

Part 6: Automate your Builds

This tutorial is the last in our beginners tutorial section. It assumes you have read and completed the following tutorials:

- [Part 1: Create your First Project](#)
- [Part 2: Create your First Configuration](#)
- [Part 3: Create your First Repository](#)
- [Part 4: Create your First Action](#)
- [Part 5: Using Builds](#)

In our previous tutorials we setup our build environment which retrieves the latest source code, compiles the code and moves it to our ContinuaTutorial folder. The only problem is that we still need to manually start a build, which is where build triggers come into play.

Triggers

[Triggers](#) allow you to automate how configurations are built and when they are built. In Continua, there are several types of triggers:

- **Repository Triggers:** These triggers will begin a new build any time a source change is detected in a repository.
- **Time-base Triggers:** These triggers execute at a specific time.
- **Build Completed Triggers:** These will fire off a build when another build has finished. This trigger allows you to daisy-chain builds.

In this tutorial we will create a repository trigger that will execute a build whenever the source code changes in our [GitHub Fluent NHibernate](#) repository. So lets head back into our **Configuration Wizard** and navigate to the **Triggers** section.

The screenshot shows the 'Triggers' section of the 'Configuration Wizard: My First Configuration'. The breadcrumb trail is: Home / My First Project / CI / Configuration Wizard / Triggers. The wizard steps are: 1 Details, 2 Repositories, 3 Variables, 4 Stages, 5 Events, 6 Triggers (selected), 7 Conditions, 8 Security, 9 Reports, 10 Cleanup. The main content area explains that triggers allow starting a build based on a particular event and lists three types: Time based triggers, Repository triggers, and Build Completed triggers. Below this is a table titled 'Triggers' with columns: Trigger Type, Name, Description, Enabled, Last Executed, and Last Modified. The table is currently empty, showing 'No triggers were found.' At the bottom of the wizard are three buttons: '< Back', '✓ Complete Wizard', and 'Continue >'. The footer of the application shows 'Continua 1.9.1.48 (codename: sofferino-querquedule, branch: f-completed-deployment-actions; built: 27/11/2018 10:27:30 AM) Copyright © 2018 VSoft Technologies Pty Ltd. All Rights Reserved.'

My First Project

Home / My First Project / CI / Configuration Wizard / Triggers

Configuration Wizard: My First Configuration

1 Details > 2 Repositories > 3 Variables > 4 Stages > 5 Events > 6 Triggers > 7 Conditions > 8 Security > 9 Reports > 10 Cleanup

Triggers allow you to start a build based on a particular event. There are three types of triggers:

- **Time based triggers:** These will trigger a build at a certain date or time.
- **Repository triggers:** These monitor your Version Control Systems and will automatically trigger a build when a change is detected.
- **Build Completed triggers:** These allow you to daisy chain builds and start a build once another build has completed.

For more information, visit the [triggers wiki page](#).

Triggers [\[Create\]](#)

Trigger Type	Name	Description	Enabled	Last Executed	Last Modified
No triggers were found.					

< Back ✓ Complete Wizard Continue >

Continua 1.9.1.48 (codename: sofferino-querquedule, branch: f-completed-deployment-actions; built: 27/11/2018 10:27:30 AM) Copyright © 2018 VSoft Technologies Pty Ltd. All Rights Reserved.

Once you arrive at the Triggers page, you will notice that we do not have any Triggers associated with this configuration yet. So lets add a trigger by clicking the **Create** link which will bring up the Trigger dialog.

New Trigger

Trigger

Variables

Required Field

Name

Fluent NHibernate Trigger

Type

☒ Enabled

Build Priority

Normal

This determines which build should run first when there are more builds queued than available agents.

☒ Force repository check

Check for changes in all repositories associated with this configuration every time a build is started by this trigger.

☐ Override repository branch mappings

Display a tab for selecting the branch to build for each repository. This will override the default repository branch and any repository branch mappings.

Save

Cancel

Help

Similarly to the repository dialog, the options you can set for this trigger will change depending on the **Repository Type** that is set. Lets go ahead and set this trigger to be a **Repository trigger**.

New Trigger

Trigger

Repository

Comment Filters

Variables

Required Field

Name

Fluent NHibernate Trigger

Type

Repository

☒ Enabled

Build Priority

Normal

This determines which build should run first when there are more builds queued than available agents.

☒ Force repository check

Check for changes in all repositories associated with this configuration every time a build is started by this trigger.

☐ Override repository branch mappings

Display a tab for selecting the branch to build for each repository. This will override the default repository branch and any repository branch mappings.

Trigger specific properties can be set via the tabs above.

Save

Cancel

Help

For this tutorial, the default settings are all we need to automate our builds. You should note that the **Repository** property should point to our repository **Fluent_NHibernate** and that this property auto populates with all the repositories that this configuration can access. So make sure **Repository** is pointing to our **Fluent_NHibernate** repository and that this trigger **is enabled** and save our new trigger.

New Trigger

Trigger

Repository

Branch

Tags

File Filters

Comment Filters

Variables

Repository

Fluent_NHibernate

Required Field

Quiet Period

5

Minutes

Length of time that a build will wait on the queue accumulating changesets before starting. Set this to 0 if you want one build per changeset.

Associate Changesets

Latest

Which changesets to list on the Changes tab of the Build view for builds triggered by this trigger

☐ Only notify users who caused the build

Save

Cancel

Help

Once your trigger has been created it will appear in the Triggers list which means that Continua will be constantly checking the Fluent NHibernate GitHub project for any code changes! However, as this is a GitHub project and we cannot easily change the source of the project, lets also create a daily trigger that will build our project at the same time every day. This will allow us to see automated builds in action. So lets create another trigger but this time around lets set the repository type to **Daily**.

New Trigger

Trigger

Daily

Variables

Required Field

Name

My First Daily Trigger

Type

Daily

☒ Enabled

Build Priority

Normal

This determines which build should run first when there are more builds queued than available agents.

☒ Force repository check

Check for changes in all repositories associated with this configuration every time a build is started by this trigger.

☐ Override repository branch mappings

Display a tab for selecting the branch to build for each repository. This will override the default repository branch and any repository branch mappings.

Trigger specific properties can be set via the tabs above.

Save

Cancel

Help

When creating this trigger, change the time so that it will run in a couple of minutes. Once everything is configured correctly, save the trigger and head back to the Configuration homepage and wait for a build to be triggered!

New Trigger

Trigger

Daily

Variables

Time

9:39:53 AM

When to trigger the build.

Repeat

Every day

Associate Changesets

Latest

Associate only the latest changeset from all repositories, or associate all changesets from all repositories that have been committed since the last successful build.

Required Field

Save

Cancel

Help

Reviewing your Automated Build

Once your build has begun to execute, you should see that the **Started By** value is no longer set to your name, but rather your triggers name. Triggered builds are executed in the exact same way as manual builds and if you check your ContinuaTutorial folder, you will see that this daily trigger is updating the folder too.

ACTIVITY

HISTORY

METRICS

CHANGES

REPOSITORIES

AGENTS

Running Builds (1)

Build #	State	Agent	Stages	Started By	Branches	Started	Duration	Changesets	
1.0.0.20	Stage Executing	tornado		My First Daily Trigger	master	6 seconds ago	6 seconds	1 changesets	Stop

Queued Builds

Build #	State	Stages	Started By	Branches	Started	Elapsed	Changesets
No queued builds were found.							

Recently Completed Builds (10)

Build #	State	Stages	Started By	Branches	Finished	Duration	Changesets	Artifacts	Build Tags	Actions
1.0.0.19	[Pin] Build Completed		Adam Seselja	master	2 minutes ago	22 seconds	1 changesets	2 files	None	
1.0.0.18	[Pin] Build Completed		Adam Seselja	master	Yesterday at 6:06 PM	21 seconds	1 changesets	2 files	None	
1.0.0.17	[Pin] Build Completed		Dave Sparks	master	Yesterday at 5:37 PM	38 seconds	1 changesets	2 files	None	

Tutorial Completed

A final congratulations for successfully completing our Continua tutorial. Feel free to leave all of the components created in this tutorial running in Continua to use as a reference. If you come back to this configuration in a few weeks and there has been some activity on GitHub then you will see some builds that were executed from our repository trigger.

You should now have a basic understanding of how Continua works and hopefully you are now contemplating how Continua can be used within your own development environment.

There are still many more aspects of Continua that were not discussed in this tutorial. If you would like to get more out of Continua then try out one of our other, more advanced tutorials.