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# **FusionReactor Nagios Plugin**

## Documentation

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# 1 Background

## 1.1 What is Nagios?

“*Nagios* is an enterprise-class monitoring solution for hosts, services, and networks released under an Open Source license.”

Source: [www.nagios.org](http://www.nagios.org), March 12<sup>th</sup> 2009

## 1.2 What is FusionReactor?

“FusionReactor is lightweight application, database and server monitor - built for monitoring production environments running the latest web centric and Rich Internet Application (RIA) technologies, especially Adobe ColdFusion, Blaze DS, LiveCycle Data Services and J2EE servers such as JBoss, Tomcat and Websphere.

FusionReactor is **optimized for ColdFusion and J2EE application server monitoring**, but as a comprehensive server monitoring tool it will likely be the only monitor you will ever need to gain **unparalleled insight** into what's really happening within your business applications and to **maintain high server availability** on your Adobe and J2EE servers.”

Source: [www.fusion-reactor.com](http://www.fusion-reactor.com), March 12<sup>th</sup> 2009

## 1.3 What is this Nagios plugin?

This is a Perl plugin for the Nagios monitoring system to allow monitoring of your J2EE application through the FusionReactor software.

You can monitor & track high level metrics (instance CPU, heap memory, JDBC calls, average request time, etc) from within Nagios. If/When an issue is alerted from Nagios, you can use FusionReactor to investigate further.

## 2 Installation

### 2.1 Install Pre-requisites

The plugin has some requirements:

- Nagios::Plugin
- File::Basename
- LWP::UserAgent
- URI::URL
- Digest::MD5
- MIME::Base64
- XML::XPath
- XML::XPath::XMLParser

You can easily resolve these using CPAN:

```
#cpan Nagios::Plugin File::Basename LWP::UserAgent URI::URL  
Digest::MD5 MIME::Base64 XML::XPath XML::XPath::XMLParser
```

### 2.2 Copy “check\_fusionreactor.pl”

The plugin is deployed as a single Perl file. Simply copy into your plugin folder with appropriate naming strategy for your configuration.

For example:

```
#cp check_fusionreactor.pl  
/usr/local/nagios/libexec/check_fusionreactor
```

### 2.3 Configure command

Setup the new command in your nagios configuration. This could be in */usr/local/nagios/etc/objects/commands.cfg* by default:

```
# ADDED FOR FUSIONREACTOR  
define command{  
    command_name      check_fusionreactor  
    command_line      $USER1$/check_fusionreactor -H $HOSTADDRESS$  
--port $ARG1$ --path $ARG2$ -l $ARG3$ --password $ARG4$ --field  
$ARG5$ -w $ARG6$ -c $ARG7$  
}
```

### 2.4 Configure service

Setup a new service for your host-type in your nagios configuration. In our example we're using the localhost so it's */usr/local/nagios/etc/objects/localhost.cfg* by default:

```
# ADDED FOR FUSIONREACTOR  
  
define service{  
    use                local-service  
    host_name          localhost  
    service_description FusionReactor  
    check_command      check_fusionreactor!8088!/fusionreactor!/Administrator!password
```

```
!/FusionReactorFederatedDataTransfer/SerializedMetrics/CPUProbe/SystemUsage!50!80
  notifications_enabled      0
}
```

## 3 Service Arguments

### 3.1 Arguments

Name	Description
-H	Host address of the FusionReactor instance
--port	TCP port FusionReactor is running on
--path	Path to FusionReactor. Usually "/fusionreactor/"
-l	User login name for FusionReactor. Usually "Administrator" <b>NB:</b> The current API does not require the login name but this is kept for future compatibility.
--password	Login password
--field	XML Field to retrieve (see list below)
-w	WARNING level to compare with field
-c	CRITICAL level to compare with field

### 3.2 XML Field

FusionReactor exposes many fields. This plugin is designed to cope with future updates and as such takes an XMLPath argument for the field to be analysed. Below is a listing of currently available fields:

- Server Details
  - Server Version
    - /FusionReactorFederatedDataTransfer@createdByRevision
  - Process ID
    - /FusionReactorFederatedDataTransfer@pid
  - Licence Code
    - /FusionReactorFederatedDataTransfer/License
  - Server Start Time (epoch time)
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/ServerStartTimeMillis
  - Instance ID
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/SourceSystemId
- Request Details
  - Current Running Requests
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/CurrentRequestCount
  - FR Queue Size
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/QueueSize
  - Recent Request Mean Runtime (ms)
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/RecentRequestMeanRuntimeMillis
  - Total Requests Executed
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/TotalRequestCount
  - Recent Slow Pages
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/RecentSlowPages
  - Average Request Time (ms)
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/AverageRequestTimeMillis
- Memory
  - Memory Usage (%)
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/MemoryProbe/Free/@percentage
  - Memory Free (bytes)

- /FusionReactorFederatedDataTransfer/SerializedMetrics/MemoryProbe/Free
  - **Memory Max (bytes)**
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/MemoryProbe/Max
  - **Memory Total (bytes)**
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/MemoryProbe/Total
- **CPU**
  - **Instance CPU Usage (%)**
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/CPUProbe/Usage
  - **System CPU Usage (%)**
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/CPUProbe/SystemUsage
- **JDBC**
  - **JDBC Running Requests**
    - /FusionReactorFederatedDataTransfer/SerializedMetrics/JDBC/JDBCDriver/JDBCLoad