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# **Plone Performance Testing Documentation**

***Release 1.0***

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## Getting Started with jMeter

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### 1.1 Introduction

This document explains how to create a minimal performance test plan with jMeter to run performance tests against a Plone site.

### 1.2 Step 1: Install jMeter

The easiest way to install jMeter is to install it from the package sources of your distribution (e.g. on Debian/Ubuntu):

```
$ sudo apt-get install jmeter
```

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**Note:** Further install options <http://jmeter.apache.org/usermanual/get-started.html>

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### 1.3 Step 2 : Create a Test Plan

Once you've started jMeter (e.g. by typing "jmeter" into the command line or by clicking on the jMeter icon on your desktop) you will see an empty Testplan:

A minimal jMeter testplan consists of the following elements:

- **Thread Group:**  
The root element of every test plan. It simulates the (concurrent) users that run all requests. Each thread simulates a single user.
- **HTTP Request Default (Configuration Element):**  
The default values for all HTTP requests within this thread group.
- **HTTP Request (Sampler):**  
An HTTP request that can be used to measure the time it takes to answer the request to a single URL.
- **Aggregate Graph (Listener):**  
An aggregate graph listener can be used to generate statistics about the HTTP requests that are used within a thread group.

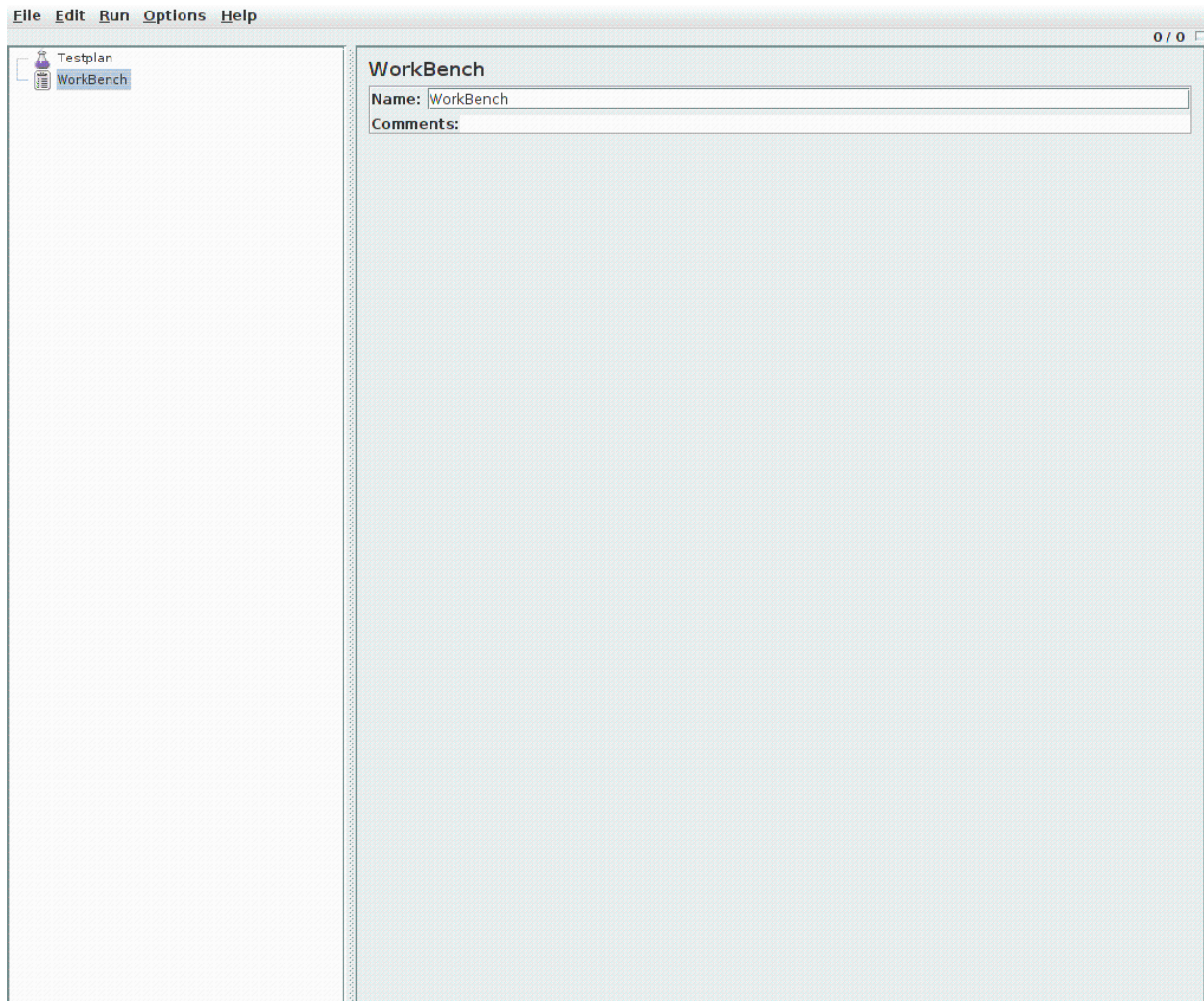


Figure 1.1: jMeter user interface with an empty test plan

## 1.4 Step 3: Create a Thread Group

In order to create a thread group, right-click on the Testplan in the left column of the jMeter GUI. Then choose “Add” and then “Threads (Users)” and “Thread-Group”. The titles might vary dependend on the jMeter version you are using:

```
Testplan > Add > Threads (Users) > Thread-Group
```

Fill out the right column with the following values:

```
Name: Users
Number of Threads (users): 2
Ramp-Up Period (in seconds): 1
Loop Count: 10
```

“Number of Threads (users)” is the number of concurrent users that jMeter will create to run the HTTP requests. The “Ramp-Up Period (in seconds)” are the seconds that jMeter waits between running the threads. The “Loop Count” describes how many times jMeter will run the tests.

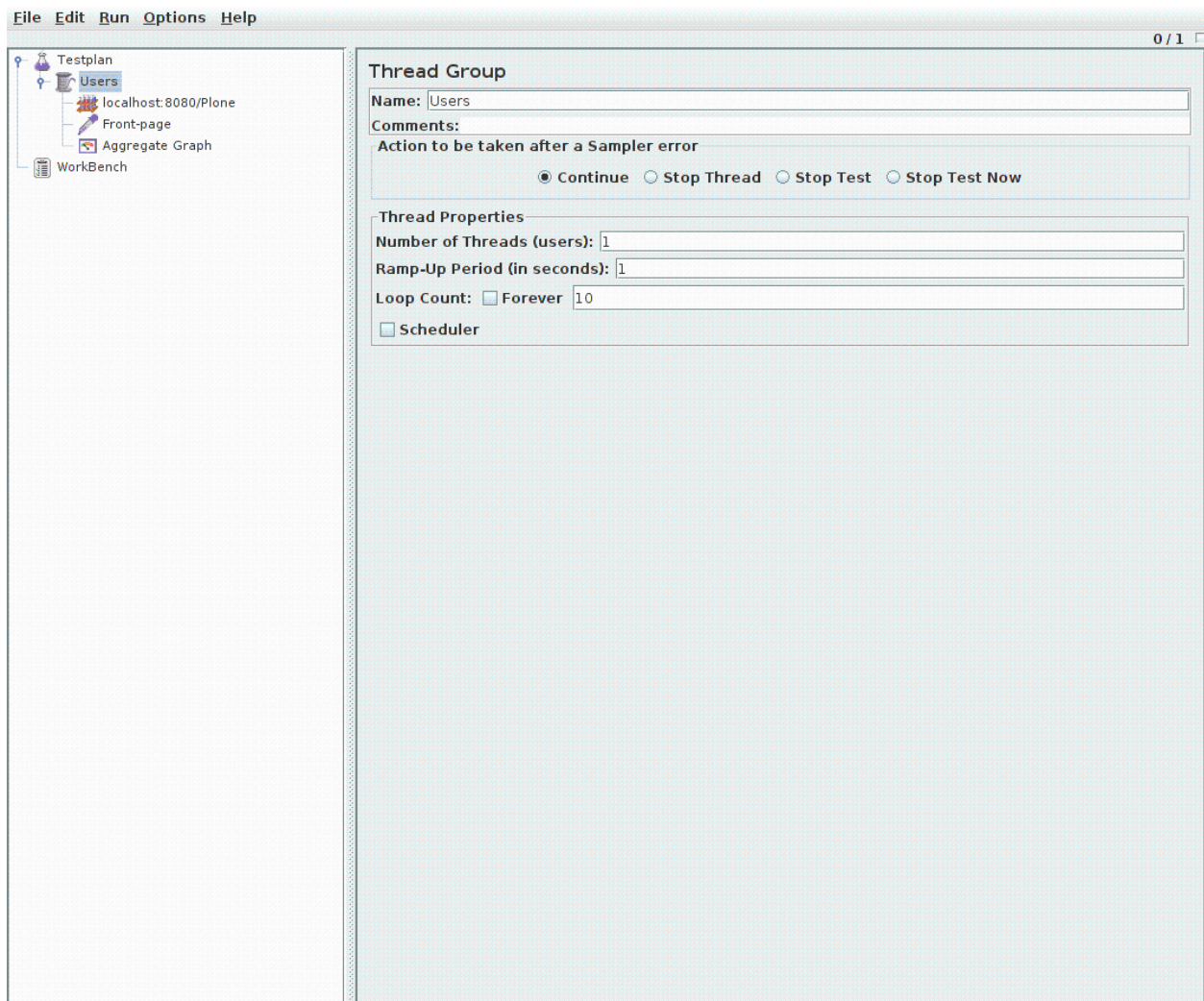


Figure 1.2: Thread Group

## 1.5 Step 4: Create HTTP Request Defaults

In order to run performance tests on certain resources, jMeter fires up HTTP requests. jMeter allows to create default values for all HTTP requests within a test plan, so that we do not have to add those values for every single HTTP request in our plan.

To add a “HTTP Request Defaults” element, right-click on the “Testplan” in the left column of the jMeter GUI, choose “Users”, “Add”, “Config Element” and “HTTP Request Defaults”:

Testplan > Users > Add > Config Element > HTTP Request Defaults

We set the default HTTP request values to use a standard Plone site that needs to be available under “<http://localhost:8080/Plone>”:

Name: localhost:8080/Plone  
Server Name or IP: localhost  
Port Number: 8080  
Path /Plone

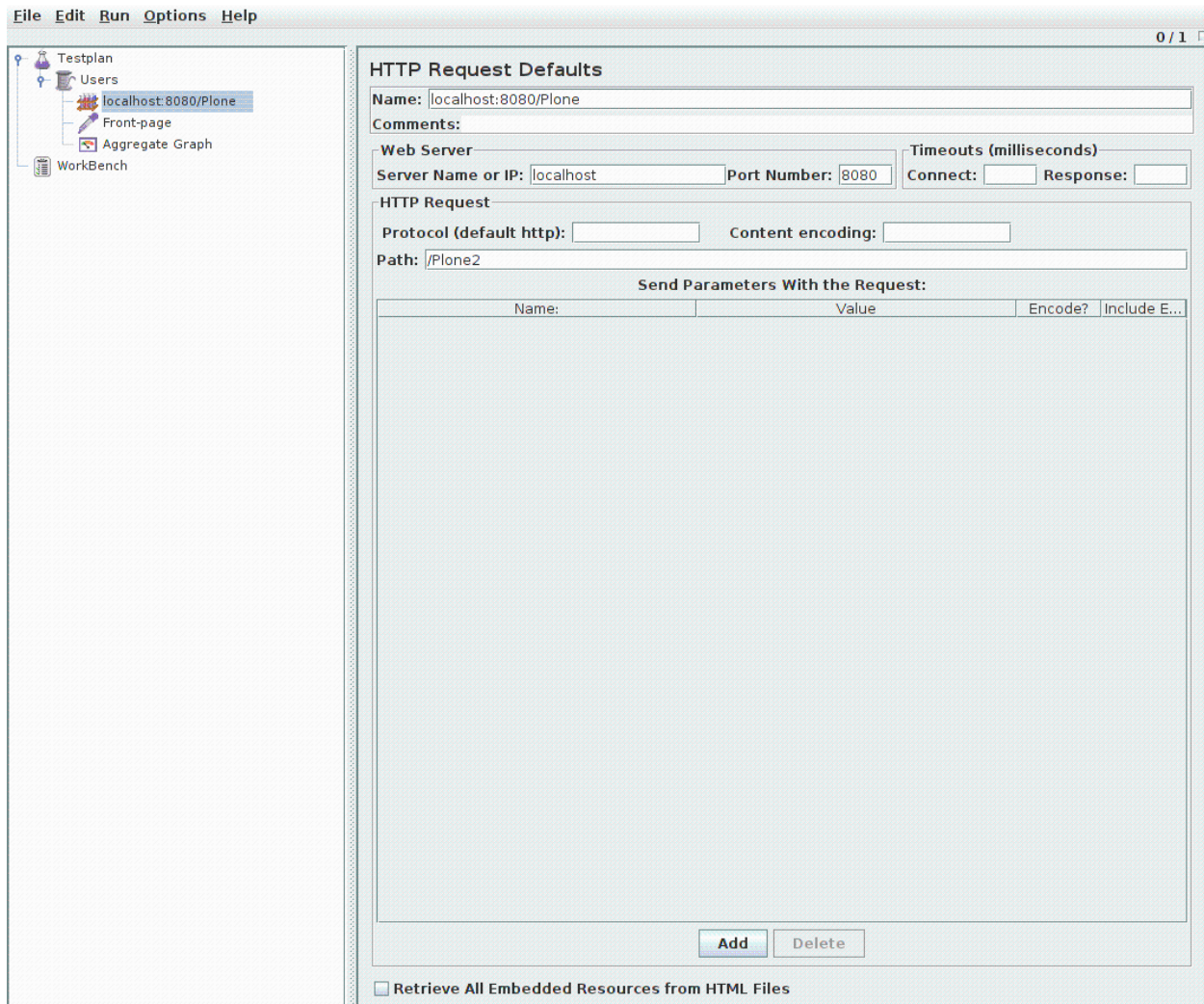


Figure 1.3: HTTP Request Defaults



## 1.6 Step 5: Create an HTTP Request

In order to run a performance test on the front page of our Plone site, we create a “HTTP Request” element, by right-click on the “Testplan” in the left column of the jMeter GUI, choose “Users”, “Add”, “Sampler” and “HTTP Request”:

```
Testplan > Users > Add > Sampler > HTTP Request
```

We give the HTTP request a name and provide a path. We don’t have to fill out the server name or port number, since our “HTTP Request Defaults” element takes care of that:

Name: Front-page

Path: /Plone/front-page

**Note:** The values are just defaults, not prefixes. This means if you want to add an HTTP request for “front-page” it is not enough to use “/front-page”, you always have to provide the full path “/Plone/front-page”.

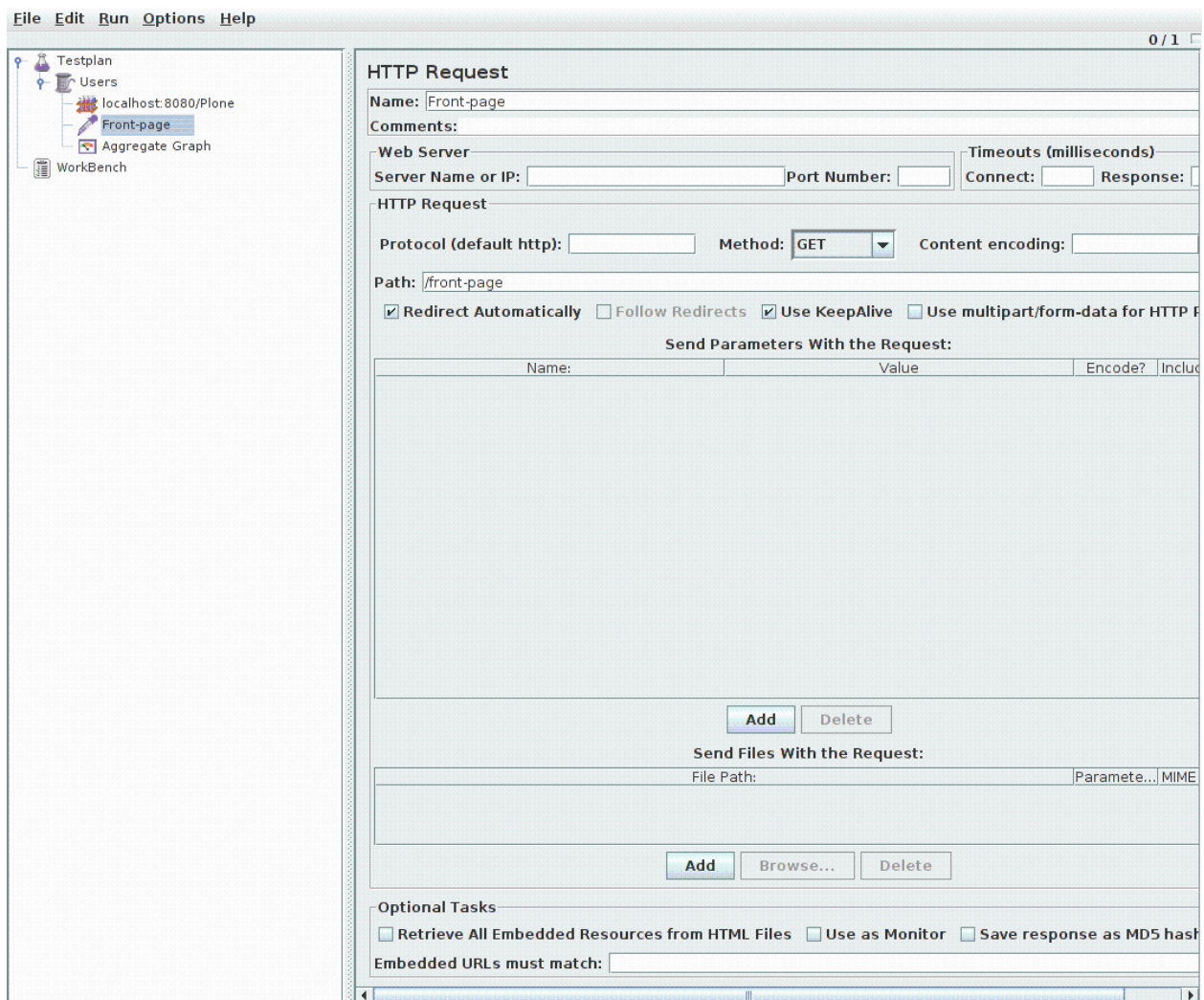
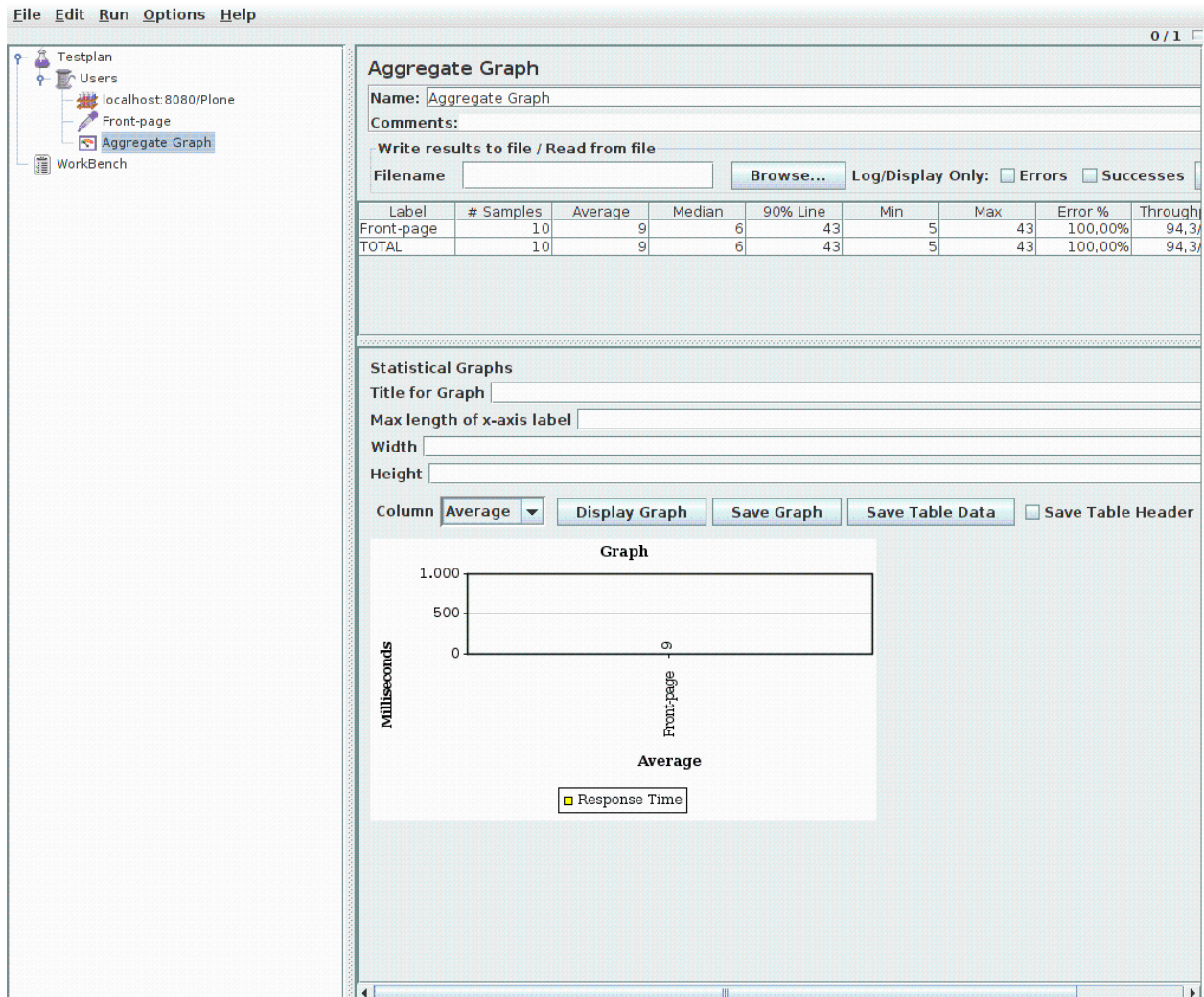


Figure 1.4: HTTP Request

## 1.7 Step 6: Aggregate Graph

In order to display the results of our HTTP requests, we have to add a listener in jMeter by right-clicking on the “Testplan” in the left column of the jMeter GUI, choose “Users”, “Add”, “Listener” and “Aggregate Graph”:

Testplan > Users > Add > Listener > Aggregate Graph



## 1.8 Step 7: Save Test Plan

Before we can run our jMeter test plan we should save it by choosing “Save Testplan as” from the “File” menu:

File > Save Testplan as

## 1.9 Step 8: Run Performance Tests

To run our test plan choose “Start” from the “Run” menu:

Run > Start

## 1.10 Next Steps

Creating a test plan:

<http://jmeter.apache.org/usermanual/build-web-test-plan.html>

Debug requests with “View Results Tree”:

Testplan > Users > Add > Listener > View Results Tree (optional)



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## Indices and tables

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