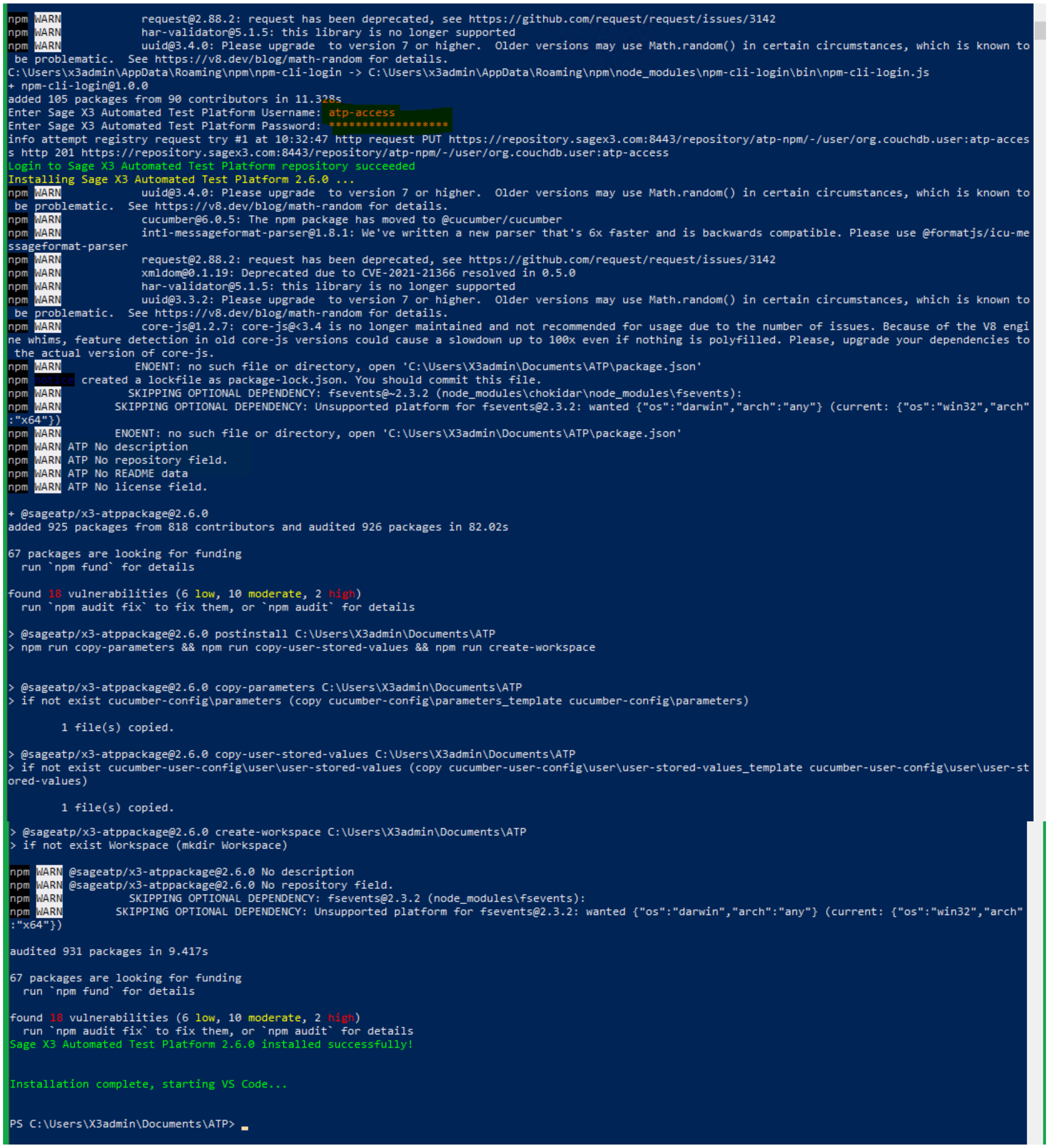
    Run “.\ATPClientInstallWindows.ps1 -LaunchWhenDone”
Say “Y” to installing Git when prompted (Also installs Node and Visual Studio)
Enter “C:\Users\X3admin\Documents\ATP” when prompted for the folder to install to
Enter the Sage Nexus NPM credentials when prompted. These details are included in the “Nexus Credentials.txt” file provided in the 01-ClientInstaller directory.



```
PS C:\Users\X3admin\Documents\ATPInstallScripts\atp-2.6.0-win\01-ClientInstaller> .\ATPClientInstallWindows.ps1 -LaunchWhenDone

The Sage X3 Automated Test Platform Installer facilitates your download of the below listed OS components from source as well as Microsoft Visual Studio
2019 software.
The license information for the OS components are as follows:

Git - https://git-scm.com/about/free-and-open-source;

Node.js - https://raw.githubusercontent.com/nodejs/node/master/LICENSE;

and Microsoft Visual Studio Code - https://code.visualstudio.com/license.

For the license information of Microsoft Visual Studio 2019 software visit  https://visualstudio.microsoft.com/license-terms/mlt031519/;

You are responsible for compliance with these license terms. The Sage X3 Automated Test Platform Installer will allow you to download a binary version of
 the open source code.
If you require the source code then this can be downloaded separately from the following link:

Git- https://github.com/git/git.

Please find the license information for Automated Test Platform Tool ("ATPT"):
The Sage X3 Automated Test Platform Tool ("ATPT") comprises two types of components: The Sage Proprietary Code ("SPC") and components that are supplied a
nd licensed by third parties ("The Third-Party Services"), which are listed in the documentation ATP-Third-Party-Components. From time to time and at Sag
e's discretion, additional SPC may be provided for use alongside ATPT.
The SPC is licensed to you in accordance with the terms of the Sage X3 End User License Agreement (EULA). Your use of the Third-Party Services is subject
 to the license terms and conditions imposed by the relevant third parties. If you do not accept or agree to these third-party terms and conditions, you
might not be able to operate the ATPT, or the ATPT Installer. You are responsible for reviewing the applicable third-party terms and conditions including
 all applicable data privacy and data gathering policies and you should make whatever investigation you feel necessary or appropriate before proceeding w
ith any transaction related to Third-Party Services. You are responsible for your compliance with the license terms.
Sage does not endorse, and does not make any representation, warranty or promise regarding the Third-Party Services and shall have no liability whatsoeve
r for any damage, liabilities or losses caused by any Third Party Services, regardless of whether the Third-Party Services are described as "authorised",
 "certified", "recommended" or the like.
Sage has not developed any of the Third Party Services and has no obligation to provide any support for Third Party Services and does not guarantee the i
nitial or continuing interoperability of the ATPT with the Third-Party Services. If any third-party ceases to make Third-Party Services available for int
eroperation with the ATPT, Sage may cease providing the ATPT or may choose to operate with alternative Third-Party Services without any further responsib
ility or liability to you.

Do you wish to continue? [y/N]: y
openjdk version "1.8.0_322"
OpenJDK Runtime Environment (Zulu 8.60.0.21-CA-win64) (build 1.8.0_322-b06)
OpenJDK 64-Bit Server VM (Zulu 8.60.0.21-CA-win64) (build 25.322-b06, mixed mode)
Java version  installed
Chrome version 98.0.4758.102 installed
Do you want to install Git? [y/N]: y
Downloading Git
Git-2.35.1.2-64-bit.exe downloaded
Installing Git from C:\Users\x3admin\AppData\Local\Temp\Git-2.35.1.2-64-bit.exe
Git version git version 2.35.1.windows.2 Installed successfully.


Checking Nodejs versions
Downloading NodeJs
node-install.msi downloaded
Installing Nodejs from C:\Users\x3admin\AppData\Local\Temp\node-install.msi
Node version v12.22.10 Installed successfully.


Checking Visual Studio Code versions
Downloading VS Code...
Installing VS Code...
```

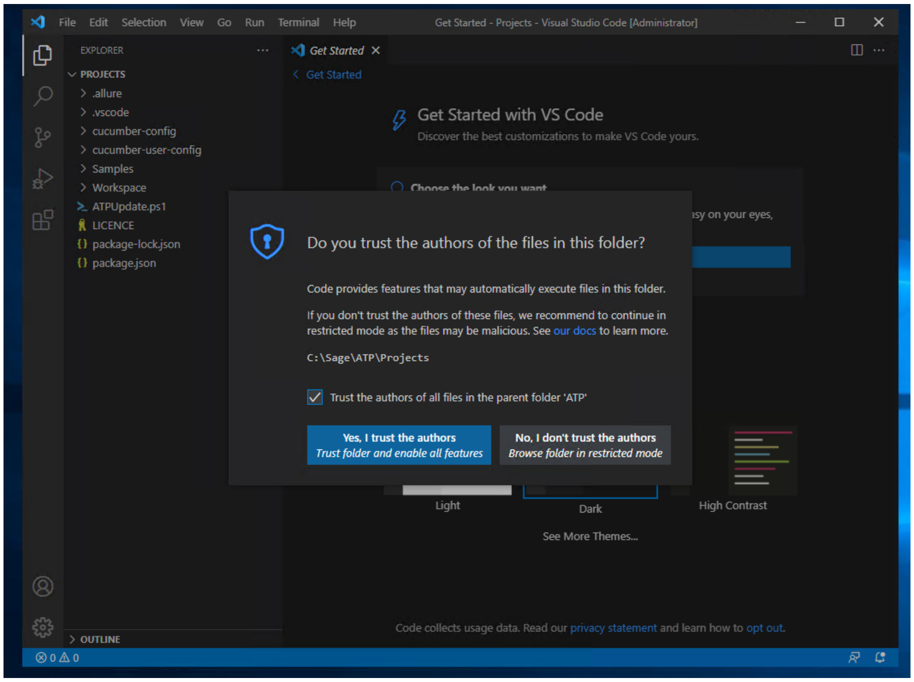


```
Installing extension alexkrechik.cucumberautocomplete...
Installing extensions...
Installing extension 'alexkrechik.cucumberautocomplete'...
(node:4324) [DEP0005] DeprecationWarning: Buffer() is deprecated due to security and usability issues. Please use the Buffer.alloc(), Buffer.allocUnsafe(
), or Buffer.from() methods instead.
(Use `Code --trace-deprecation ...` to show where the warning was created)
Extension 'alexkrechik.cucumberautocomplete' v2.15.1 was successfully installed.

Installing extension rebornix.project-snippets...
Installing extensions...
Installing extension 'rebornix.project-snippets'...
(node:6116) [DEP0005] DeprecationWarning: Buffer() is deprecated due to security and usability issues. Please use the Buffer.alloc(), Buffer.allocUnsafe(
), or Buffer.from() methods instead.
(Use `Code --trace-deprecation ...` to show where the warning was created)
Extension 'rebornix.project-snippets' v0.5.0 was successfully installed.

Installing extension streetsidesoftware.code-spell-checker...
Installing extensions...
Installing extension 'streetsidesoftware.code-spell-checker'...
(node:4736) [DEP0005] DeprecationWarning: Buffer() is deprecated due to security and usability issues. Please use the Buffer.alloc(), Buffer.allocUnsafe(
), or Buffer.from() methods instead.
(Use `Code --trace-deprecation ...` to show where the warning was created)
Extension 'streetsidesoftware.code-spell-checker' v2.1.7 was successfully installed.

Installing extension eg2.tslint...
Installing extensions...
Installing extension 'eg2.tslint'...
(node:4240) [DEP0005] DeprecationWarning: Buffer() is deprecated due to security and usability issues. Please use the Buffer.alloc(), Buffer.allocUnsafe(
), or Buffer.from() methods instead.
(Use `Code --trace-deprecation ...` to show where the warning was created)
Extension 'eg2.tslint' v1.0.47 was successfully installed.

Installing extension esbenp.prettier-vscode...
Installing extensions...
Installing extension 'esbenp.prettier-vscode'...
(node:4024) [DEP0005] DeprecationWarning: Buffer() is deprecated due to security and usability issues. Please use the Buffer.alloc(), Buffer.allocUnsafe(
), or Buffer.from() methods instead.
(Use `Code --trace-deprecation ...` to show where the warning was created)
Extension 'esbenp.prettier-vscode' v9.3.0 was successfully installed.

Installing extension vscode-icons-team.vscode-icons...
Installing extensions...
Installing extension 'vscode-icons-team.vscode-icons'...
(node:5360) [DEP0005] DeprecationWarning: Buffer() is deprecated due to security and usability issues. Please use the Buffer.alloc(), Buffer.allocUnsafe(
), or Buffer.from() methods instead.
(Use `Code --trace-deprecation ...` to show where the warning was created)
Extension 'vscode-icons-team.vscode-icons' v11.10.0 was successfully installed.
VS Code version 1.64.2 f80445acd5a3dadef24aa209168452a3d97cc326 x64 installed

Download and install Automated Test Platform

Enter folder to install Sage X3 Automated Test Platform to (leave blank to use current folder): C:\Users\X3admin\Documents\ATP
Downloading VS Build Tools...
vs-buildtools.exe downloaded
Installing VS Build Tools...
                        Please wait. This may take some time


VS Build Tools installation complete!
```



```
npm WARN            request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142
npm WARN            har-validator@5.1.5: this library is no longer supported
npm WARN            uuid@3.4.0: Please upgrade  to version 7 or higher.  Older versions may use Math.random() in certain circumstances, which is known to
 be problematic.  See https://v8.dev/blog/math-random for details.
C:\Users\x3admin\AppData\Roaming\npm\npm-cli-login -> C:\Users\x3admin\AppData\Roaming\npm\node_modules\npm-cli-login\bin\npm-cli-login.js
+ npm-cli-login@1.0.0
added 105 packages from 90 contributors in 11.328s
Enter Sage X3 Automated Test Platform Username: atp-access
Enter Sage X3 Automated Test Platform Password: ******************
info attempt registry request try #1 at 10:32:47 http request PUT https://repository.sagex3.com:8443/repository/atp-npm/-/user/org.couchdb.user:atp-acces
s http 201 https://repository.sagex3.com:8443/repository/atp-npm/-/user/org.couchdb.user:atp-access
Login to Sage X3 Automated Test Platform repository succeeded
Installing Sage X3 Automated Test Platform 2.6.0 ...
npm WARN            uuid@3.4.0: Please upgrade  to version 7 or higher.  Older versions may use Math.random() in certain circumstances, which is known to
 be problematic.  See https://v8.dev/blog/math-random for details.
npm WARN            cucumber@6.0.5: The npm package has moved to @cucumber/cucumber
npm WARN            intl-messageformat-parser@1.8.1: We've written a new parser that's 6x faster and is backwards compatible. Please use @formatjs/icu-me
ssageformat-parser
npm WARN            request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142
npm WARN            xmldom@0.1.19: Deprecated due to CVE-2021-21366 resolved in 0.5.0
npm WARN            har-validator@5.1.5: this library is no longer supported
npm WARN            uuid@3.3.2: Please upgrade  to version 7 or higher.  Older versions may use Math.random() in certain circumstances, which is known to
 be problematic.  See https://v8.dev/blog/math-random for details.
npm WARN            core-js@1.2.7: core-js@<3.4 is no longer maintained and not recommended for usage due to the number of issues. Because of the V8 engi
ne whims, feature detection in old core-js versions could cause a slowdown up to 100x even if nothing is polyfilled. Please, upgrade your dependencies to
 the actual version of core-js.
npm WARN           ENOENT: no such file or directory, open 'C:\Users\X3admin\Documents\ATP\package.json'
npm notice created a lockfile as package-lock.json. You should commit this file.
npm WARN          SKIPPING OPTIONAL DEPENDENCY: fsevents@~2.3.2 (node_modules\chokidar\node_modules\fsevents):
npm WARN        SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (current: {"os":"win32","arch"
:"x64"})
npm WARN        ENOENT: no such file or directory, open 'C:\Users\X3admin\Documents\ATP\package.json'
npm WARN ATP No description
npm WARN ATP No repository field.
npm WARN ATP No README data
npm WARN ATP No license field.

+ @sageatp/x3-atppackage@2.6.0
added 925 packages from 818 contributors and audited 926 packages in 82.02s

67 packages are looking for funding
  run `npm fund` for details

found 18 vulnerabilities (6 low, 10 moderate, 2 high)
  run `npm audit fix` to fix them, or `npm audit` for details

> @sageatp/x3-atppackage@2.6.0 postinstall C:\Users\X3admin\Documents\ATP
> npm run copy-parameters && npm run copy-user-stored-values && npm run create-workspace


> @sageatp/x3-atppackage@2.6.0 copy-parameters C:\Users\X3admin\Documents\ATP
> if not exist cucumber-config\parameters (copy cucumber-config\parameters_template cucumber-config\parameters)

        1 file(s) copied.

> @sageatp/x3-atppackage@2.6.0 copy-user-stored-values C:\Users\X3admin\Documents\ATP
> if not exist cucumber-user-config\user\user-stored-values (copy cucumber-user-config\user\user-stored-values_template cucumber-user-config\user\user-st
ored-values)

        1 file(s) copied.

> @sageatp/x3-atppackage@2.6.0 create-workspace C:\Users\X3admin\Documents\ATP
> if not exist Workspace (mkdir Workspace)

npm WARN @sageatp/x3-atppackage@2.6.0 No description
npm WARN @sageatp/x3-atppackage@2.6.0 No repository field.
npm WARN          SKIPPING OPTIONAL DEPENDENCY: fsevents@2.3.2 (node_modules\fsevents):
npm WARN        SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (current: {"os":"win32","arch"
:"x64"})

audited 931 packages in 9.417s

67 packages are looking for funding
  run `npm fund` for details

found 18 vulnerabilities (6 low, 10 moderate, 2 high)
  run `npm audit fix` to fix them, or `npm audit` for details
Sage X3 Automated Test Platform 2.6.0 installed successfully!


Installation complete, starting VS Code...


PS C:\Users\X3admin\Documents\ATP> _
```

Visual Studio is automatically launched. Check the box and click “Yes, I trust the authors”



Get Started with VS Code

Discover the best customizations to make VS Code yours.

Do you trust the authors of the files in this folder?

Code provides features that may automatically execute files in this folder.

If you don't trust the authors of these files, we recommend to continue in restricted mode as the files may be malicious. See our docs to learn more.

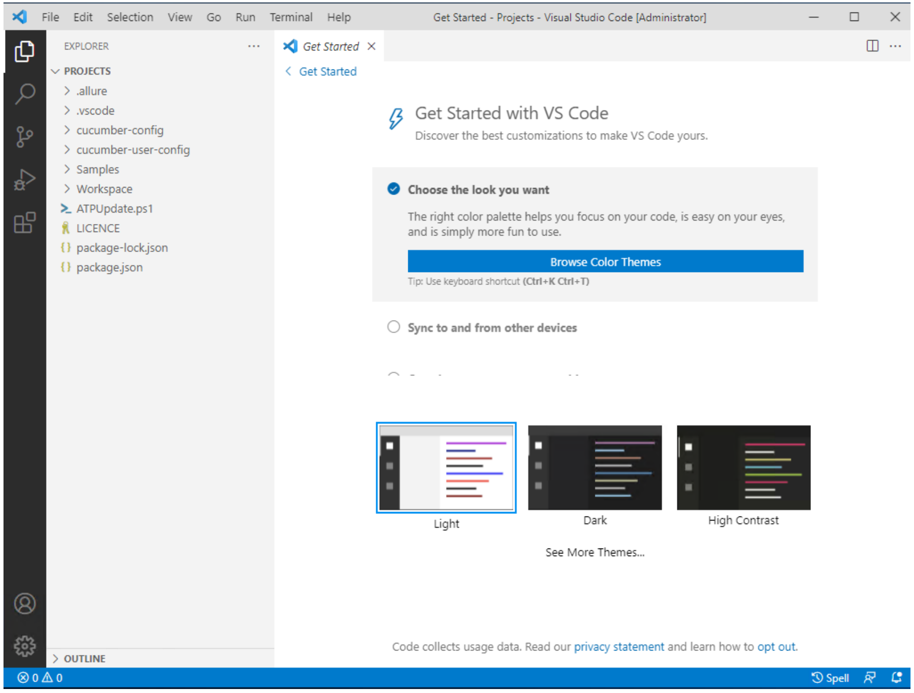
```
C:\Sage\ATP\Projects
```

☑ Trust the authors of all files in the parent folder 'ATP'

Yes, I trust the authors
Trust folder and enable all features
No, I don't trust the authors
Browse folder in restricted mode

Code collects usage data. Read our privacy statement and learn how to opt out.

I prefer “light” colour scheme



Get Started with VS Code

Discover the best customizations to make VS Code yours.

● Choose the look you want

The right color palette helps you focus on your code, is easy on your eyes, and is simply more fun to use.

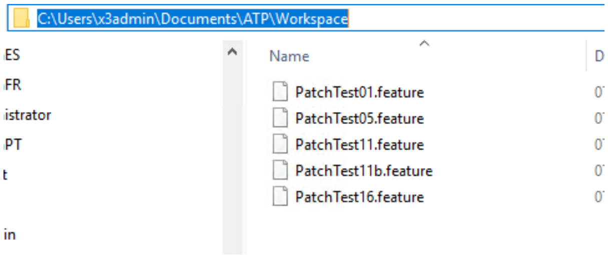
Tip: Use keyboard shortcut (Ctrl+K Ctrl+T)

○ Sync to and from other devices

Code collects usage data. Read our privacy statement and learn how to opt out.

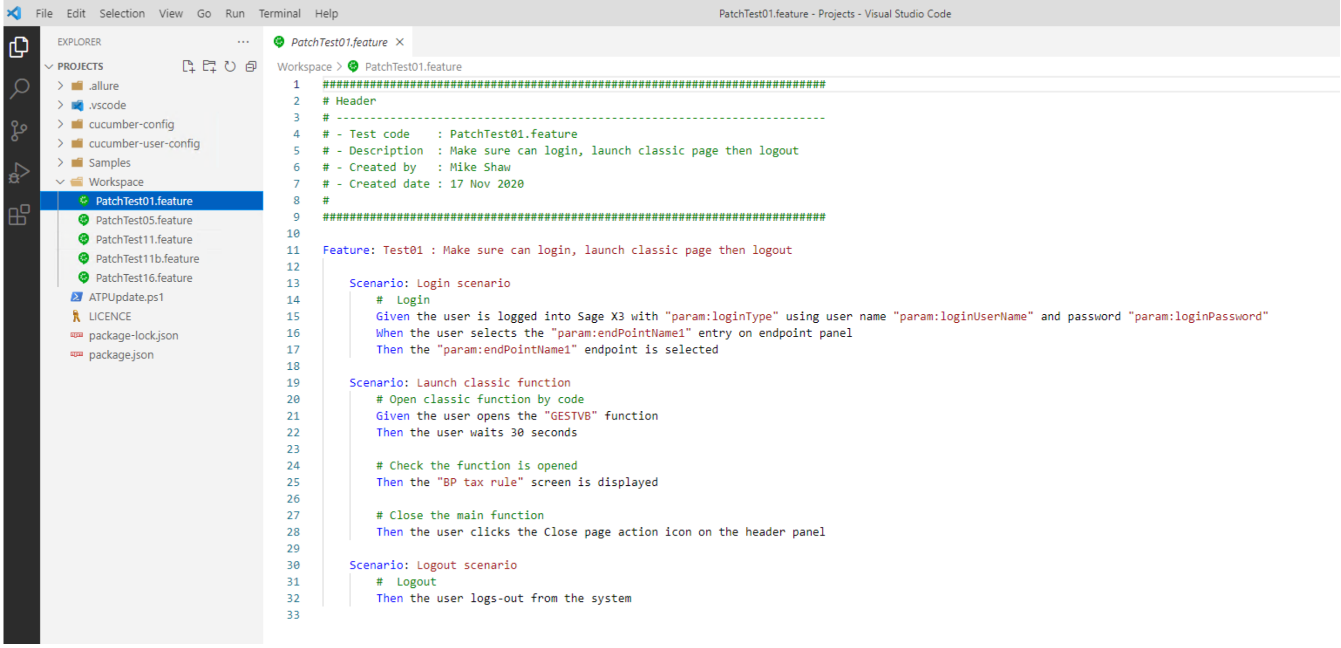
Close Visual studio

Copy any existing testscripts to C:\Users\x3admin\Documents\ATP\Workspace



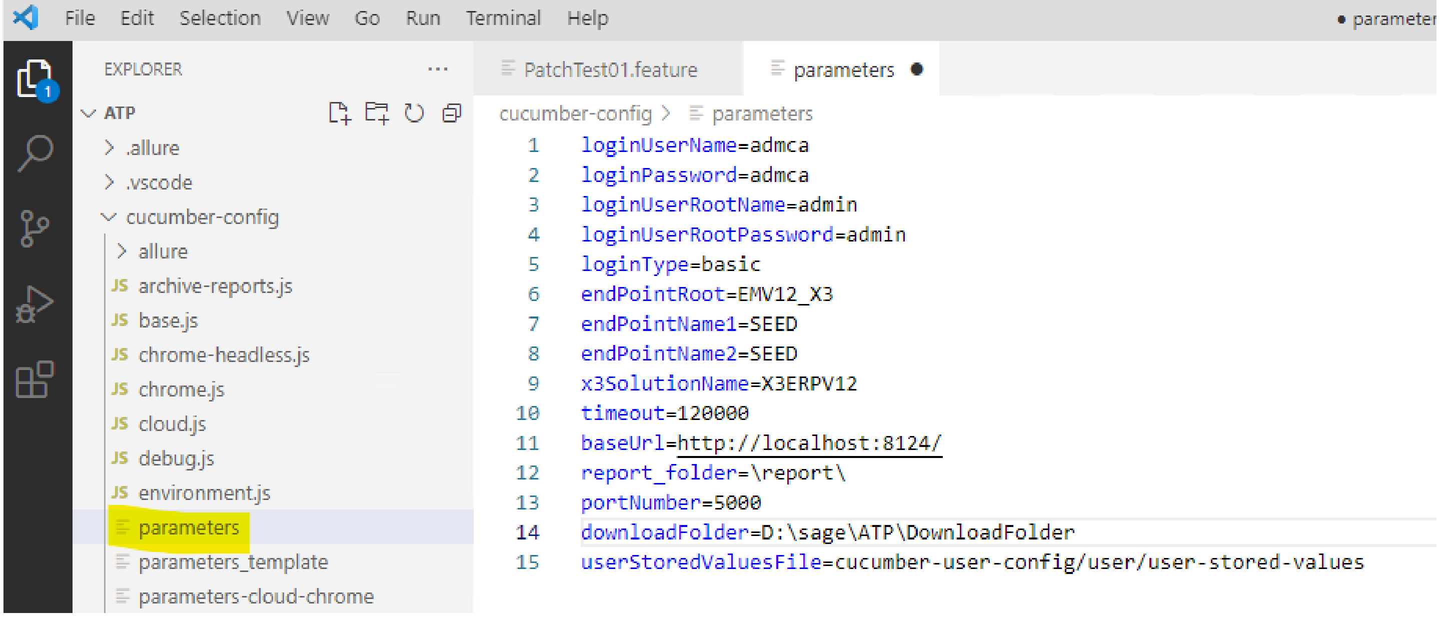
PatchTest01.feature
PatchTest05.feature
PatchTest11.feature
PatchTest11b.feature
PatchTest16.feature

Launch Visual studio again and open Workspace directory to check the scripts are found OK



```
############################################################################
# Header
# -------------------------------------------------------------------------
# - Test code    : PatchTest01.feature
# - Description  : Make sure can login, launch classic page then logout
# - Created by   : Mike Shaw
# - Created date : 17 Nov 2020
#
############################################################################

Feature: Test01 : Make sure can login, launch classic page then logout

    Scenario: Login scenario
        #  Login
        Given the user is logged into Sage X3 with "param:loginType" using user name "param:loginUserName" and password "param:loginPassword"
        When the user selects the "param:endPointName1" entry on endpoint panel
        Then the "param:endPointName1" endpoint is selected

    Scenario: Launch classic function
        # Open classic function by code
        Given the user opens the "GESTVB" function
        Then the user waits 30 seconds

        # Check the function is opened
        Then the "BP tax rule" screen is displayed

        # Close the main function
        Then the user clicks the Close page action icon on the header panel

    Scenario: Logout scenario
        #  Logout
        Then the user logs-out from the system

```

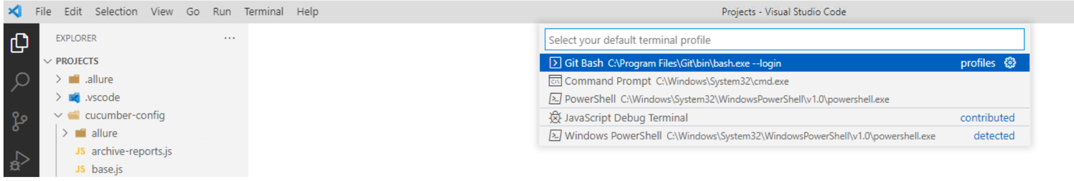
Edit the cucumber-config, parameters file, as shown below:



```
loginUserName=admca
loginPassword=admca
loginUserRootName=admin
loginUserRootPassword=admin
loginType=basic
endPointRoot=EMV12_X3
endPointName1=SEED
endPointName2=SEED
x3SolutionName=X3ERPV12
timeout=120000
baseUrl=http://localhost:8124/
report_folder=\report\
portNumber=5000
downloadFolder=D:\sage\ATP\DownloadFolder
userStoredValuesFile=cucumber-user-config/user/user-stored-values
```

Set default editor to be “Git Bash”

Ctrl-Shft-P then type “select default profile” and select Git Bash



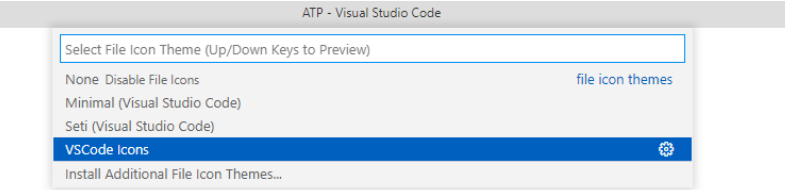
Select your default terminal profile

```
Git Bash  C:\Program Files\Git\bin\bash.exe --login                              profiles
Command Prompt  C:\Windows\System32\cmd.exe
PowerShell  C:\Windows\System32\WindowsPowerShell\v1.0\powershell.exe
JavaScript Debug Terminal                                                          contributed
Windows PowerShell  C:\Windows\System32\WindowsPowerShell\v1.0\powershell.exe      detected
```

Setup VSCode icons

File, Preferences, File Icon Theme

Select VSCode Icons



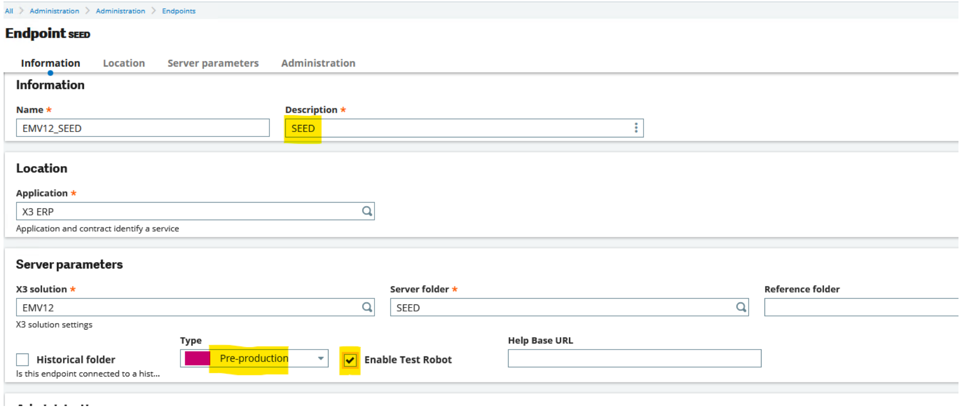
Select File Icon Theme (Up/Down Keys to Preview)

```
None  Disable File Icons                         file icon themes
Minimal (Visual Studio Code)
Seti (Visual Studio Code)
VSCode Icons
Install Additional File Icon Themes...
```

Setup X3

Setup SEED folder for use with ATP

Navigate to Administration, Administration, Endpoints, Endpoints
Set the description to “SEED”
Change Type to “Pre-production” (or any value other than “Production”)
Select “Enable Test Robot”
Save these changes



All > Administration > Administration > Endpoints

Endpoint SEED

Information | Location | Server parameters | Administration

Information

Name *	Description *
EMV12_SEED	SEED

Location

Application *
X3 ERP
Application and contract identify a service

Server parameters

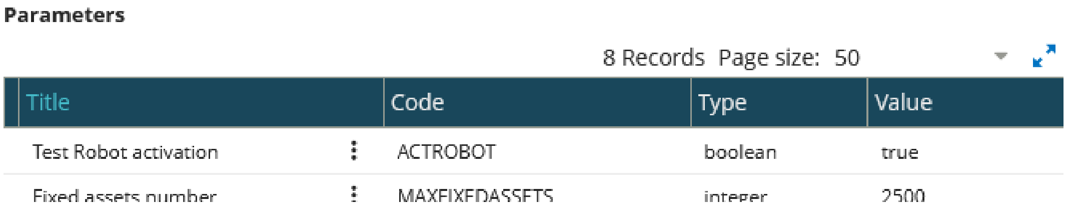
X3 solution *	Server folder *	Reference folder
EMV12	SEED	

X3 solution settings

	Type		Help Base URL
□ Historical folder	Pre-production	☑ Enable Test Robot	

Is this endpoint connected to a hist...

NOTE: your X3 license also needs to include ACTROBOT to run ATP



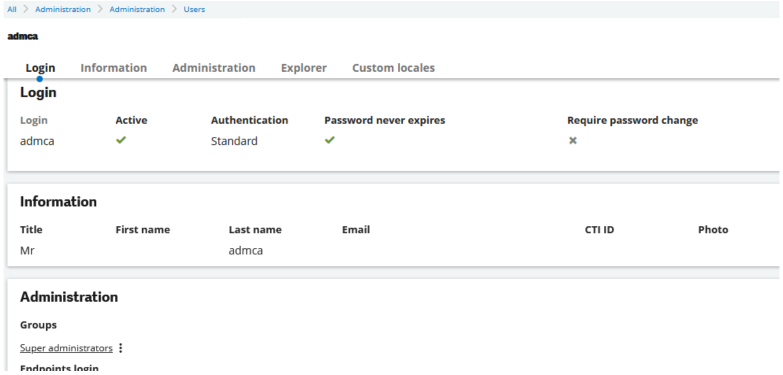
Parameters

8 Records Page size: 50

Title	Code	Type	Value
Test Robot activation	ACTROBOT	boolean	true
Fixed assets number	MAXFIXEDASSETS	integer	2500

Navigate to Administration, Administration, Users, Users

Create user ADMCA, set the user to active and change password to “admca”, set “Password never expires”



All > Administration > Administration > Users

admca

Login | Information | Administration | Explorer | Custom locales

Login

Login	Active	Authentication	Password never expires	Require password change
admca	✓	Standard	✓	✗

Information

Title	First name	Last name	Email	CTI ID	Photo
Mr		admca			

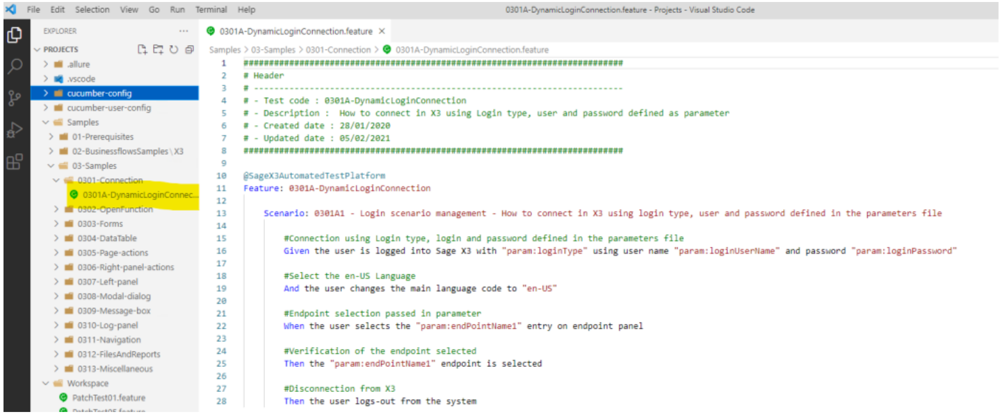
Administration

Groups
Super administrators
Endpoints login

Check ADMCA user is setup as SEED folder (should be there OK)
Login as ADMCA user, confirm connected to SEED folder and check all looks ok. Then logout

Test ATP is working OK

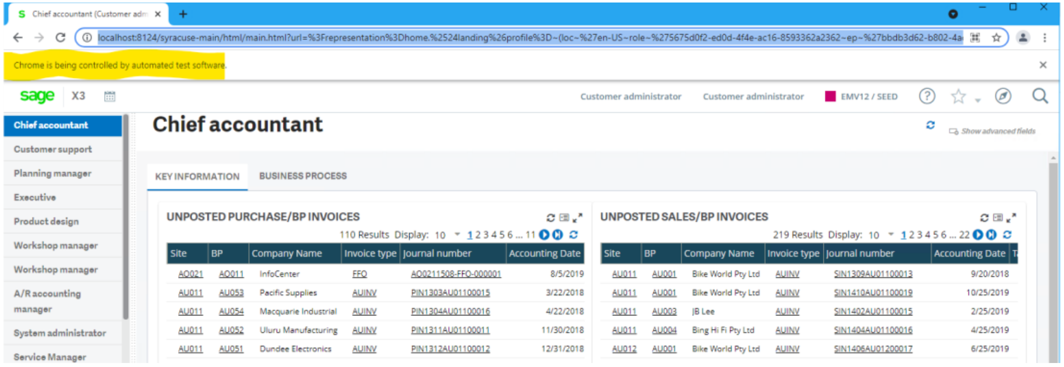
Open the Dynamic Login Connection feature from the "Samples"



```
##############################################################################
# Header
# ----------------------------------------------------------------------------
# - Test code : 0301A-DynamicLoginConnection
# - Description :  How to connect in X3 using Login type, user and password defined as parameter
# - Created date : 28/01/2020
# - Updated date : 05/02/2021
##############################################################################

@SageX3AutomatedTestPlatform
Feature: 0301A-DynamicLoginConnection

    Scenario: 0301A1 - Login scenario management - How to connect in X3 using login type, user and password defined in the parameters file

        #Connection using Login type, login and password defined in the parameters file
        Given the user is logged into Sage X3 with "param:loginType" using user name "param:loginUserName" and password "param:loginPassword"

        #Select the en-US Language
        And the user changes the main language code to "en-US"

        #Endpoint selection passed in parameter
        When the user selects the "param:endPointName1" entry on endpoint panel

        #Verification of the endpoint selected
        Then the "param:endPointName1" endpoint is selected

        #Disconnection from X3
        Then the user logs-out from the system
```

Press F5 to launch

The test should launch a Chrome browser and login as ADMCA user, then logout again



UNPOSTED PURCHASE/BP INVOICES

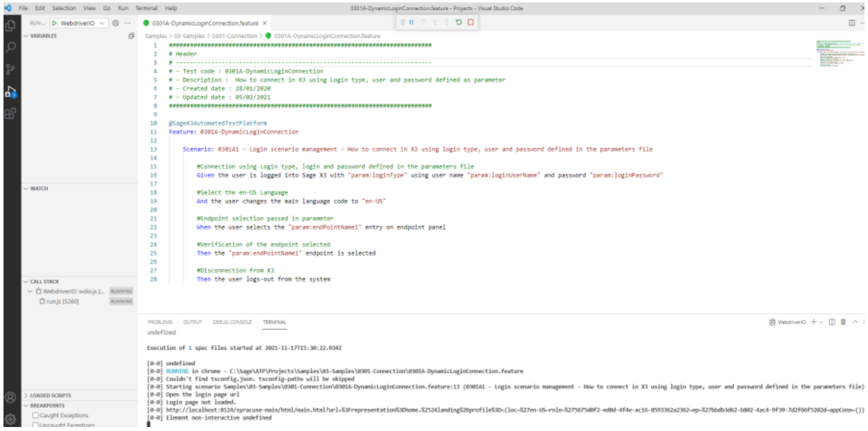
110 Results Display: 10 1 2 3 4 5 6 ... 11

Site	BP	Company Name	Invoice type	Journal number	Accounting Date
AO021	AO011	InfoCenter	FFO	AO0211508-FFO-000001	8/5/2019
AU011	AU053	Pacific Supplies	AUINV	PIN1303AU01100015	3/22/2018
AU011	AU054	Macquarie Industrial	AUINV	PIN1304AU01100016	4/22/2018
AU011	AU052	Uluru Manufacturing	AUINV	PIN1311AU01100011	11/30/2018
AU011	AU051	Dundee Electronics	AUINV	PIN1312AU01100012	12/31/2018

UNPOSTED SALES/BP INVOICES

219 Results Display: 10 1 2 3 4 5 6 ... 22

Site	BP	Company Name	Invoice type	Journal number	Accounting Date	T
AU011	AU001	Bike World Pty Ltd	AUINV	SIN1309AU01100013	9/20/2018	
AU011	AU001	Bike World Pty Ltd	AUINV	SIN1410AU01100019	10/25/2019	
AU011	AU003	JB Lee	AUINV	SIN1402AU01100015	2/25/2019	
AU011	AU004	Bing Hi Fi Pty Ltd	AUINV	SIN1404AU01100016	4/25/2019	
AU012	AU001	Bike World Pty Ltd	AUINV	SIN1406AU01200017	6/25/2019	



File Edit Selection View Go Run Terminal Help
0301A-DynamicLoginConnection.feature - Projects - Visual Studio Code
RUN ... WebdriverIO
VARIABLES
WATCH
CALL STACK
RUNNING
RUNNING
LOADED SCRIPTS
BREAKPOINTS
Caught Exceptions
Uncaught Exceptions
0301A-DynamicLoginConnection.feature
Samples > 03-Samples > 0301-Connection > 0301A-DynamicLoginConnection.feature
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
WebdriverIO

```
##############################################################################
# Header
# ----------------------------------------------------------------------------
# - Test code : 0301A-DynamicLoginConnection
# - Description :  How to connect in X3 using Login type, user and password defined as parameter
# - Created date : 28/01/2020
# - Updated date : 05/02/2021
##############################################################################

@SageX3AutomatedTestPlatform
Feature: 0301A-DynamicLoginConnection

    Scenario: 0301A1 - Login scenario management - How to connect in X3 using login type, user and password defined in the parameters file

        #Connection using Login type, login and password defined in the parameters file
        Given the user is logged into Sage X3 with "param:loginType" using user name "param:loginUserName" and password "param:loginPassword"

        #Select the en-US Language
        And the user changes the main language code to "en-US"

        #Endpoint selection passed in parameter
        When the user selects the "param:endPointName1" entry on endpoint panel

        #Verification of the endpoint selected
        Then the "param:endPointName1" endpoint is selected

        #Disconnection from X3
        Then the user logs-out from the system
```

```
undefined

Execution of 1 spec files started at 2021-11-17T15:30:22.934Z

[0-0] undefined
[0-0] RUNNING in chrome - C:\Sage\ATP\Projects\Samples\03-Samples\0301-Connection\0301A-DynamicLoginConnection.feature
[0-0] Couldn't find tsconfig.json. tsconfig-paths will be skipped
[0-0] Starting scenario Samples\03-Samples\0301-Connection\0301A-DynamicLoginConnection.feature:13 (0301A1 - Login scenario management - How to connect in X3 using login type, user and password defined in the parameters file)
[0-0] Open the login page url
[0-0] Login page not loaded.
[0-0] http://localhost:8124/syracuse-main/html/main.html?url=%3Frepresentation%3Dhome.%2524landing%26profile%3D~(loc~%27en-US~role~%275675d0f2-ed0d-4f4e-ac16-8593362a2362~ep~%27bbdb3d62-b802-4ac4-9f39-7d2f60f5202d~appConn~())
[0-0] Element non-interactive undefined
```

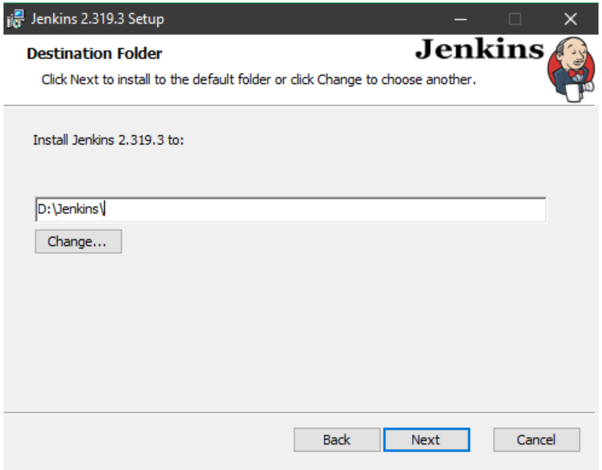
The basic ATP client is now working OK and can be used in isolation for testing purposes. If you want to use Jenkins to run the tests automatically, the continue with the next section.

Jenkins installation

Review the Installing Jenkins documentation https://online-help.sageerpx3.com/erp/12/wp-static-content/public/ATP%20Jenkins%20installation%20and%20setup/Content/How-to%20guides/Platform/ATP%20Jenkins%20installation%20and%20setup/T3_Jenkins_Installation.htm

I already have a Windows user “X3run” configured which will be used to run the Jenkins service

Launch “D:\Software\ jenkins.msi”



Jenkins 2.319.3 Setup

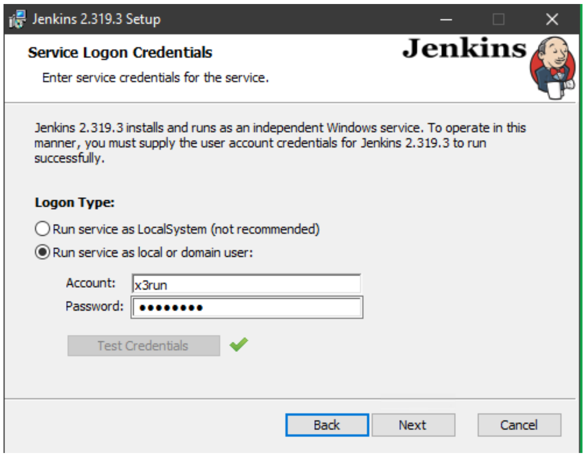
Destination Folder

Click Next to install to the default folder or click Change to choose another.

Install Jenkins 2.319.3 to:

D:\Jenkins\

Enter then test the user credentials



Jenkins 2.319.3 Setup

Service Logon Credentials

Enter service credentials for the service.

Jenkins 2.319.3 installs and runs as an independent Windows service. To operate in this manner, you must supply the user account credentials for Jenkins 2.319.3 to run successfully.

Logon Type:

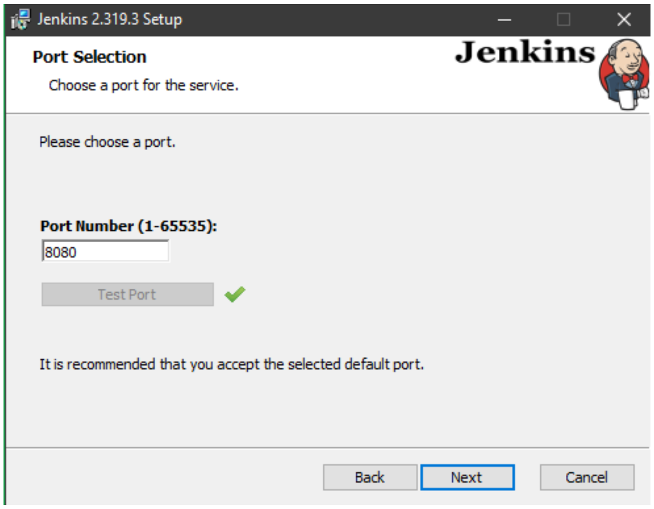
○ Run service as LocalSystem (not recommended)

● Run service as local or domain user:

Account: x3run

Password: ••••••••

Test the port (Default 8080 is OK in my situation)



Port Selection

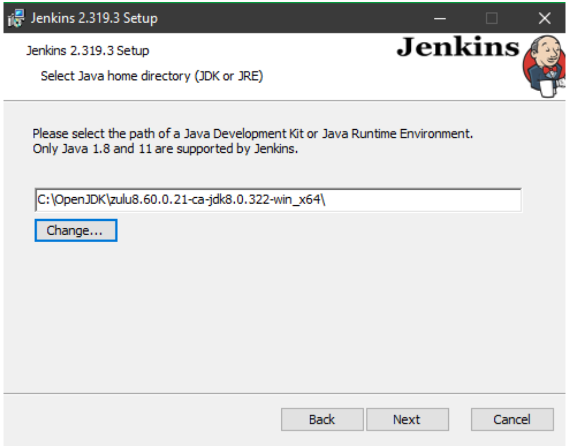
Choose a port for the service.

Please choose a port.

Port Number (1-65535): 8080

It is recommended that you accept the selected default port.

Pick the correct java path



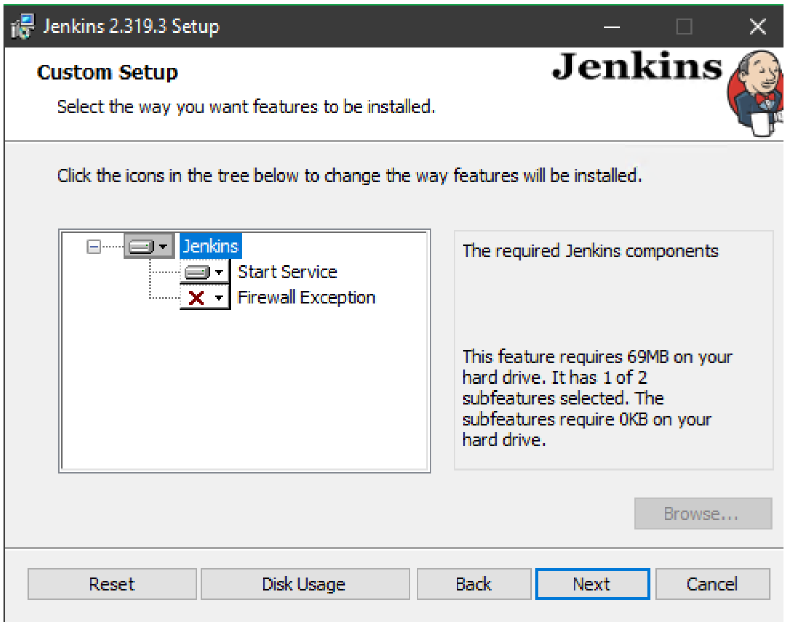
Jenkins 2.319.3 Setup

Select Java home directory (JDK or JRE)

Please select the path of a Java Development Kit or Java Runtime Environment.
Only Java 1.8 and 11 are supported by Jenkins.

C:\OpenJDK\zulu8.60.0.21-ca-jdk8.0.322-win_x64\

Click Next



Custom Setup

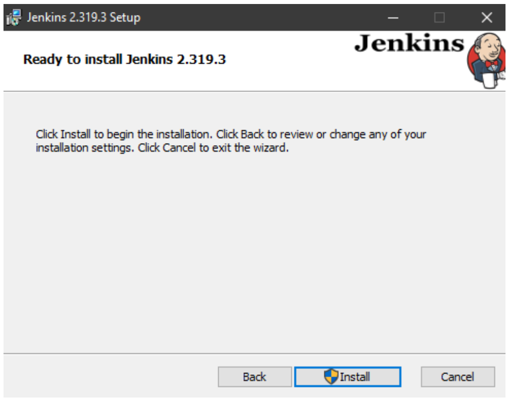
Select the way you want features to be installed.

Click the icons in the tree below to change the way features will be installed.

The required Jenkins components

This feature requires 69MB on your hard drive. It has 1 of 2 subfeatures selected. The subfeatures require 0KB on your hard drive.

Click Install



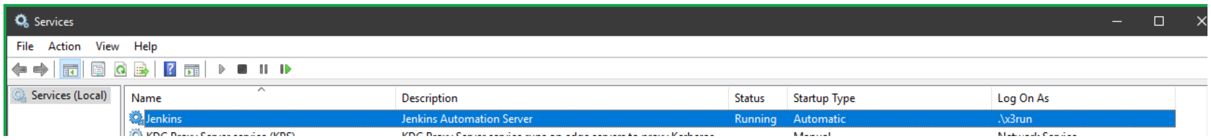
Jenkins 2.319.3 Setup

Ready to install Jenkins 2.319.3

Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.

Check It finishes OK

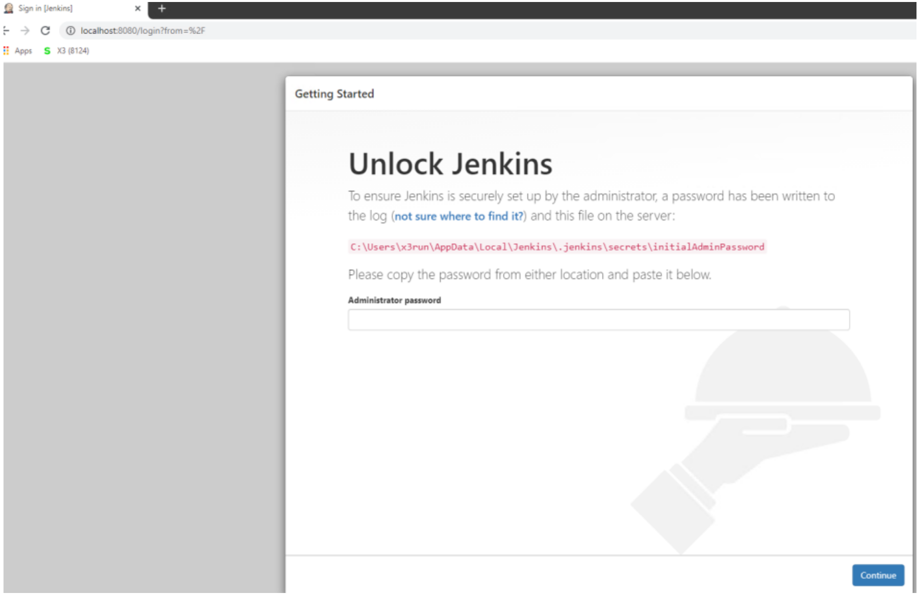
Check the service is there and started OK



Name	Description	Status	Startup Type	Log On As
Jenkins	Jenkins Automation Server	Running	Automatic	.\x3run

Launch browser URL http://localhost:8080/

Enter password and Continue



Unlock Jenkins

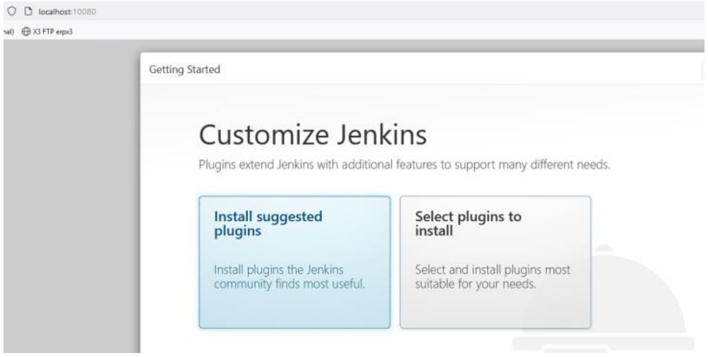
To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

```
C:\Users\x3run\AppData\Local\Jenkins\.jenkins\secrets\initialAdminPassword
```

Please copy the password from either location and paste it below.

Administrator password

Click “Install suggested plugins”



Customize Jenkins

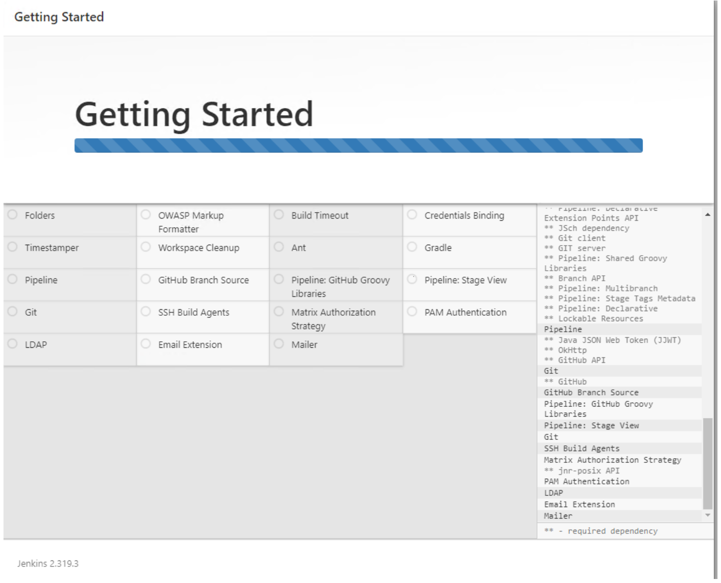
Plugins extend Jenkins with additional features to support many different needs.

Install suggested plugins

Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

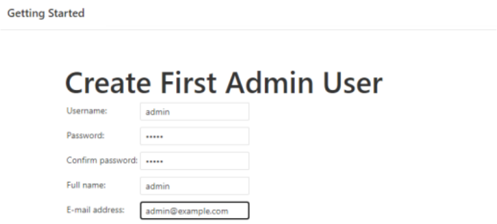


Getting Started

○ Folders	○ OWASP Markup Formatter	○ Build Timeout	○ Credentials Binding
○ Timestamper	○ Workspace Cleanup	○ Ant	○ Gradle
○ Pipeline	○ GitHub Branch Source	○ Pipeline: GitHub Groovy Libraries	○ Pipeline: Stage View
○ Git	○ SSH Build Agents	○ Matrix Authorization Strategy	○ PAM Authentication
○ LDAP	○ Email Extension	○ Mailer	

```
** Pipeline: Declarative
Extension Points API
** JSch dependency
** Git client
** GIT server
** Pipeline: Shared Groovy
Libraries
** Branch API
** Pipeline: Multibranch
** Pipeline: Stage Tags Metadata
** Pipeline: Declarative
** Lockable Resources
Pipeline
** Java JSON Web Token (JJWT)
** OkHttp
** GitHub API
Git
** GitHub
GitHub Branch Source
Pipeline: GitHub Groovy
Libraries
Pipeline: Stage View
Git
SSH Build Agents
Matrix Authorization Strategy
** jnr-posix API
PAM Authentication
LDAP
Email Extension
Mailer
** - required dependency
```

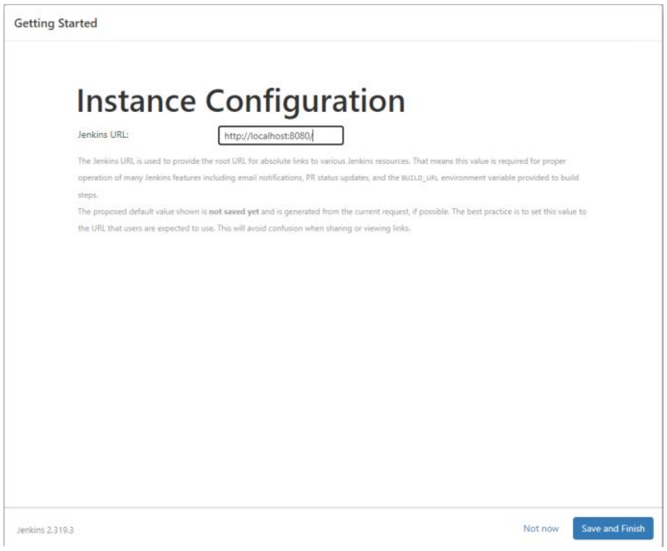
Create user admin (Password “admin”)



Create First Admin User

Username:	admin
Password:	•••••
Confirm password:	•••••
Full name:	admin
E-mail address:	admin@example.com

Save and Finish



Getting Started

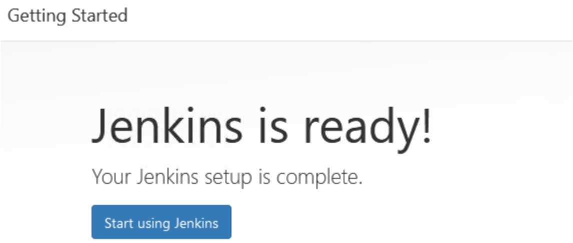
Instance Configuration

Jenkins URL: http://localhost:8080/

The Jenkins URL is used to provide the root URL for absolute links to various Jenkins resources. That means this value is required for proper operation of many Jenkins features including email notifications, PR status updates, and the `BUILD_URL` environment variable provided to build steps.

The proposed default value shown is **not saved yet** and is generated from the current request, if possible. The best practice is to set this value to the URL that users are expected to use. This will avoid confusion when sharing or viewing links.

Jenkins 2.319.3

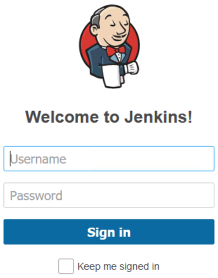


Getting Started

Jenkins is ready!

Your Jenkins setup is complete.

Logout and login again

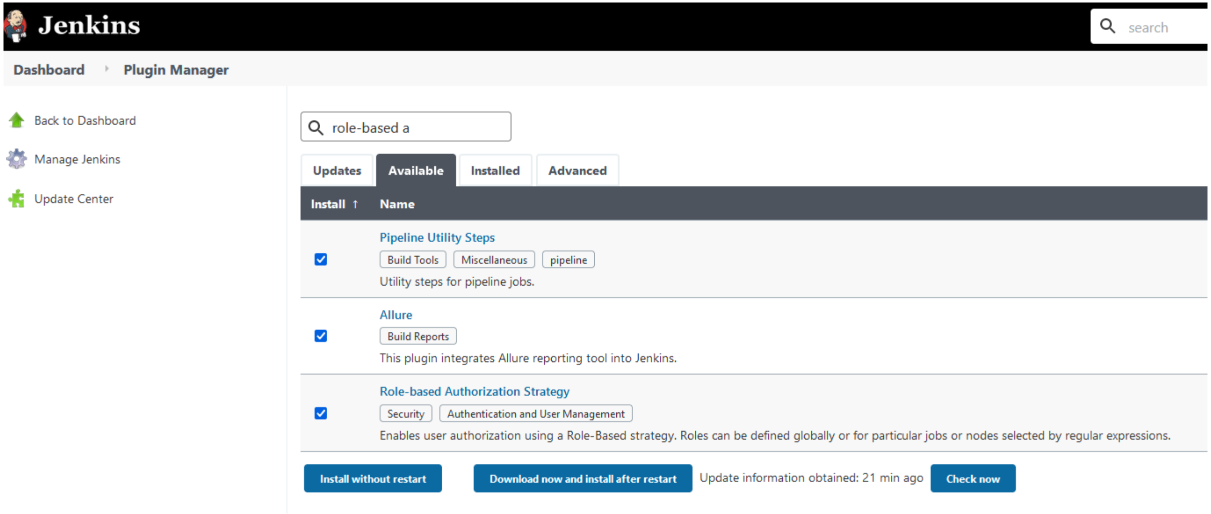


Welcome to Jenkins!

Install required plugins

Navigate to Manage Jenkins, Manage Plugins

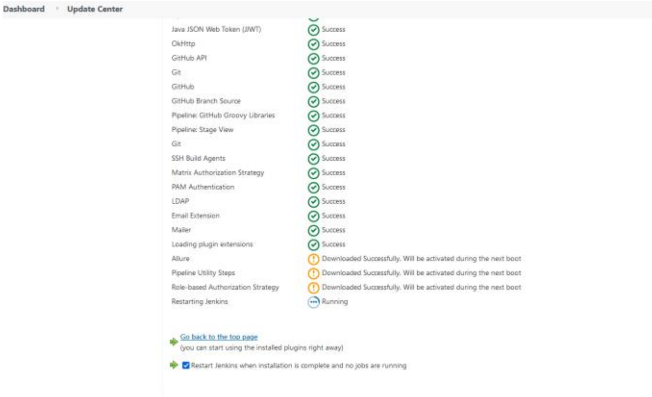
From the "Available" tab, add required plugins, then click "Download now and install after restart"



Install ↑	Name
☑	Pipeline Utility Steps Build Tools · Miscellaneous · pipeline Utility steps for pipeline jobs.
☑	Allure Build Reports This plugin integrates Allure reporting tool into Jenkins.
☑	Role-based Authorization Strategy Security · Authentication and User Management Enables user authorization using a Role-Based strategy. Roles can be defined globally or for particular jobs or nodes selected by regular expressions.

Install without restart
Download now and install after restart
Update information obtained: 21 min ago
Check now

Select the checkbox "Restart Jenkins when installation is complete and no jobs are running"; then click "Go back to the top page"



Java JSON Web Token (JWT)	Success
OkHttp	Success
GitHub API	Success
Git	Success
GitHub	Success
GitHub Branch Source	Success
Pipeline: GitHub Groovy Libraries	Success
Pipeline: Stage View	Success
Git	Success
SSH Build Agents	Success
Matrix Authorization Strategy	Success
PAM Authentication	Success
LDAP	Success
Email Extension	Success
Mailer	Success
Loading plugin extensions	Success
Allure	Downloaded Successfully. Will be activated during the next boot
Pipeline Utility Steps	Downloaded Successfully. Will be activated during the next boot
Role-based Authorization Strategy	Downloaded Successfully. Will be activated during the next boot
Restarting Jenkins	Running

Go back to the top page
(you can start using the installed plugins right away)

☑ Restart Jenkins when installation is complete and no jobs are running

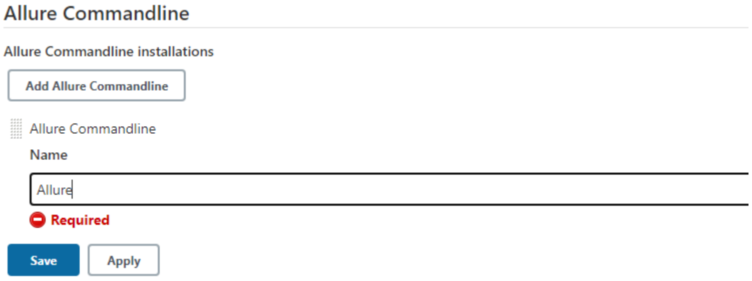
Login again and check the above plugins appear as "Installed"

Found that Jenkins didn't restart. Was getting error continually writing in d:\Jenkins\Jenkins.err.log file "*WARNING h.s.HttpSessionContextIntegrationFilter2#hasInvalidSessionSeed: Encountered IllegalStateException trying to get a user. System init may not have completed yet. Invalidating user session.*"

Restarted the Jenkins service and that seemed to resolve the issue.

Setup Allure

Navigate to Manage Jenkins, Global tool configuration
Allure Commandline section and click “Add Allure commandline”
Name: Allure
Save



Allure Commandline

Allure Commandline installations

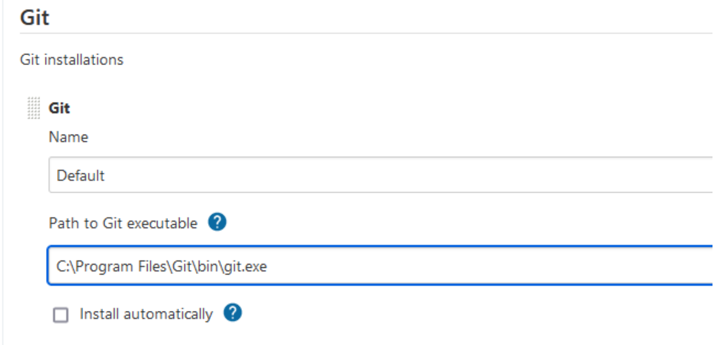
Allure Commandline

Name: Allure

Required

Setup GitHub

Navigate to Manage Jenkins, Global tool configuration, Git



Git

Git installations

Git

Name: Default

Path to Git executable: C:\Program Files\Git\bin\git.exe

□ Install automatically

Save

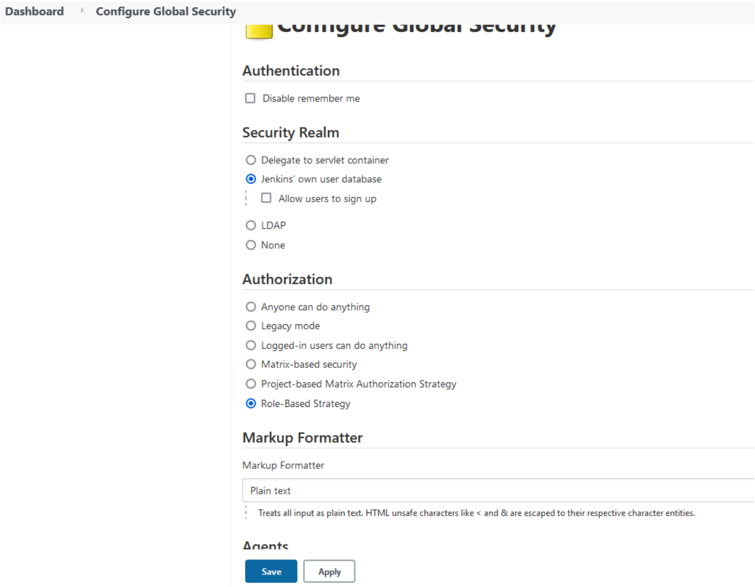
Jenkins user setup

For speed I am going to use “admin” user only so wont setup any other users as described in the documentation, however this is not best practice.

Navigate to Manage Jenkins, Configure Global Security,

In the “Authorization” section, select “Role-Based strategy”

Save



Dashboard › Configure Global Security

Configure Global Security

Authentication

☐ Disable remember me

Security Realm

○ Delegate to servlet container
● Jenkins' own user database
☐ Allow users to sign up
○ LDAP
○ None

Authorization

○ Anyone can do anything
○ Legacy mode
○ Logged-in users can do anything
○ Matrix-based security
○ Project-based Matrix Authorization Strategy
● Role-Based Strategy

Markup Formatter

Markup Formatter: Plain text

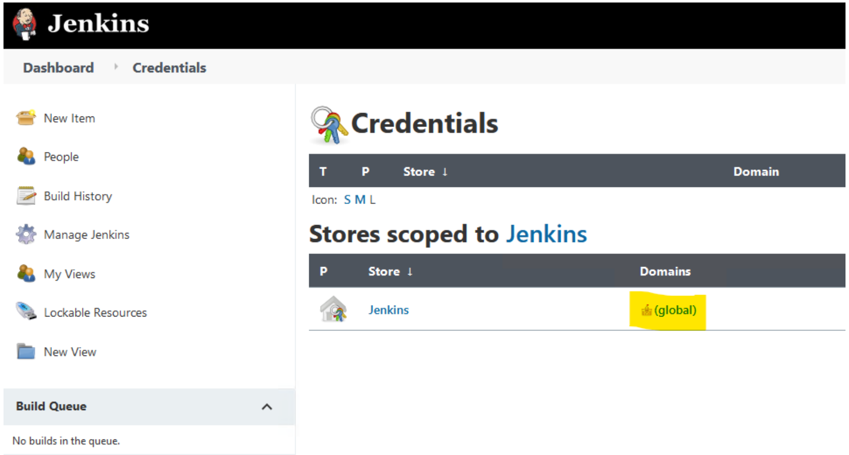
Treats all input as plain text. HTML unsafe characters like < and & are escaped to their respective character entities.

Agents

Setup nexus repository credentials

Manage Jenkins, Manage credentials

Global link (domains column)



No builds in the queue.

Credentials

T	P	Store ↓	Domain

Icon: S M L

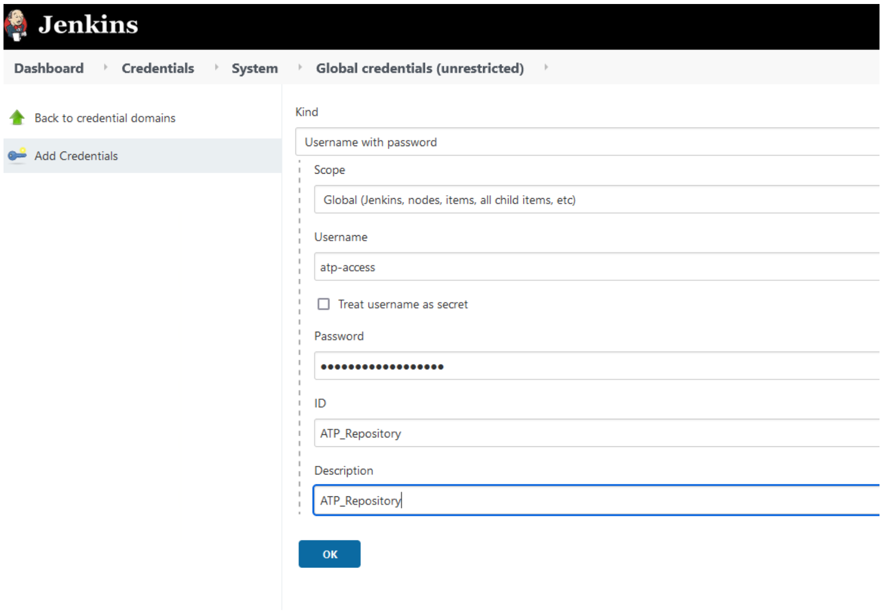
Stores scoped to Jenkins

P	Store ↓	Domains
	Jenkins	(global)

NOTE: the username/password are in the “Nexus Credentials.txt” file in the directory “C:\Users\x3admin\Documents\ATPInstallScripts\atp-2.6.0-win\02-JenkinsPipelines”

Click “adding some credentials”

Kind: Username with password.
Scope: Global
Username: atp-access
Password: (as provided)
ID: ATP_Repository **** It is MANDATORY to use this exact value *****
Description: ATP_Repository



Kind

Username with password

Scope

Global (Jenkins, nodes, items, all child items, etc)

Username

atp-access

□ Treat username as secret

Password

••••••••••••••••••

ID

ATP_Repository

Description

ATP_Repository

Setup Jenkins Pipeline

Install default template

Launch URL http://localhost:8080/jnlpJars/jenkins-cli.jar and “Save file” into (any directory but for example) “D:\sage\ATP\tmp”

Copy file “C:\Users\x3admin\Documents\ATPInstallScripts\atp-2.6.0-win\02-JenkinsPipelines\ ATP-TemplateRunAutomatedTests.xml” to “D:\sage\ATP\tmp”

Launch Powershell “as administrator”

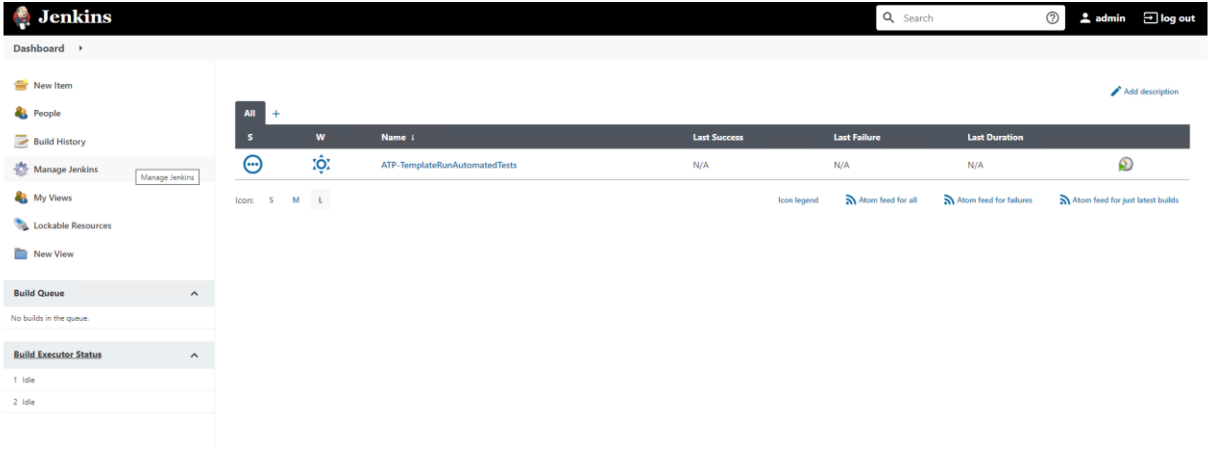
```
        cd D:\sage\ATP\tmp
```

Execute the following command (where admin/admin is the username/password you use to login to Jenkins):

```
        type ATP-TemplateRunAutomatedTests.xml | java -jar jenkins-cli.jar -s
        http://admin:admin@localhost:8080/ create-job ATP-TemplateRunAutomatedTests
```

(No output is returned by running this script)

Login to Jenkins and on the Dashboard page will see the template



S	W	Name ↓	Last Success	Last Failure	Last Duration
		ATP-TemplateRunAutomatedTests	N/A	N/A	N/A

Create new pipeline from the template to run

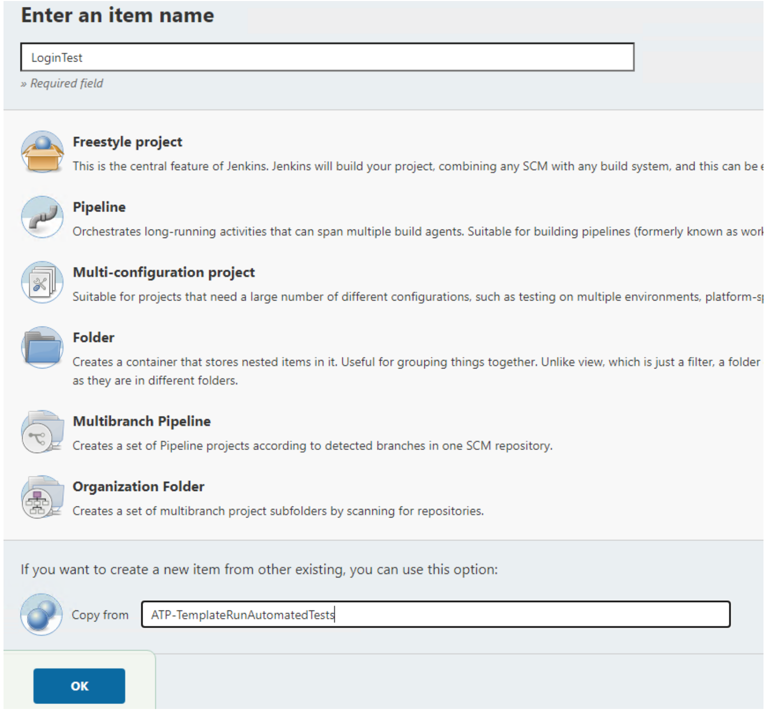
Click “New item”

Enter item name for the new pipeline, for example “LoginTest”

Select “Pipeline”

In “Copy from” enter ATP then pick the “ATP-TemplateRunAutomatedTests”

Click OK



Enter an item name

LoginTest

» *Required field*

Freestyle project
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be e

Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as worl

Multi-configuration project
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-s

Folder
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder as they are in different folders.

Multibranch Pipeline
Creates a set of Pipeline projects according to detected branches in one SCM repository.

Organization Folder
Creates a set of multibranch project subfolders by scanning for repositories.

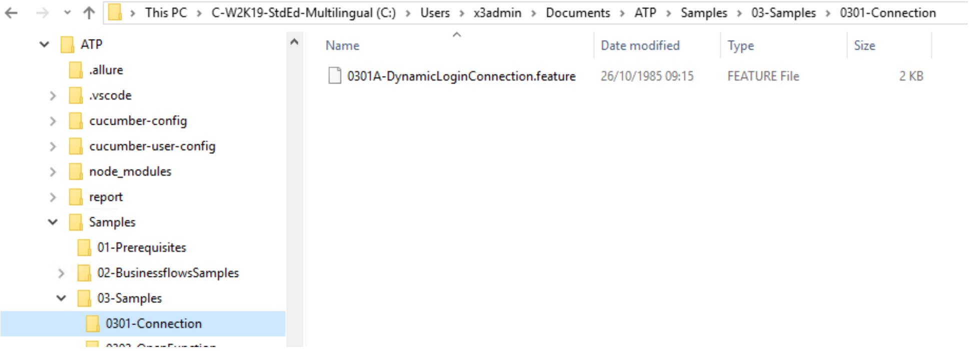
If you want to create a new item from other existing, you can use this option:

Copy from ATP-TemplateRunAutomatedTests

You are then prompted to configure the pipeline. (Or you can configure later)

Fill in the parameters as described in https://online-help.sageerpx3.com/erp/12/wp-static-content/public/ATP%20Jenkins%20installation%20and%20setup/Content/How-to%20guides/Platform/ATP%20Jenkins%20installation%20and%20setup/T5_Setting_up_Pipeline.htm

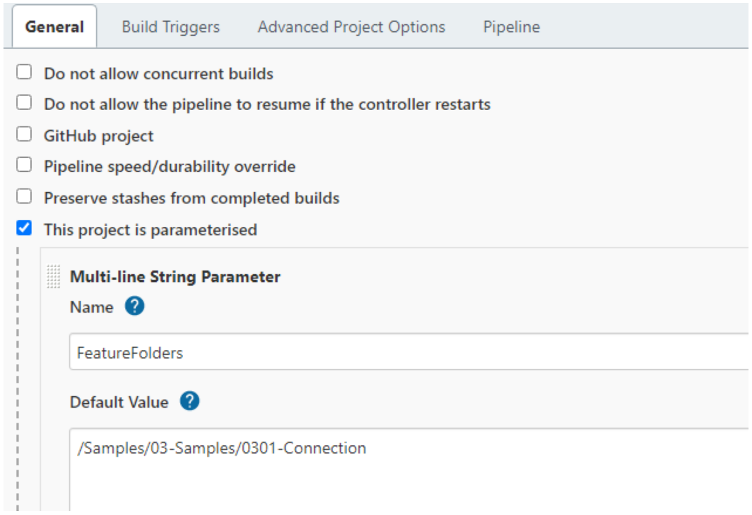
Some of these values can be taken from the "parameters" file in the Visual Studio, setup earlier
My workspace is located under C:\Users\x3admin\Documents\ATP. For now, I want to run one of the samples as a test



This PC › C-W2K19-StdEd-Multilingual (C:) › Users › x3admin › Documents › ATP › Samples › 03-Samples › 0301-Connection

Name	Date modified	Type	Size
0301A-DynamicLoginConnection.feature	26/10/1985 09:15	FEATURE File	2 KB

so to setup the pipeline for my initial test script will be as shown below:



- □ Do not allow concurrent builds
- □ Do not allow the pipeline to resume if the controller restarts
- □ GitHub project
- □ Pipeline speed/durability override
- □ Preserve stashes from completed builds
- ☑ This project is parameterised

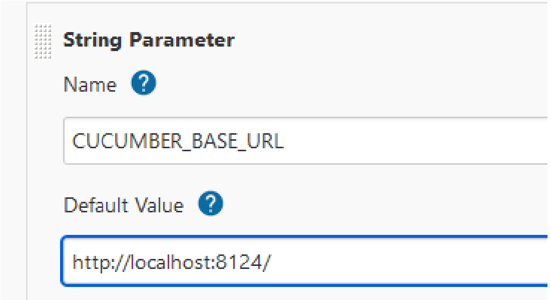
Multi-line String Parameter

Name ?

FeatureFolders

Default Value ?

/Samples/03-Samples/0301-Connection



String Parameter

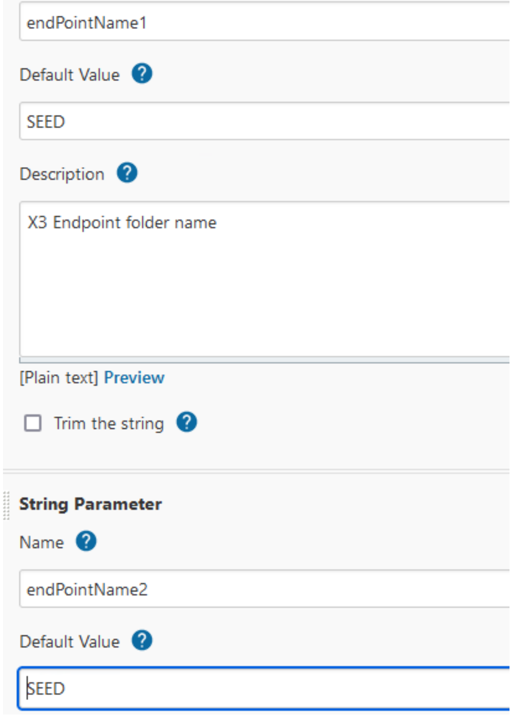
Name ?

CUCUMBER_BASE_URL

Default Value ?

http://localhost:8124/

admca and admin username and password defaulted values match my instance setup, so next thing to change is the endpoint names:



endPointName1

Default Value ?

SEED

Description ?

X3 Endpoint folder name

[Plain text] Preview

□ Trim the string ?

String Parameter

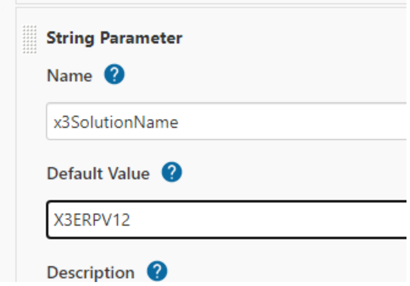
Name ?

endPointName2

Default Value ?

SEED

Enter x3SolutionName



String Parameter

Name

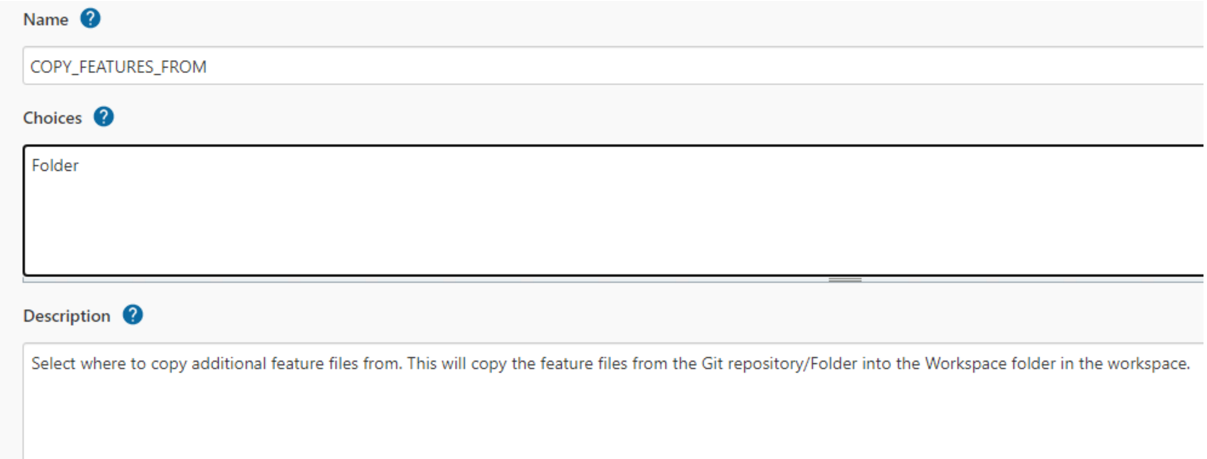
x3SolutionName

Default Value

X3ERPV12

Description

Copy features from “Folder”



Name

COPY_FEATURES_FROM

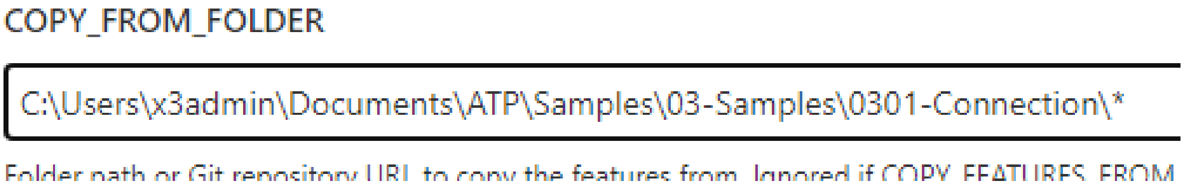
Choices

Folder

Description

Select where to copy additional feature files from. This will copy the feature files from the Git repository/Folder into the Workspace folder in the workspace.

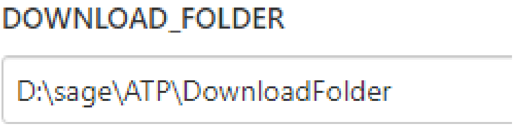
This is the directory from where I’m taking the features file to be executed by Jenkins. In my example, they are on the same server so will use folder location



COPY_FROM_FOLDER

C:\Users\x3admin\Documents\ATP\Samples\03-Samples\0301-Connection\*

Folder path or Git repository URL to copy the features from. Ignored if COPY_FEATURES_FROM



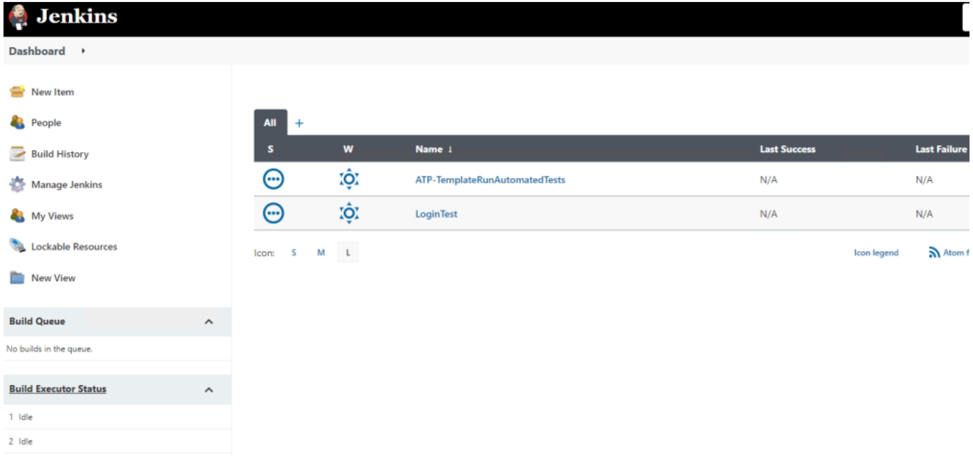
DOWNLOAD_FOLDER

D:\sage\ATP\DownloadFolder

Save these changes

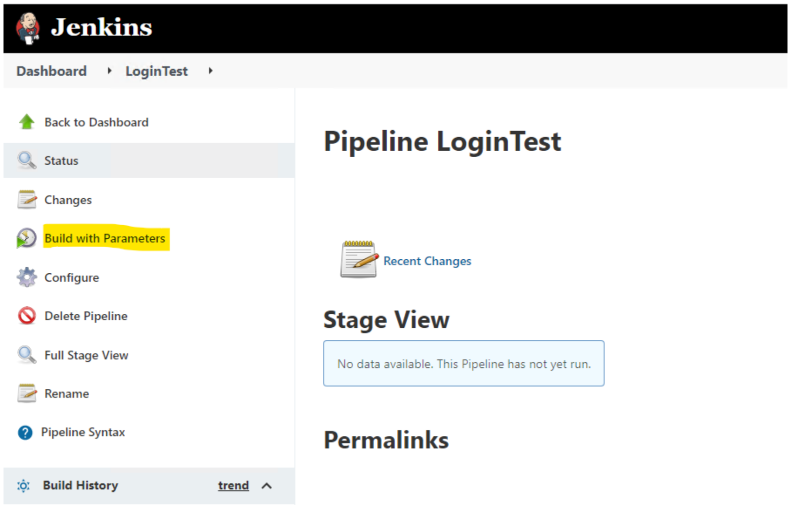
Run the pipeline

Go back to the Dashboard and you will see the Template file and your new “LoginTest” pipeline.



S	W	Name ↓	Last Success	Last Failure
⋯	☼	ATP-TemplateRunAutomatedTests	N/A	N/A
⋯	☼	LoginTest	N/A	N/A

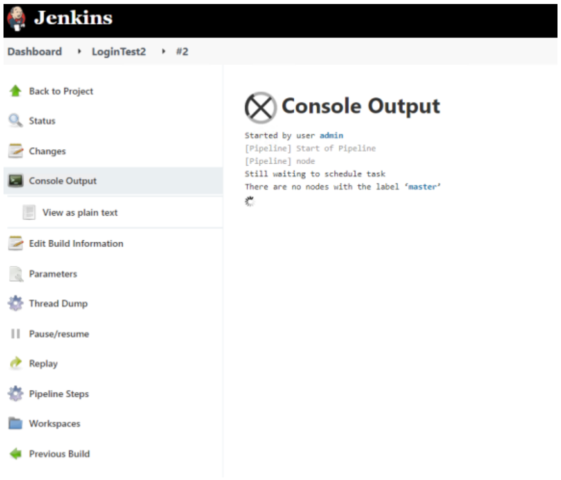
Select “LoginTest” then click “Build with parameters”



No data available. This Pipeline has not yet run.

You can change the parameters if needed for this run, but in this case we can just run without changing, so scroll to the bottom and click “Build” to execute.

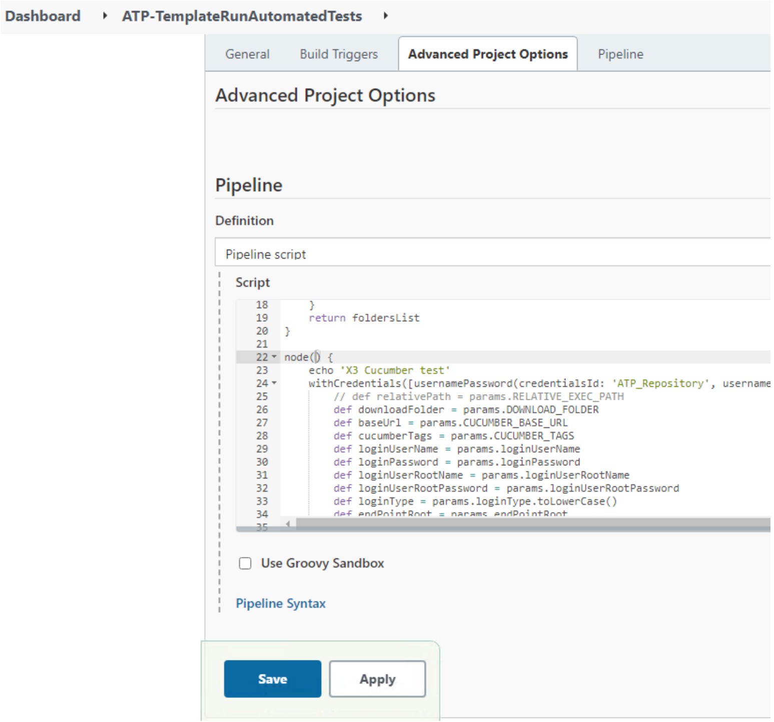
Found the job was hanging with the following error in the Console



Console Output

```
Started by user admin
[Pipeline] Start of Pipeline
[Pipeline] node
Still waiting to schedule task
There are no nodes with the label 'master'
```

Edit the ATP template “Advanced Project Options” Set line 22 to be ***node()*** rather than ***node(‘master’)*** then Save. This issue is described in KB article 114658 ERROR: "There are no nodes with the label 'master'" and ATP job hangs in Jenkins (https://support.na.sage.com/selfservice/viewdocument.do?externalId=114658)



Advanced Project Options

Pipeline

Definition

Pipeline script

Script

```
18      }
19      return foldersList
20  }
21
22  node() {
23      echo 'X3 Cucumber test'
24      withCredentials([usernamePassword(credentialsId: 'ATP_Repository', username
25          // def relativePath = params.RELATIVE_EXEC_PATH
26          def downloadFolder = params.DOWNLOAD_FOLDER
27          def baseUrl = params.CUCUMBER_BASE_URL
28          def cucumberTags = params.CUCUMBER_TAGS
29          def loginUserName = params.loginUserName
30          def loginPassword = params.loginPassword
31          def loginUserRootName = params.loginUserRootName
32          def loginUserRootPassword = params.loginUserRootPassword
33          def loginType = params.loginType.toLowerCase()
34          def endPointRoot = params.endPointRoot
35
```

☐ Use Groovy Sandbox

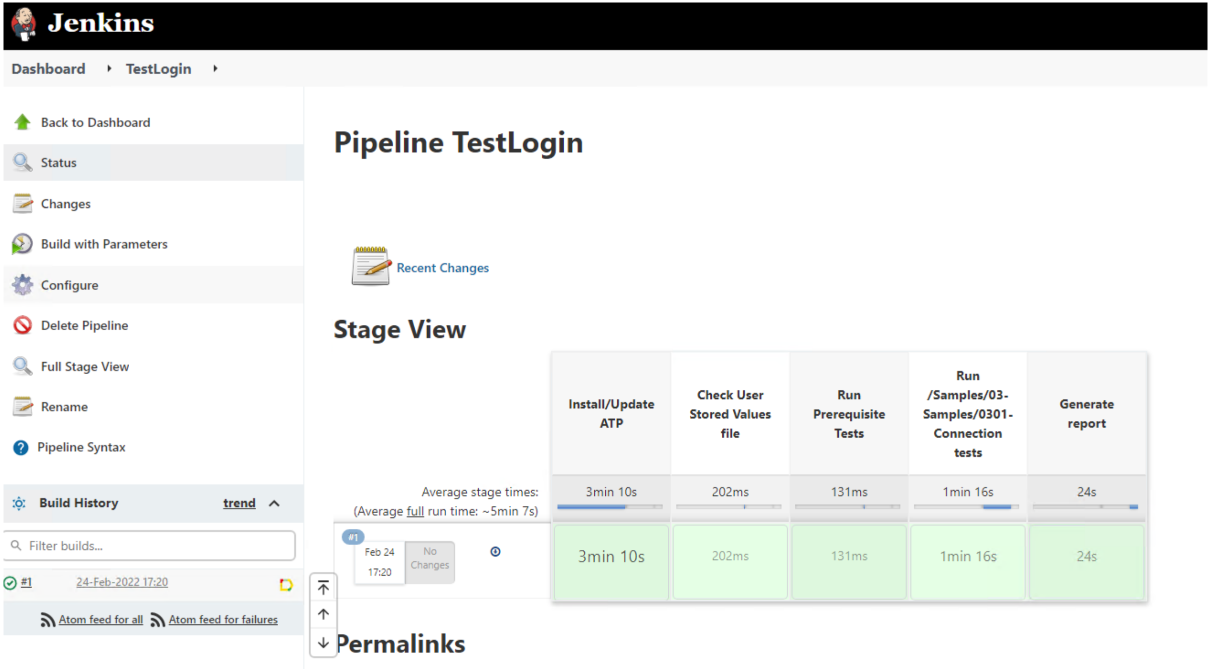
Pipeline Syntax

Create new pipeline and configure, then build

Launches and runs this time, although it did error out on the report

Found the issue was with the allure reports giving error “The input line is too long”, as documented in KB article 113521 “ERROR: "The input line is too long" when running multiple scripts in Jenkins (ATP) “ (https://support.na.sage.com/selfservice/viewdocument.do?externalId=113521) so implemented the workaround listed.

Re-run the build and now the login page test works without any errors



Pipeline TestLogin

Stage View

	Install/Update ATP	Check User Stored Values file	Run Prerequisite Tests	Run /Samples/03-Samples/0301-Connection tests	Generate report
Average stage times: (Average full run time: ~5min 7s)	3min 10s	202ms	131ms	1min 16s	24s
#1 Feb 24 17:20 No Changes	3min 10s	202ms	131ms	1min 16s	24s

I am now ready to automate the running of my test scripts through Jenkins

Log files and other things to check

ATP client

Allure reports

```
D:\Sage\ATP\Projects\report\allure-results
```

Jenkins

Issues updating ATP

```
C:\Users\X3run\AppData\Roaming\npm-cache\_logs
```

Tasks

```
C:\Users\X3run\AppData\Local\Jenkins\.jenkins\logs\tasks
```

General

```
D:\Jenkins\*.log
```

Workspace directory

```
C:\Users\X3run\AppData\Local\Jenkins\.jenkins\workspace
```

Builds

```
C:\Users\X3run\AppData\Local\Jenkins\.jenkins\jobs
```

Build log (example)

```
C:\Users\X3run\AppData\Local\Jenkins\.jenkins\jobs\PartialTest\builds\3\log
```

How to check Node version

```
cd “C:\Program Files\nodejs”
.\node -p -e "process.versions.node + ' (' + process.arch + ')'"
```

How to check NPM version

https://nodejs.dev/learn/an-introduction-to-the-npm-package-manager

```
cd “C:\Program Files\nodejs”
.\node -e "console.log(require('./node_modules/npm/package.json').version);"
```

Or just run “C:\Program Files\nodejs\npm.cmd”

How to find package version

```
npm view @sageatp/x3-atppackage version
```

These are located in D:\Sage\ATP\Projects\node_modules\@sageatp

Conclusion

This “Build diary” document provided the steps taken to install ATP and Jenkins, to run test scripts against a 2022 R1 test installation