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## Setup:Installation Manual/Services and system configuration

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## Apache Tomcat

A [quality version](#) of this page, [approved](#) on *17 October 2018*, was based off this revision.

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This document describes the configuration of the Apache Tomcat server, which is needed for the [Webservices](#) of BlueSpice.

## Notes

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- Please, read this manual completely and work through the single installation steps one after another.
- For editing the configuration files with a text editor, the files must be saved in UTF-8 coding without BOM (Byte Order Mark).
- The placeholder `<installpath-bluespice>` stands for the path to your BlueSpice installation, e.g. `C:\inetpub\wwwroot\bluespice` (Windows regarding the documentation "[Folder structure under Windows](#)") or `/var/www/bluespice` (Linux).
- The placeholder `<tomcat-webapps` stands for the path to the webapps directory of your Tomcat server, e.g. `C:\Program Files\Apache Software Foundation\Tomcat 8.5\webapps` (Windows) or `/var/lib/tomcat8/webapps` (Linux).

## Installation

---

### Linux

Install the latest version of the Apache Tomcat server in the package manager of your distribution. The package manager dissolves all dependencies and installs the required packages.

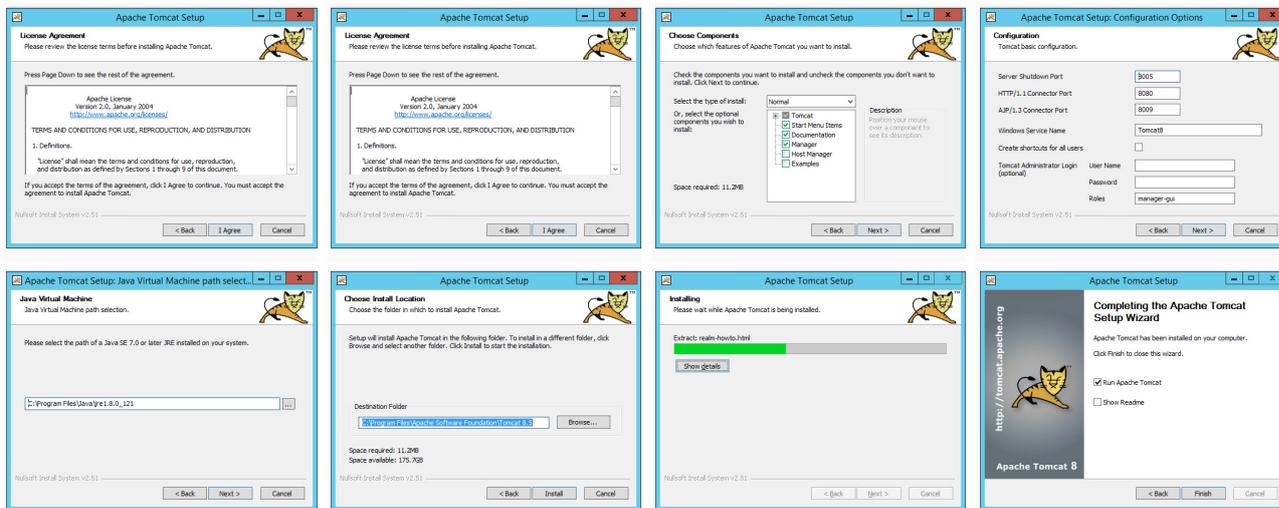
### Windows

#### Java

Apache Tomcat requires the Java Runtime Environment. If these is not already installed at your system, download ([www.java.com](http://www.java.com)) and install it. We recommend the 64 bit version for latest systems.

## Tomcat

Download the "32-bit/64-bit Windows Service Installer" from the [Tomcat project website](#). No modifications are necessary during the installation process. Confirm the single steps with "Next".



## Installation Check

If the Apache Tomcat server has been installed and started correctly can be checked by calling up `http://<host name-or-ip-of-the-server>:8080`. With a correct installation, the default page of the server will be displayed.

## Configuration

Now, two configuration files of the Tomcat server need to be adjusted:

- context.xml
- server.xml

Those can - per default - be found at:

- with Windows: `C:\Program Files\Apache Software Foundation\Tomcat 8.5\conf`
- with Linux: `/etc/tomcatX` (the "X" stands for the particular Tomcat version)

### context.xml

Replace the line

```
<Context>
```

with

```
<Context mapperContextRootRedirectEnabled="true">
```

## server.xml

Please make sure that the complete block

```
<Connector port="8080" protocol="HTTP/1.1"  
    ... />
```

is as follows:

```
<Connector port="8080" protocol="HTTP/1.1"  
    connectionTimeout="20000"  
    URIEncoding="UTF-8"  
    redirectPort="8443"  
    address="127.0.0.1" />
```

## Restart Tomcat

Restart the Tomcat server:

- Linux: `service tomcatX restart` (the "X" stands for the particular Tomcat version)
- Windows: See below: Restart Tomcat

## Special features under Windows

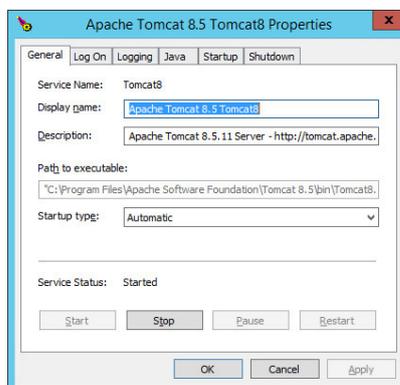
---

### Configure Tomcat

All of the following settings need to be done in the configuration interface of Tomcat. These can be found in the start menu under "Configure Tomcat".

### Restart Tomcat

The restart can be performed in the first tab of the configuration interface. Stop and then start the service there.



## Setup Autostart

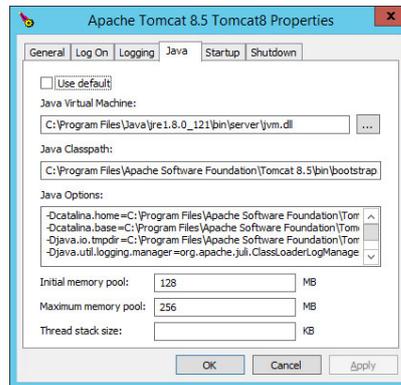
Tomcat will not automatically be started with Windows. This needs to be configured in the first tab, where you also start the service. Switch to "Automatic" under "Startup type" and save this changes with a click on "Apply".

## Particular Caution: Java Update

Tomcat requires Java. The path for this is firmly defined in Tomcat. Java, however, changes the installation path with every update. Those needs to be configured in Tomcat after every update to guarantee the functionality of Tomcat.

To do this, switch to the tab "Java" and change the path to jvm.dll under "Java Virtual Machine" - normally this is

```
C:\Program Files\Java\>\bin\server\jvm.dll .
```



## ElasticSearch

A [quality version](#) of this page, [approved](#) on *20 September 2019*, was based off this revision.

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## Linux

---

There is an official repo from the manufacturer: Documentation [on manufacturer's website](#)

Summary:

```
$ wget -qO - https://artifacts.elastic.co/GPG-KEY-elasticsearch | apt-key add -  
$ apt-get install apt-transport-https  
$ echo "deb https://artifacts.elastic.co/packages/6.x/apt stable main" > /etc/apt  
/sources.list.d/elastic-6.x.list  
$ apt-get update && apt-get install elasticsearch  
$ /usr/share/elasticsearch/bin/elasticsearch-plugin install ingest-attachment  
$ systemctl enable elasticsearch
```

Then please execute "service elasticsearch start". It takes about 10 seconds to start, then the service should appear on port 9200 under "netstat -tulpn".

## Activating the ElasticSearch in BlueSpice

---

Go to the directory `<installpath-bluespice>/settings.d`. Open the file **020-BlueSpiceExtendedSearch.php** in a text editor.

In the second line is a code to activate the extension:

```
return; // Disabled. Needs Tomcat
```

You can either add a comment character (#) to the beginning of this line or delete the line completely, save the file and exit it.

Open a command line and change to the `<installpath-bluespice>` folder. Execute the following command:

```
php maintenance/update.php (Linux)  
php maintenance\update.php (Windows)
```



In Windows, make sure that the environment variables are set correctly to access the php command.



Note that you must update the [file system permissions](#) after running update.php.

When the script is finished with the "Done" message, the web service is successfully installed.

## Installation of Git

A [quality version](#) of this page, [approved](#) on *17 October 2018*, was based off this revision.

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Git is a version management tool that can be used, among other things, to record changes to files and restore them if necessary.

Git is required for some extensions if they are to be obtained directly from the publisher and are not to be installed using a ready-made installation package.

## Linux

---

Under Debian/Ubuntu you can install Git with the following command:

```
apt install git
```

## Windows

---

### Download Git for Windows

Download the latest version of Git (64-bit Git for Windows Setup) from the [official project website](#).

### Installation of Git under Windows

Install Git into the folder `|bluespice|bin|git` with the default settings of the installer. Please pay attention to our notes on the page [Folder structure under Windows](#), which we use in this complete installation manual - do not use spaces and special characters in folder names.

## Memcached

A [quality version](#) of this page, [approved](#) on *17 October 2018*, was based off this revision.

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This document describes how to set up the memcached server, with which you can achieve some speed optimization. For the configuration of BlueSpice, also read the paragraph "Activate Memcached" in the "Caching" article.

## Tips for this Document

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- Please, read this manual completely and work through the single installation steps one after another.
- For editing the configuration files with a text editor, the files must be saved in UTF-8 coding without BOM (Byte Order Mark).

## Linux

---

### Installation

Install the memcached server in the package manager of your distribution.

### Configuration

Open the file that contains the memcached configuration (for example, `/etc/memcached.conf` under Debian / Ubuntu). Locate the `-m` argument and increase the amount of memory available depending on the capabilities of your server:

```
-m 1024
```

Save and close the file, and restart memcached.

### Check the Server

Verify that the memcached server is running:

```
netstat -tulpn | grep 11211
```

If you receive an output that is similar to this, memcached has started successfully:

```
root@bluespice:/var/www/bluespice# netstat -tulpn | grep 11211
tcp  0 0 127.0.0.1:11211  0.0.0.0:*        LISTEN      15163/memcached
udp  0 0 127.0.0.1:11211  0.0.0.0:*        15163/memcached
root@bluespice:/var/www/bluespice#
```

## Windows

---

The use of Nick Pirocanac's MemCachedD Manager is highly recommended. This makes the configuration very simple.

## Requirements

An installed .NET Framework version 3.5 is required for the MemCached Manager.

## Download

Download the MemCached Manager from [software.informer.com](http://software.informer.com).

## Installation

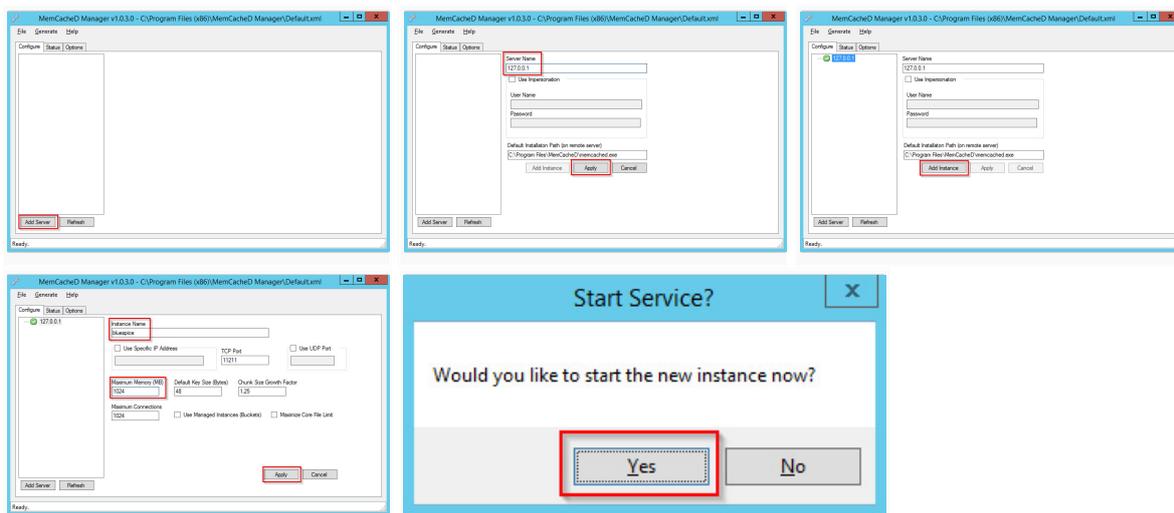
During the installation you have hardly any setting possibilities, so you can "click" through the installation process without any changes.

## Starting the MemCached Manager

Always start the MemCached Manager from the start menu **as administrator** (right click -> Run as administrator)!

## Configuration

1. In MemCached Manager, click "Add Server"
2. Enter the local IP "127.0.0.1" under "Server Name" and click on "Apply"
3. Click "Add Instance"
4. Enter any desired name under "Instance Name"
5. Under Maximum Memory, increase the available memory depending on the capabilities of your server
6. Click "Apply"
7. Start the new created instance by clicking on "Yes"



The Memcached Server is now installed and configured.

## Installation of Node.js

A [quality version](#) of this page, [approved](#) on *20 September 2019*, was based off this revision.

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## System requirements

---

The installation of Node.js under Windows can be done via [Git](#). Alternatively, the installation package can be obtained directly from [NodeJS](#). During the installation you have to make sure to install the Node Packet Manager NPM as well.

Under Debian/Ubuntu Nodejs and NPM can be installed as follows:

```
apt install npm
npm -g install npm@latest
```

## Download Node.js for Windows

---

Download the current package of Node.js from the [Project website](#). Please use the 64bit version if possible.

## Installation of Node.js

---

Install Node.js into the `|bluespice|bin|nodejs` folder using the default settings of the installer. When selecting this folder, be sure to pay attention to our instructions on the page [Folder Structure under Windows](#), which we apply in this complete installation manual.

Open a console with administrator rights and change to the installation directory of NodeJS (usually `C:\Program Files (x86)\nodejs`). Execute the following commands there:

```
npm install --global --production windows-build-tools
npm -g install npm@latest
```

## Setup:Installation Manual/Services and system configuration /Parsoid

A [quality version](#) of this page, [approved](#) on *22 September 2021*, was based off this revision.

The installation of Parsoid requires the [installation of Node.js](#).

The installation can be verified by

```
$ nodejs --version
$ node -v
$ npm -v
```

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## Installation and Configuration

---

### Linux

#### Install Parsoid

There is no installation from package sources of the distribution. Parsoid is installed under */usr/local*.

For this we move to

```
$ cd /usr/local
```

Getting Parsoid:

```
$ git clone --depth 1 --branch v0.10.0 https://gerrit.wikimedia.org/r/p/mediawiki/services/parsoid parsoid
```

Installing Parsoid:

```
$ cd parsoid  
$ npm install
```

Checking the installation:

```
$ npm test
```

Default configuration:

```
$ cp config.example.yaml config.yaml
```

#### Configuring Parsoid

Opening the file config.yaml:

```
$ vi /usr/local/parsoid/config.yaml
```

For the basic installation of Parsoid it is sufficient to adjust the URL to the MediaWiki api (**uri:**) and the domain (**domain:**). We strongly recommend never to work with "localhost" but with the actual vhost alias, with which the MediaWiki can also be reached from outside. This avoids additional Apache configurations.



When using the alias, it is essential to store it with a loopback IP (127.0.0.1) in /etc/hosts! Please also make sure that the web server does not bind to the external IP.

## Start Parsoid manually

Parsoid can be started manually with console output:

```
$ npm start
```

## Start Parsoid as Daemon

There are several ways to do this. Most likely pm2 is the best choice, because it combines several applications/services in nodejs.

Installation of pm2:

```
$ npm install -g pm2
```

Starting Parsoid as Daemon via pm2:

```
$ pm2 start /usr/local/parsoid/bin/server.js
```

Save the pm2 process list - this will add Parsoid to the pm2 services:

```
$ pm2 save
```

pm2 in den System-Autostart legen:

```
# Render startup-script for a specific platform, the [platform] could be one of:  
#  ubuntu|centos|redhat|gentoo|systemd|darwin|amazon  
$ pm2 startup [platform]
```

## Windows

Open a console with administrator permissions and change to the installation directory of Node.js (if you followed our recommendations for the [folder structure under Windows](#) `|bluespice|bin|nodejs`). Execute the command `npm install parsoid` there.

The configuration of Parsoid under Windows is almost identical to Parsoid under Linux. In this manual, however, there is a distinction between the corresponding articles due to the different paths in the file system. Here, too, we adhere to the above folder structure and assume the paths in this documentation accordingly.

### Creating the configuration file

Create the file `|bluespice|etc|parsoid.yaml`. Copy the following content into it:

```
worker_heartbeat_timeout: 300000

logging:
  level: info

services:
  # Enter the absolute path of the index.js in "module".
  # in the subfolder "lib" of the parsoid module of nodejs
  # The first "/" represents the top level of your drive.
  # Don't use "\" but "/"
  - module: /bluespice/bin/nodejs/node_modules/parsoid/lib/index.js
    entrypoint: apiServiceWorker
    conf:
      mwApis:
        # For "uri", enter the URL where you want the api.php of your MediaWiki
        # installation. This must not be a public address, you can use it with
        # "localhost", provided that your web server is configured accordingly.
        - uri: 'http://localhost/api.php'
          domain: 'bluespice'
```

The two relevant changes that you have to adjust yourself ("module" and "uri") are explained in the corresponding comment above.

Save and close the file.

## Activating VisualEditor in BlueSpice

---

Change to the directory `<installpath-bluespice>/settings.d`. Open the files

### **020-BlueSpiceVisualEditorConnector.php** and

### **020-VisualEditor.php**

in a text editor.

In the second line you will find a code that deactivates both extensions:

```
return; // Disabled. Needs Parsoid
```

Add a comment character (**#**) to the beginning of this line or delete this line completely, save the two files and exit them again.

Now open a command line and change to the folder *<installpath-bluespice>*. Execute the following command there:

```
php maintenance/update.php (Linux)
php maintenance\update.php (Windows)
```



On Windows, make sure that the [environment variables](#) are set correctly to access the php command.



Note that under Linux, after you run update.php, you must re-customize the [file system permissions](#).

As soon as the script is completed with the message "Done", the VisualEditor is successfully activated.

## Installation and configuration of PhantomJS

A [quality version](#) of this page, [approved](#) on *11 July 2019*, was based off this revision.

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## Download

---

[Download directly from the project page](#)

## Installation

---

An installation is not needed, neither on Linux, nor on Windows. Simply put the files in the corresponding binary folder (/usr/local/bin or C:\BlueSpice\bluespice\_bin) and make them executable.

## Include in your Wiki installation

---

```
$bsgArticlePreviewCapturePhantomJSExecutable = "/usr/local/bin/phantomjs";
```

On Windows, adjust accordingly ("C:\\BlueSpice\\bluespice\_bin\\phantomjs.exe").

## Setup:Installation Manual/Services and system configuration /Python

A [quality version](#) of this page, [approved](#) on *17 October 2018*, was based off this revision.

## Download Python

---

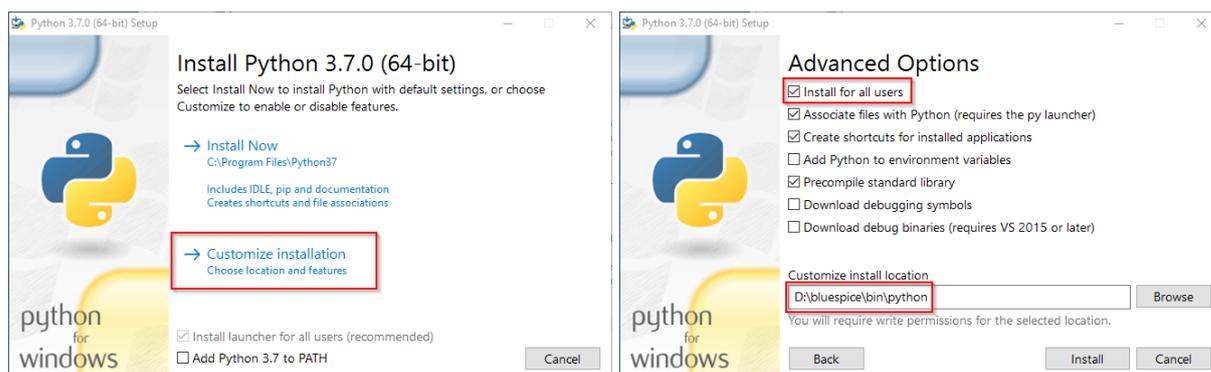
Download the current Python package from the [project website](#).

## Installation of Python

---

Install Python and be sure to do this for each user. Install into the folder *bluespice/bin/python* - when selecting this folder, be sure to follow our instructions on the page [Folder Structure under Windows](#).

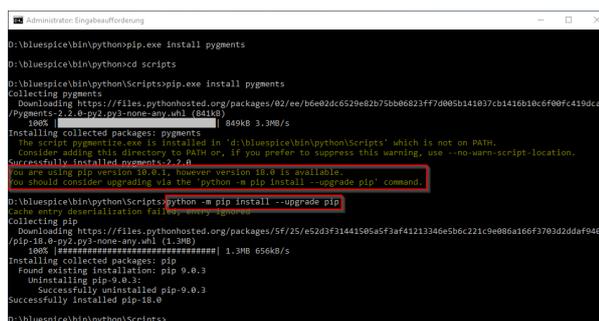
The most important information about installing Python can be found in these screenshots:



## Installation of Pygmentize

Open the command prompt with admin privileges. Change to the `|bluespice|bin|python|Scripts` folder and enter the command `"pip install pygments"`. Wait until the following process is complete.

You may be informed that your version of `pip.exe` is outdated. You can update it with the command `python -m pip install --upgrade pip`:



```
Administrator: C:\Windows\system32\cmd.exe
D:\bluespice\bin\python>pip.exe install pygments
D:\bluespice\bin\python>cd scripts
D:\bluespice\bin\python\Scripts>pip.exe install pygments
Collecting pygments
  Downloading https://files.pythonhosted.org/packages/02/ee/b6e02dc6529e02b75bb0e023ff7d005b141037cb1416b18c0f00c419d4
/pygments-2.2.0-py2.py3-none-any.whl (849kB)
    100% |#####| 849kB 3.3MB/s
Installing collected packages: pygments
  The script pygmentize.exe is installed in 'd:\bluespice\bin\python\Scripts' which is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed pygments-2.9.0
D:\bluespice\bin\python\Scripts>python -m pip install --upgrade pip
Collecting pip
  Downloading https://files.pythonhosted.org/packages/5f/25/e526f3f44150a5f3af41213346e5b0c221c9e00a106f3703d2d0df90
/pip-19.0-py2.py3-none-any.whl (1.3MB)
    100% |#####| 1.3MB 656kB/s
Installing collected packages: pip
  Found existing installation: pip 9.0.3
  Uninstalling pip-9.0.3:
    Successfully uninstalled pip-9.0.3
  Successfully installed pip-19.0
D:\bluespice\bin\python\Scripts>
```