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## Caching

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This document describes different caching options to enhance the performance of your BlueSpice installation.

## Tips for the 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).
- The placeholder `<installpath-bluespice>` stands for the path to your BlueSpice installation, e.g. `C:\inetpub\wwwroot\bluespice` (Windows) or `/var/www/bluespice` (Linux).

## Linux vs. Windows

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Please note that with equal hardware conditions, BlueSpice empirically runs more performantly on Linux than on Windows servers.

## Indicate Cache-Directory

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This forces BlueSpice to use the filesystem instead of the database for some internal caches. To do this, create the file `<installpath-bluespice>/settings.d/001-Directories.php` and add the following content:

```
<?php
$wgCacheDirectory = "$IP/cache";
```

Save and close the file.

**Hinweis:** The directory "cache" in `<installpath-bluespice>` must be writable by the web server. For more information, read the [file system permissions](#).

## Name Resolution of the Database

---

If this hasn't already been done while setting up MediaWiki, please make sure that the database server will be addressed via IP if it runs on the same server than BlueSpice. Especially Windows has problems with the resolution of "localhost".

To do this, open `<installpath-bluespice>/LocalSettings.php` and locate the variable **\$wgDBserver**. The line should ideally be:

```
$wgDBserver = "127.0.0.1";
```

## Activate Memcached

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Create the file `<installpath-bluespice>/settings.d/001-Memcached.php` and add the following content:

```
<?php
$wgMainCacheType = CACHE_MEMCACHED;
$wgSessionCacheType = CACHE_DB;
$wgMemCachedServers = [ "127.0.0.1:11211" ];
```

Save and close the file.

**Hinweis:** The prerequisite is an installed and configured memcached server on the BlueSpice server. Read the [memcached](#) article for more information.

## Increase PHP Memory Limit

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A higher memory limit of PHP results in a faster execution. ¶ This can be changed in `php.ini`. Locate and adjust the following option:

```
memory_limit = 512M (means 512 MB - varies from the available memory)
```

After saving and closing `php.ini`, the web server must be restarted.

## Activate Bytecode Cache in PHP

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Since PHP 5.5 the bytecode cache "opcache" is included.

This needs to be activated in the `php.ini` first. Check if the module is integrated there. This is done via the line:

```
zend_extension=opcache.dll (Windows)
zend_extension=opcache.so (Linux)
```

**Hinweis:** Please also note the specification of the distributor for activating PHP modules under Linux.

Please, do the following configuration of the opcache in `php.ini`. Normally, all options should already exist, but are commented out by semicolon (;) at the beginning of the line. Locate the respective option in `php.ini`, remove the semicolon at the beginning of the line and adjust the settings as follows:

```
opcache.enable=1
opcache.memory_consumption=512 (means 512 MB - varies from the available memory)
opcache.max_accelerated_files=5000
opcache.validate_timestamps=1
opcache.revalidate_freq=2
```

After saving and closing php.ini, the web server must be restarted.

## Deactivate JobQueue

For this, read the [paragraph "runJobs.php" in the "Cronjobs" article](#).

## File System Permissions

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For trouble-free usage of your BlueSpice installation, the web server requires write permissions to several folders of the file system. However, it is recommended to keep the rights for all other files and folders to a minimum. This document shows you the relevant folders and the correct permissions setting.

## 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).
- The placeholder `<installpath-bluespice>` stands for the path to your BlueSpice installation, e.g. `C:\inetpub\wwwroot\bluespice` (Windows) or `/var/www/bluespice` (Linux).

## Affected Folders

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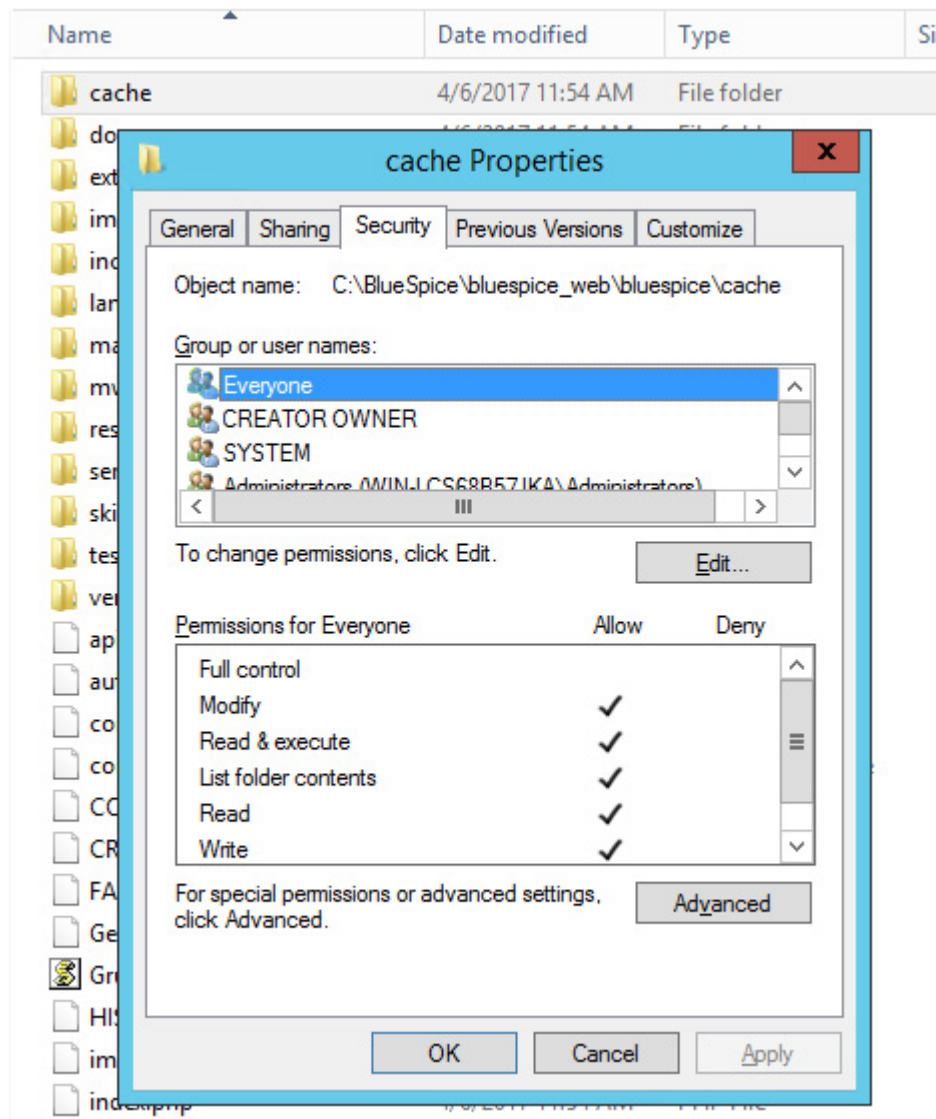
The folders, which require write permissions, are:

- `<installpath-bluespice>/cache`
- `<installpath-bluespice>/images`
- `<installpath-bluespice>/extensions/BlueSpiceFoundation/config` (only until BlueSpice v. 4.2.x) - v4.2.x
- `<installpath-bluespice>/extensions/BlueSpiceFoundation/data`
- `<installpath-bluespice>/extensions/Widgets/compiled_templates` (**only BlueSpice pro**)

## Assignment of Permissions with Windows

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Assign "change" rights for this folder for the local user "Everyone".



## Assignment of Permissions with Linux

Here you can assign rights much more strictly, which is also recommended. Transfer the directory `<installpath-bluespice>` recursively to the user root (CHMOD for Files 644, CHMOD for Directories 755) and after this, transfer the mentioned directory recursively to the user and the group, under which the Apache Web Server runs (Debian/Ubuntu e.g. "www-data").

In the following, we provide a bash script, which works through this tasks for you with only one command.

To do so, create the file `/usr/local/bin/setWikiPerm` and copy the following code into this file:

```
#!/bin/bash

WWW_USER="www-data"
WWW_GROUP="www-data"

WWW_HOME=`eval echo ~$WWW_USER`
WWW_CFG=$WWW_HOME/.config

if [ $# -eq 0 ]; then
    echo "You must enter the path of your MediaWiki installation."
```

```
        exit
    elif [ ! -d $1 ]; then
        echo "$1 does not exist or is no path."
        exit
    fi

    if [ ! -f $1/LocalSettings.php ]; then
        echo "$1 contains no LocalSettings.php"
        exit
    fi

    PATH=`echo "$1" | sed -e 's#/###'`

    /usr/bin/find $PATH -type d -exec /bin/chmod 755 {} \;
    /usr/bin/find $PATH -type f -exec /bin/chmod 644 {} \;

    /bin/chown -R root:root $PATH

    pathes=(
        "$PATH/cache" \
        "$PATH/images" \
        "$PATH/_sf_archive" \
        "$PATH/_sf_instances" \
        "$PATH/extensions/BlueSpiceFoundation/data" \
        "$PATH/extensions/Widgets/compiled_templates" \
    )

    for i in "${pathes[@]}; do
        if [ -d $i ]; then
            /bin/chown -R $WWW_USER:$WWW_GROUP $i
        fi
    done

    if [ ! -d $WWW_CFG ]; then
        /bin/mkdir $WWW_CFG
    fi

    /bin/chown -R $WWW_USER:$WWW_GROUP $WWW_CFG

    /usr/bin/find $PATH/extensions -iname 'create_pygmentize_bundle' -exec /bin/chmod +x {} \;
    /usr/bin/find $PATH/extensions -iname 'pygmentize' -exec /bin/chmod +x {} \;
    /usr/bin/find $PATH/extensions -name 'lua' -type f -exec /bin/chmod 755 {} \;
```

If needed, replace the content of the variables

```
WWW_USER="www-data"
WWW_GROUP="www-data"
```

with the appropriate user and group of your distribution.

After this, assign CHMOD 755 to this file. Now you can run the script and let it do the complete permission setting automatically with the following command:

```
setWikiPerm <installpath-bluespice>
```

**Note:** Note that when the `update.php` is executed on the console, the rights can be partially discarded. For this reason, set the rights to `"update.php"` again.



## Memcached on Linux

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**Note:** Memcached is a cache server to improve the performance of your BlueSpice installation. It is not required for the actual operation of BlueSpice. The steps listed here are therefore optional.

## Installation

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Install Memcached with Aptitude:

```
apt-get update; \  
apt-get -y install memcached; \  
apt-get clean
```

## Configuration

---

Open the file containing the memcached configuration (for example, /etc/memcached.conf on Debian / Ubuntu). Find the '-m' argument there and increase the available memory according to your server's capabilities:

```
-m 512
```

Save and close the file and restart memcached with `service memcached restart`.

## Next step

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If you have completed all steps successfully and want to install BlueSpice pro, proceed to the next step "[Mathoid](#)". If you want to install BlueSpice free, you can now continue with [Installing BlueSpice](#).