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Note: For general questions regarding the installation, maintenance, and usage of BlueSpice free, go to our SourceForge help forum.

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Introduction

We are happy that you decided to install the latest version of BlueSpice 4.

Please follow these steps:
1. Check the system requirements
2. Prepare the server environment
3. Install the BlueSpice application
4. Optimize the configuration

Check the system requirements

- System requirements

Prepare the server environment

- Linux server environment
- Windows server environment

Install the BlueSpice application

Please select which installation type you need:
- Full BlueSpice installation
  - Extended Functions: VisualEditor, ExtendedSearch
- BlueSpice WikiFarm installation
- Docker image

Upgrade and patch updates

- Upgrade from BlueSpice free 3.2.x to BlueSpice pro 4.1.x
- Upgrade from BlueSpice free 4.1.x to pro 4.1.x

Migration from MediaWiki to BlueSpice

- Migration from MediaWiki to BlueSpice

Optimize the configuration

If you don't need to set up a server environment "from scratch", you can directly refer to the setup instructions for individual system components. Just make sure that you really have everything configured as needed:

Webservices for Apache Tomcat

- PDF-Export
Additional settings and optimizations

- Caching
- Cronjobs
- Time Zone

Security settings

- File System Permissions
- Deactivating installcheck file
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Compendium

- Backup
- Configuration Folder settings.d
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- Folder structure under Windows
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Setup:Installation Guide/Advanced

- Backup
- Configuration Folder settings.d
- ExtendedSearch Configuration
- Folder structure under Windows
- Performance Optimization
- ManualRecache
- MySQL
- PHP
- VisualEditor Configuration
- Windows Folder Structure

Setup:Installation Guide/Advanced/Backup

Backup of the database

To back up your database, use the native program "mysqldump" of MySQL/MariaDB: Open a console, switch to the directory <installpath-bluespice> and backup your database with the following command:

```
mysqldump -u <username> -p --lock-tables <datenbank> > database.sql
```
For `<username>`, use the administrative database user (usually "root"), and for `<datenbank>`, use the database of your MediaWiki/BlueSpice installation.

**Hinweis:** In Windows, make sure that your environment variables are set correctly, so that you can access the command "mysqldump".

### Backup of the file system

Back up the complete directory `<installpath-bluespice>`, which now also includes the database image, to a different location on your server.

**For security reasons, immediately delete the file `<installpath-bluespice>/database.sql`, since it can be accessed from the browser.**

### Setup:Installation Guide/Advanced/Configuration Folder settings.d

**Hinweis:** This document provides background information for advanced users. We recommend not to make any changes on BlueSpice, if you are not familiar with the following information.

- 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).

### Explanation For the Folder settings.d

Starting with BlueSpice version 2.27.1, all default settings as well as the modules of BlueSpice are outsourced. All configurations can now be found in separate files in the /settings.d folder.

The files in this folder integrate the standard MediaWiki extensions required for BlueSpice, perform recommended default configurations, and also integrate all BlueSpice-related extensions (free or pro).

The files in the /settings.d folder are automatically integrated in alphabetical order and are therefore prefixed with numbers.

If you want to add additional configurations yourself, you can save your own files here. For this, it is recommended to use the prefix 001-.

Additional configurations, which are not packed per default but can be used, can be found at auf-github.com.
Update-safe changing of default configuration files

If you want to change the files delivered by default in the settings.d folder, we strongly recommend that you choose the following method so as not to lose this configuration after an update:

- Create a copy of the respective configuration file with the extension `.local.php` - e.g. `020-VisualEditor.local.php`
- Only edit this file

Files with this file extension are generally preferred in the loading process.

ExtendedSearch configuration

If the ElasticSearch service is up and running, you can enable BlueSpice Extended Search.

- Go to your BlueSpice install path. For example:
  
  ```
  cd /var/www/bluespice
  ```

- Go to the folder `settings.d`:
  
  ```
  cd settings.d
  ```

- Create a file in this folder and name it `020-BlueSpiceExtendedSearch.local.php`.
- Put the following content in the newly created file.

  ```php
  <?php
  wfLoadExtension( 'BlueSpiceExtendedSearch' );
  $GLOBALS['wgSearchType'] = 'BS\ExtendedSearch\MediaWiki\Backend\BlueSpiceSearch';
  ```

- Go to your BlueSpice install path again. For example:
  
  ```
  cd /var/www/bluespice
  ```

- Run the following scripts to build the search index.

  ```
  php extensions/BlueSpiceExtendedSearch/maintenance/initBackends.php --quick
  php extensions/BlueSpiceExtendedSearch/maintenance/rebuildIndex.php --quick
  php maintenance/runJobs.php
  ```

Done! The extended search functionality is now active.

Folder structure under Windows
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Preface

Microsoft Windows distributes program installations and configurations, the Webroot under IIS etc. to various folders in the file system. Since BlueSpice is a web application based on PHP, it is not always easy to use the Windows default system paths in the application.

For this reason, we recommend creating your own folder structure for BlueSpice, all related data and additional program installations.

In the following we describe a proven folder structure. This is recommended by us.

Folder structure

In the following, "\bluespice\" is defined as the base directory for the installation in the root directory of the drive (e.g. C:\bluespice or D:\bluespice).

The folder structure is based on Unix operating systems:

```
bluespice/
  └─ backup/           # for backups
  └─ bin/              # for additional programs and own scripts
  └─ etc/              # for configuration files
  └─ opt/
      └─ bluespice/
          └─ cache/         # BlueSpice cache
          └─ images/        # File uploads
          └─ widgets/       # Rendered widgets
  └─ tmp/              # Temporary files
  └─ var/
      └─ log/           # LOG files of the web server
      └─ www/           # Actual BlueSpice application
```

Folder names for program installations

When installing programs in \bluespice\, please make sure to install these programs in subfolders that do not contain special characters and/or spaces.

Setup:Installation Guide/Advanced/Performance Optimization

- Installation Guide/Advanced/Performance Optimization/ManualRecache
- Installation Guide/Advanced/Performance Optimization/MySQL
- Installation Guide/Advanced/Performance Optimization/PHP
Performance Optimization: ManualRecache of LanguageCache

To prevent Rebuilding LocalizationCache with every page call, apply the following configuration:

**Important:** When following these instructions, make sure that the $wgCacheDirectory variable is set in advance. This is already the case in the BlueSpice standard delivery in the file settings.d/005-Directories.php.

**Note:** This performance optimization achieves the best performance by enabling and configuring opcache in PHP.

In the settings.d folder of your codebase, create the file 006-ManualRecache.php with the following contents:

```php
$wgLocalisationCacheConf = [
    'class' => LocalisationCache::class,
    'store' => 'array',
    'storeClass' => false,
    'storeId' => $wgCacheDirectory,
    'manualRecache' => true,
];
```

Then delete all existing files in the cache folder of your codebase. Then manually re-create the LocalizationCache by entering the following on your console:

```bash
php /pfad/zur/installation/maintenance/rebuildLocalisationCache.php --force
```

Finally, make sure that this is done regularly in the background via cronjob ("Task Scheduler" under Windows). We recommend this twice a day, for example at 6am and 6pm.

Performance Optimization: MySQL (MariaDB)

Match MySQL or MariaDB directly to your memory and CPU cores. To do this, apply the following configuration in your my.ini:

```
[mysqld]
; with 16GB RAM
innodb_buffer_pool_size=4096M
tmp-table-size=1024M
max-heap-table-size=1024M
query_cache_size=1024M
```
; with 12 CPU cores
innodb-buffer-pool-instances=12
max_connections=12000

; Only use "127.0.0.1", not "localhost" when accessing MySQL
; Remember to also make these changes in the $wgDBserver variable in LocalSettings.php.
skip-name-resolve

Performance Optimization: PHP

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**opcache**

Enable the Zend extension opcache in PHP. In the php.ini, we recommend the following configuration:

```
opcache.enable=1
opcache.memory_consumption=512
opcache.max_accelerated_files=100000
opcache.validate_timestamps=1
opcache.revalidate_freq=2
opcache.optimization_level=0x7FFF9FFF
```

In addition, you should include the BlueSpice configuration files (`extensions/BlueSpiceFoundation/config/*`) in the Opcache blacklist (`opcache.blacklist_filename`). You can find more information in the [official PHP documentation](https://www.php.net/manual/en/opcache.configuration.php) for `configuration.php`.

**zlib**

Activate the extension zlib. In the php.ini we recommend the following configuration:

```
zlib.output_compression = On
zlib.output_compression_level = 9
```

You can find more information in the [official PHP documentation](https://www.php.net/manual/en/zlib.output_compression.php) for zlib.

**VisualEditor configuration**

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Server settings

Before you can use VisualEditor in BlueSpice, you have to activate it in your installation:

In the BlueSpice installation directory, locate the following files inside the folder „var\www\settings.d“:

020-VisualEditor.php:

```php
<?php
return;
//Config description can be found outside.
wfLoadExtension( 'VisualEditor' );
```

020-BlueSpiceVisualEditorConnector.php:

```php
<?php
return;
wfLoadExtension( "BlueSpiceVisualEditorConnector" );
$GLOBAL['bsgVisualEditorConnectorUploadDialogType'] = 'simple';
$GLOBAL['wqUploadDialog']['fields']['categories'] = true;
$GLOBAL['wqUploadDialog']['format']['filepage'] = '$DESCRIPTION $CATEGORIES';
```

1. Remove the line containing the „return;“ command in both files and save them.
2. Restart your web server (recommended).

Checking the Configuration manager

In case the VisualEditor is still not appearing, check if VisualEditor is shown as activated in the configuration manager of your wiki:

1. Go to Global actions > Config manager
2. Make sure the checkbox "Enable VisualEditor for BlueSpice extensions" is activated:

By default, VisualEditor is only activated in the main (Pages) and the User namespaces.

Activating VisualEditor for a namespace

1. Go to Global actions > Namespace manager In the column "VisualEditor", you can see which namespaces have VisualEditor activated. They have a green check mark.
2. Click the wrench icon in the "Actions" column. The wrench appears, when you hover over the row of the namespace:

1. Activate the checkbox for VisualEditor in the dialog window and click "Done".
1. Refresh the Namespace manager page (F5) to confirm the change.

VisualEditor should now be working correctly in all namespaces that actively use it.

---

**Customizing the link to the help pages**

By default, the help link for VisualEditor links to the help page for VisualEditor on the BlueSpice helpdesk.

The link can be changed to go to a custom URL:

To configure the url, add:

```
`$GLOBALS['bsgVisualEditorConnectorHelpUrl'] = 'https://your_url';`
```

to 'LocalSettings.php' or the appropriate config file.

---

**Windows Folder Structure**

---

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**Introduction**

Microsoft Windows distributes program installations and configurations, the Webroot under IIS etc. to various folders in the file system. Since BlueSpice is a web application based on PHP, it is not always easy to use the Windows default system paths in the application.

For this reason, we recommend creating a separate folder structure for BlueSpice, all related data and additional program installations.

In the following we describe a proven folder structure that is also recommended by us.

**Folder structure**

In the following, "\bluespice\" is specified as the base directory for the installation in the root directory of the drive (e.g. C:\bluespice or D:\bluespice).

The folder structure based on Unix operating systems is:

```
bluespice/
  └── backup/  # für Backups
  └── bin/     # für Zusätzliche Programme sowie eigene Scripte
  └── etc/     # für Konfigurationsdateien
    └── opt/    # für zusätzliche Programme sowie eigene Scripte
      └── bluespice/
        └── cache/  # BlueSpice-eigener Cache
        └── images/  # Datei-Uploads
        └── widgets/ # Gerenderte Widgets
      └── tmp/     # Temporäre Dateien
    └── var/
        └── log/     # LOG-Dateien des Webservers
        └── www/      # Die eigentliche BlueSpice-Applikation
```

**Folder names for program installations**

When installing programs in \bluespice\bin, please always ensure that these programs are installed in subfolders that do not contain any special characters and/or spaces.

**Installing BlueSpice free with Docker**

The easiest way to run BlueSpice free is to install it with an all-in-one Docker image. All required services are preconfigured.

You can find all necessary information directly on Docker Hub.
# How to use the Docker Hub image

## Basic usage

Example for quick start. Blue Spice will be accessible only in localhost.

```bash
docker run -d -p 80:80 bluespice/bluespice-free
```

## Keep your data outside of the docker

```bash
docker run -d -p 80:80 -v {/my/data/folder}:data bluespice/bluespice-free
```

## Setting BlueSpice language and URL

```bash
docker run -d -p 80:80 -v {/my/data/folder}:data -e "bs_lang=en" -e "bs_url=http://www.domain.com" bluespice/bluespice-free
```

## Activating SSL

Using SSL inside the Blue Spice docker image, the data directory should be outside of the docker. Create a folder named `cert` inside your data folder. Inside this folder, certificates must be named like:

- `ssl.cert` (SSL certificate. mandatory)
- `ssl.key` (Private key of `ssl.cert`. mandatory)
- `ssl.ca` (3rd party CA certs for `ssl.cert`. optional)

If everything is ready for the first run, just run the following command:

```bash
docker run -d -p 80:80 -p 443:443 -v {/my/data/folder}:data -e "bs_lang=en" -e "bs_url=https://www.domain.com" bluespice/bluespice-free
```

*Note: Port 443 includes the command and also $bs_url schema changed to https*

## Login to BlueSpice

username: WikiSysop  
password: PleaseChangeMe

## Which services are running?

- Apache
- PHP-FPM
- Jetty9
- Elasticsearch
- MySQL/MariaDB
Setup:Installation Guide/Installation BlueSpice WikiFarm

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An existing BlueSpice pro installation can easily be extended with BlueSpiceWikiFarm. The existing installation assumes the role of the main wiki (=farm management). The contents remain there and can be maintained as usually.

**Note:** WikiFarm is not a standard feature of BlueSpice pro and needs to be acquired separately.

**PHP prerequisites**

Please ensure that the PHP extension ZIP is archived, which is required for BlueSpiceWikiFarm.

**Ensuring the correct path in the file system**

Important for the operation of BlueSpiceWikiFarm is that BlueSpice is located in the directory `/w` of the DocumentRoot of your web server or VirtualHost.

If this is not the case, you have to move the entire codebase there.

After that, the variable `$wgScriptPath` in the `LocalSettings.php` contains the path `/w`.

```php
$wgScriptPath = "/w";
```

**Creating the necessary folders for BlueSpiceWikiFarm**

BlueSpiceWikiFarm needs two additional folders in the folder `/w` at the same level as the `LocalSettings.php`. You have to create these two folders:

- `_sf_instances` - all data and configurations for the respective instances are stored here
- `_sf_archive` - deleted farm instances including your database dump are stored here as ZIP archive

Make sure that these folders are writable by the web server. See also our ([notes in the helpdesk](#)) for this purpose.

**Creating the LocalSettingsAppend.php**

Including the extension "BlueSpiceWikiFarm" first requires an additional configuration file with the name `LocalSettingsAppend.php`. Create this file on the same level as the `LocalSettings.php` and add the following content:

```php
<?php
require_once "$IP/LocalSettings.BlueSpice.php";

== Including the extension "BlueSpiceWikiFarm" == In the `LocalSettings.php` replace the line
require_once "$IP/LocalSettings.BlueSpice.php";
```
require_once "$IP/extensions/BlueSpiceWikiFarm/BlueSpiceWikiFarm.php";

Configuring the web server

In the folder $IP/extensions/BlueSpiceWikiFarm/SimpleFarmer/doc you will find example files for RewriteRules, which are necessary for BlueSpiceWikiFarm:

- htaccess.template - RewriteRules for Apache
- web.config.template - RewriteRules for IIS

Configure these RewriteRules for the DocumentRoot level of your Web server or VirtualHost.

Completion

The installation of BlueSpiceWikiFarm is now complete. From now on, you can reach the farm administration in the main wiki under the special page "Special:SimpleFarmer".

Setup:Installation Guide/Migration from MediaWiki to BlueSpice

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Before you start

It is important to check the compatibility of your current MediaWiki installation and the BlueSpice version to which you want to migrate:

- BlueSpice Version 3.x is based on MediaWiki 1.31.x
- BlueSpice version 4.x is based on MediaWiki 1.35.x

Backup

Create a full backup of your current installation. Commands may differ depending on your operating system.

1. Create a directory to store the backup:

   ```bash
   mkdir -p /opt/mediawiki-migration-backup/{db,web}
   ```

2. Create the database dump:

   ```bash
   mysqldump -u DB_USER_OR_ROOT -p MEDIAWIKI_DATABASE_NAME > /opt/mediawiki-migration-backup/db/database.sql
   ```

3. Copy everything in the web root to the backup folder:

   ```bash
   cp -Rvf /PATH/TO/MEDIAWIKI/FOLDER/* /opt/mediawiki-migration-backup/web/
   ```

We will use this backup later for the migration process as well.

Preparing the migration

You can create a separate user account and database for BlueSpice. This step is optional but recommended. The following steps are based on such a separately created user and database.

If you choose not to create a separate user account and database, replace the following commands accordingly.

1. Create a MySQL/MariaDB user via MySQL CLI:

   ```sql
   CREATE USER 'bluespice'@'localhost' IDENTIFIED BY 'PleaseChooseAComplexPassword';
   ```

2. Create a database for BlueSpice via MySQL CLI:

   ```sql
   CREATE DATABASE bluespice;
   ```
3. Grant the required privileges for the bluespice user to the bluespice database via MySQL CLI:

```
GRANT ALL PRIVILEGES ON bluespice.* TO 'bluespice'@'localhost';
FLUSH PRIVILEGES;
```

Now we have an empty SQL database and are ready to import.

**Importing the data**

1. Import the SQL dump from the backup you created earlier:

```
mysql -u bluespice -p bluespice < /opt/mediawiki-migration-backup/db/database.sql
```

After this command, enter the password you chose for the `bluespice` database user.

2. Next, clean up the old installation folder and create an empty one.

```bash
rm -Rf /PATH/TO/MEDIAWIKI/FOLDER/
```

and

```bash
mkdir -p /PATH/TO/MEDIAWIKI/FOLDER/
```

3. Next, extract the BlueSpice package and place it into the `PATH/TO/MEDIAWIKI/FOLDER/`

```bash
cd /PATH/TO/MEDIAWIKI/FOLDER/
```

4. Copy the `images` folder from the backup to the `PATH/TO/MEDIAWIKI/FOLDER/`:

```bash
cp -Rf /opt/mediawiki-migration-backup/images .
```

5. Set the correct permissions based on your operating system to the folder `PATH/TO/MEDIAWIKI/FOLDER/`.

**Configuration settings**

1. In `PATH/TO/MEDIWIKI/FOLDER/`, create a new file named `LocalSettings.php` and copy the following content into the file:

```php
<?php
# This file was automatically generated by the MediaWiki 1.35.3 installer. If you make manual changes, please keep track in case you need to recreate them later.
# See includes/DefaultSettings.php for all configurable settings and their default values, but don't forget to make changes in _this_ file, not there.
# Further documentation for configuration settings may be found at:
11# https://www.mediawiki.org/wiki/Manual:Configuration_settings
```

10.3.2022
This document was created with BlueSpice
# Protect against web entry
14if (!defined( 'MEDIAWIKI' ) ) {
15    exit;
16}
17
19## Uncomment this to disable output compression
20$wgDisableOutputCompression = true;
21
22$wgSitename = "YOUR_WIKI_NAME";
23
24## The URL base path to the directory containing the wiki;
25## defaults for all runtime URL paths are based off of this.
26## For more information on customizing the URLs
27## (like /w/index.php/Page_title to /wiki/Page_title) please see:
28## https://www.mediawiki.org/wiki/Manual:Short_URL
29$wgScriptPath = "/w";  # <-- PLEASE CHECK YOUR DOCUMENTROOT
30
31## The protocol and server name to use in fully-qualified URLs
32$wgServer = "http(s)://your-domain.ltd";
33
34## The URL path to static resources (images, scripts, etc.)
35$wgResourceBasePath = $wgScriptPath;
36
37## The URL paths to the logo. Make sure you change this from the default,
38## or else you'll overwrite your logo when you upgrade!
39$wgLogos = [ '1x' => "$wgResourceBasePath/resources/assets/wiki.png" ];
40
41## UPO means: this is also a user preference option
42
43$wgEnableEmail = true;
44$wgEnableUserEmail = true;  # UPO
45
46$wgEmergencyContact = "nomail@localhost.localdomain";
47$wgPasswordSender = "nomail@localhost.localdomain";
48
49$wgEnotifUserTalk = false;  # UPO
50$wgEnotifWatchlist = false;  # UPO
51$wgEmailAuthentication = true;
52
53## Database settings
54$wgDBtype = "mysql";
55$wgDBserver = "YOUR_DATABASE_SERVER";
56$wgDBname = "bluespice";
57$wgDBuser = "bluespice";
58$wgDBpassword = "PleaseChooseAComplexPassword";
59
60## MySQL specific settings
61$wgDBprefix = "";
62
63## MySQL table options to use during installation or update
64$wgDBTableOptions = "ENGINE=InnoDB, DEFAULT CHARSET=binary";
65
66## Shared database table
67## This has no effect unless $wgSharedDB is also set.
68$wgSharedTables[] = "actor";
69
70## Shared memory settings
71$wgMainCacheType = CACHE_NONE;
72$wgMemCachedServers = [];
73
74## To enable image uploads, make sure the 'images' directory
75## is writable, then set this to true:
76$wgEnableUploads = false;
77$wgUseImageMagick = true;
78$wgImageMagickConvertCommand = "/usr/bin/convert";
79
80## InstantCommons allows wiki to use images from https://commons.wikimedia.org
81$wgUseInstantCommons = false;
82
83## Periodically send a pingback to https://www.mediawiki.org/ with basic data
2. Edit this `LocalSettings.php` and set the correct values to fit your installation. This current `LocalSettings.php` might look like different from your MediaWiki installation, because BlueSpice comes with a separate folder for custom settings (`settings.d`).
Migrating the system

The system is ready to migrate.

1. Run the following script to start the migration:

   ```
   php /PATH/TO/MEDIAWIKI/FOLDER/maintenance/update.php --quick
   ```

   Now BlueSpice should be reachable.

2. Execute the following additional scripts:

   ```
   php /PATH/TO/MEDIAWIKI/FOLDER/maintenance/rebuildall.php
   #Finally for the search index (ElasticSearch 6.x and ingest-attachment plugins must
   be installed) php /PATH/TO/MEDIAWIKI/FOLDER/extensions/BlueSpiceExtendedSearch
   /maintenance/initBackends.php --quick
   php /PATH/TO/MEDIAWIKI/FOLDER/extensions/BlueSpiceExtendedSearch/maintenance
   /rebuildIndex.php --quick
   php /PATH/TO/MEDIAWIKI/FOLDER/maintenance/runJobs.php --memory-limit=max
   ```

Your migration is complete and your BlueSpice is ready to use!

You can use your old credentials to login.

Questions? Visit the BlueSpice help forum on sourceforge.net.

Caching

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4 Name Resolution of the Database ............................................. 25
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7 Activate Bytecode Cache in PHP .............................................. 26
8 Deactivate JobQueue ............................................................... 27
This document describes different caching options to enhance the performance of your BlueSpice installation.

**Tips for the Document**

- 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**

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

**Indicate Cache-Directory**

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
<?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:

```php
$wgDBserver = "127.0.0.1";
```
**Activate Memcached**

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

```php
<?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**

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

```ini
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**

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:

```ini
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:
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.

**Cronjobs**

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| 2 runJobs.php | .......................................................................................... 28 |
| 3 processBsEmailBatch.php | .......................................................................................... 28 |
This document describes cronjobs and related configurations, which should be set for your BlueSpice (depending on the used version).

Tips for this Document

- 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).

**runJobs.php**

Time-consuming processes will be moved to a processing queue in the background of BlueSpice. With every page impression, a part of these will be processed. For the case that there are lots of processes in the queue and there are relatively little page impressions, the tasks will not be processed promptly.

For this reason, the queue should be processed regularly by cronjob.

Now create a cronjob (Windows: "Scheduled task") depending on your operating system. The command to execute is:

```bash
php <installpath-bluespice>/maintenance/runJobs.php (Linux)
php.exe <installpath-bluespice>\maintenance\runJobs.php (Windows)
```

**Hinweis:** It is recommended to specify the complete path to php.exe under Windows. For more information, see the environment variables document.

Execute the cronjob every **10 minutes**.

**processBsEmailBatch.php**

For reports via email sent from MediaWiki, please create a cronjob and run it daily. The command for this is:

```bash
php <installpath-bluespice>/extensions/BlueSpiceEchoConnector/maintenance/processBsEmailBatch.php (Linux)
php.exe <installpath-bluespice>\extensions\BlueSpiceEchoConnector\maintenance\processBsEmailBatch.php (Windows)
```
Hinweis: It is recommended to specify the complete path to php.exe under Windows. For more information, see the environment variables document.

Time Zone

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2  Changing the Time Zone .................................................................................................................. 30
Even if every user can change his time zone himself in the user settings, BlueSpice sets the default time zone "Europe/Berlin" when the user first logs in. This document describes how to change this if necessary.

**Tips for this Document**

- 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).

**Changing the Time Zone**

Copy the file `<installpath-bluespice>/settings.d/001-DefaultSettings.php` to `<installpath-bluespice>/settings.d/001-DefaultSettings.local.php` and open it. In delivery stat, you can find these two lines there:

```php
$wgLocaltimezone = 'Europe/Berlin';
$wgDefaultUserOptions['timecorrection'] = 'ZoneInfo|' . (date("I") ? 120 : 60) . 'Europe/Berlin';
```

Replace "Europe / Berlin" with your time zone. An overview of all possible time zones can be found in the [official PHP documentation](https://www.php.net/manual/en/timezones.php).

Save and close the file.

**Setup:Installation Guide/Security Patches 3.2.8**

**Note:** Instructions on this page only apply to BlueSpice 3.2.8. They will become obsolete once BlueSpice 3.2.9 is published!

**Applying security patches from MediaWiki 1.35.5 to BlueSpice 3**

Recent security fixes to MediaWiki 1.35 have been backported to MediaWiki 1.31, which is the base of BlueSpice 3.2. The patches are available for download on [SourceForge](https://sourceforge.net/projects/bluespice/).

The following instructions are based on Linux installations. But they can be executed in the same way on a Windows system using an appropriate shell, like `git bash`, `cygwin` and similar.
Given `<bluespice>` is the installation path of the BlueSpice wiki application, you can apply the patches like this:

```
cd <bluespice>/_bluespice
wget https://sourceforge.net/projects/bluespice/files/BlueSpice-3.2.8-MW1.35.5-fixes.tar.gz
      tar xfvz BlueSpice-3.2.8-MW1.35.5-fixes.tar.gz
 cd ..
bash _bluespice/pre-autoload-dump.d/99-apply_patches.sh
```

After a successful run, the output should be like this:

```
Patching: includes/actions/RollbackAction.php ==> DONE!
Patching: includes/actions/Action.php ==> DONE!
Patching: includes/actions/ViewAction.php ==> DONE!
Patching: includes/specials/SpecialChangeContentModel.php ==> DONE!
Patching: includes/MediaWiki.php ==> DONE!
Patching: includes/EditPage.php ==> DONE!
Patching: extensions/VisualEditor/modules/ve-mw/ui/dialogs/ve.ui.MWMediaDialog.js ==> DONE!
```

There may be additional lines of output, based on the edition of BlueSpice.

**Deactivating installcheck.php**

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As soon as the setup of BlueSpice is completed, you should prevent the execution of the installcheck.php while using the wiki productively. A short instruction can be found in this document.

**Tips for this Document**

- 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).

**Deactivating installcheck.php**

Switch to the directory `<installpath-bluespice>` and open the `installcheck.php` file in a text editor.

Insert a new line after the first line and insert

```
die( 'Deactivated.' );
```

Save and exit the file. The installcheck.php is no longer accessible now.
If you need to restore this file at a later time, it is sufficient to temporarily disable inserted line by placing the # character at the beginning of the line.

**File System Permissions**

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2. Affected Folders ............................................................................................................................ 33
3. Assignment of Permissions with Windows .................................................................................... 33
4. Assignment of Permissions with Linux .......................................................................................... 34
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**

- 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**

The folders, which require write permissions, are:

- `<installpath-bluespice>/cache`
- `<installpath-bluespice>/images`
- `<installpath-bluespice>/extensions/BlueSpiceFoundation/config`
- `<installpath-bluespice>/extensions/BlueSpiceFoundation/data`
- `<installpath-bluespice>/extensions/Widgets/compiled_templates` (only BlueSpice pro)

**Assignment of Permissions with Windows**

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:

```bash
#!/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."
```

```bash
exit
fi
```

```bash
if [ ! -d $WWW_CFG ]; then
    mkdir -p $WWW_CFG
    chmod 755 $WWW_CFG
    echo -n "chmod 755 $WWW_CFG"
else
    chmod 755 $WWW_CFG
fi
for i in $1*; do
    if [ -d $i ]; then
        echo -n "chmod 755 "$i"
        chmod 755 $i
    elif [ -f $i ]; then
        echo -n "chmod 644 "$i"
        chmod 644 $i
    fi
    if [ ! -d $WWW_CFG ]; then
        mkdir -p $WWW_CFG
        chmod 755 $WWW_CFG
        echo -n "chmod 755 $WWW_CFG"
else
    chmod 755 $WWW_CFG
fi
```
exit

e

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/BlueSpiceFoundation/config" \ 
    "$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.
# Save Directories

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Tips for this Document

- 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).

Explanation for Saving Directories

It is highly recommended, to lock several directories to save them from access from external browsers, so that calling up the directory or the content delivers the HTTP status code (Forbidden).

To find out how this works with the webserver you are using, please read the documentation of your webserver software.

The following directories should be saved:

- `<bluespice-url>/cache`
- `<bluespice-url>/images`
  - Please keep in mind that you need to unblock the subfolder `<bluespice-url>/images/bluespice` afterwards, because this subfolder must be accessible.
- `<bluespice-url>/mw-config`

Setup:Installation Guide/System Preparation

Choose your operating system:

- Linux
- Windows

Setup:Installation Guide/System Preparation/Linux

- Introduction
- Apache und PHP
- MariaDB
- Jetty
- Elasticsearch
- Python
- Memcached
- Texvc (BlueSpice pro only)
- PhantomJS

Installing Apache and PHP on Linux
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3 Configuring PHP ......................................................................................................................... 39
4 Configuring Apache .................................................................................................................... 40
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**Introduction**

Apache or Nginx are available as web servers under Linux. BlueSpice can theoretically also be operated with Nginx, but in this documentation only Apache is treated in detail. Of course, you can also install Nginx with the appropriate expertise and operate it according to the here documented Virtualhost configuration of Apache.

**Note:** If "User is not in the sudoers file." type "su" in the terminal and execute. Write a "sudo" in front of a command.

**Installation**

Install Apache and PHP using the Aptitude package manager with the following steps:

```
apt update; \
apt install apache2  
   libapache2-mod-php7.4  
   php7.4  
   php7.4-cli  
   php7.4-common  
   php7.4-curl  
   php7.4-gd  
   php7.4-intl  
   php7.4-json  
   php7.4-mbstring  
   php7.4-mysql  
   php7.4-opcache  
   php7.4-tidy  
   php7.4-xml  
   php7.4-zip; \
apt clean
```

**Configuring PHP**

After installation, configure PHP. Open `php.ini` with a text editor of your choice (nano, vi), which, in our Debian version, is located in the directory `/etc/php/7.3/apache2`.

Find the following settings and change the values accordingly. If a setting is commented out with a semicolon in front of it, please remove it. Or open the terminal with `sudo nano /etc/php/7.4/apache2/php.ini`.

---

**Important!** The web server delivers your BlueSpice installation to the user's browser. Without a web server, BlueSpice cannot be used. The source code of BlueSpice is based on the scripting language "PHP". This must also be installed on your server in order to operate BlueSpice. The steps listed here are required.
Set the value for 'date.timezone' according to your own time zone.

Save and exit the php.ini again.

### Configuring Apache

**Note:** In this documentation, we assume the recommended installation with ShortURL. In this case, the root directory of the web server is in `/var/www/bluespice`, but the actual source code of BlueSpice is in `/var/www/bluespice/w`. This configuration is designed accordingly.

To configure a VirtualHost for BlueSpice, please proceed as follows:

1. Change to the directory `/etc/apache2/sites-available`.
2. In a text editor of your choice, open the file `bluespice.conf`, which does not yet exist, and create it. Copy the entire contents of the following file into this new configuration file:
   1. For BlueSpice free: `apache_vhost_bluespice_free.txt`
   2. For BlueSpice pro: `apache_vhost_bluespice_pro.txt`
3. In rows 3 and 4, replace "SERVERNAME" and "SERVERALIAS" according to your server name and domain. If the server is explicitly operated with only one VirtualHost for BlueSpice, you can also completely remove these two lines.
4. Save the file and close it.

If you do not have rights to save:

1. Open a text editor of your choice.
2. Copy the complete contents of the following file into this new configuration file:
   1. Bei BlueSpice free: `apache_vhost_bluespice_free.txt`
   2. Bei BlueSpice pro: `apache_vhost_bluespice_pro.txt`
3. In rows 3 and 4, replace "SERVERNAME" and "SERVERALIAS" according to your server name and domain. If the server is explicitly operated with only one VirtualHost for BlueSpice, you can also completely remove these two lines.
4. Save the file as `bluespice.conf` under any file path and exit it.
5. In terminal, run the command `sudo mv /yourfilepath/bluespice.conf /etc/apache2/sites-available`.

Delete the VirtualHost created by default during the Apache installation with the command `a2dissite 000-default`. Then activate the just created VirtualHost with the command `a2ensite bluespice`.

Next, activate the Module Rewrite, which we configured in the `bluespice.conf`, by entering the following command: `a2enmod rewrite`
Next, create the directory `/var/www/bluespice` (`mkdir /var/www/bluespice`) and restart Apache with the command `service apache2 restart`.

Next, call up the URL of your BlueSpice server. If configured correctly, Apache should respond to the request with the error message "Not found", which is completely correct at the time of installation.

![Not Found](image)

**Not Found**
The requested URL / was not found on this server.
Apache/2.4.35 (Ubuntu) Server at bluespice Port 80

**Next step**

If you have successfully completed all these steps, you can proceed to the next step "MariaDB".

**Elasticsearch on Linux**

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Adding the package sources

Elasticsearch is not included in the package manager on Debian. However, the manufacturer provides a repository for the software. Add it with the following commands to your Debian installation. Prerequisite is that you have installed the program "gnupg" (apt install gnupg).

```
wget -qO - https://artifacts.elastic.co/GPG-KEY-elasticsearch | apt-key add -; 
echo "deb https://artifacts.elastic.co/packages/6.x/apt stable main" > /etc/apt/sources.list.d/elastic-6.x.list
```

Installing Elasticsearch

The subsequent installation of Elasticsearch will guide you through these commands.

```
apt update; 
apt install elasticsearch; 
apt clean
```

Installing ingest-attachment

For the advanced search in BlueSpice you need the plugin "ingest-attachment" for Elasticsearch. This install it with the following command:

```
/usr/share/elasticsearch/bin/elasticsearch-plugin install -b ingest-attachment
```

Start Elasticsearch and add it to startup

Add the Elasticsearch to startup and then start the service:

```
systemctl enable elasticsearch; 
service elasticsearch start
```

Next step

If you have completed all steps successfully, you can proceed to the next step "Python".

Introduction to the Bluespice installation guide for Linux
This chapter discusses how to prepare a complete Linux Server environment before running BlueSpice on it.

Due to the variety of Linux distributions on the market, this documentation has to choose one distribution. Therefore, we use Debian version 10 (buster).

Furthermore, Apache is used as a web server and Jetty as an application server. Alternatives are briefly discussed in the respective articles.

First, start with installing Apache and PHP.

**Jetty on Linux**

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Introduction

An alternative to Jetty is Apache Tomcat, which you can also find in the package manager of Debian. However, since Jetty works better, this is preferred in this documentation.

Installing Jetty

Install Jetty via Aptitude:

```
apt update; \
apt install jetty9; \ 
apt clean
```

Configuration

To configure, open the file `/etc/default/jetty9` in a text editor of your choice (vi, nano). Put the following line at the very end of the file:

```
JAVA_OPTIONS="-Xms512m -Xmx1024m -Djetty.host=127.0.0.1"
```

Restart Jetty with the command `service jetty9 restart`.

Installing the web apps

In your browser, open the official download page on bluespice.com (1). Click on "Download" (2).

1. Unzip the BlueSpice-free-4.x.x.zip file.
2. Rename the folder "BlueSpice-free-4.x.x" to `bluespice`.
3. Rename the "bluespice" subfolder to `w`.
4. Now move the unzipped bluespice folder in the terminal with the command `sudo mv /yourfilepath/bluespice /var/www` to `/var/www`.

After successful installation of BlueSpice, follow the next steps to install the web services and activate the respective BlueSpice extension:

- PDF Export
**Next step**

If you have successfully completed all steps, you can proceed to the next step "Elasticsearch".

## MariaDB on Linux

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Important! BlueSpice stores your content in a database for which you need to install a corresponding server. The steps listed here are required.

Installing MariaDB

Install MariaDB via Aptitude:

```
apt update; \
apt install mariadb-server mariadb-client; \
apt clean
```

Create database user for BlueSpice

After installation, immediately create a database user for MariaDB directly with the following command:

```
mysql -e "GRANT ALL ON bluespice.* TO 'bluespice'@'127.0.0.1' IDENTIFIED BY '<a
password of your choice>';"
```

Next Step

If you have completed all steps successfully, you can proceed to the next step "Jetty".

Memcached on Linux

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**Important!** 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

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

If you have completed all steps successfully and want to install BlueSpice pro, proceed to the next step "Texvc". If you want to install BlueSpice free, you can now continue with Installing BlueSpice.

## Installing PhantomJS

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3. Completing the system preparation ................................................................................................ 48
**Note:** PhantomJS is a so-called headless browser that can render screenshots of web pages. This is required for the web page preview in Advanced Search and the Recent Changes Overview in your BlueSpice installation. These are functionalities of BlueSpice pro. For this purpose, the steps listed here are required.

**Important!** In this documentation, we use PhantomJS version 2.1.1. This is just an example of the latest version that you can download at the time of installation.

### Download

Go to the [download page of PhantomJS](#) and download the 64-bit version for Linux. Transfer the file to your server.

### Installation

Unpack the downloaded bz2 archive on the server with the command `tar xjf phantomjs-2.1.1-linux-x86_64.tar.bz2`. In the unpacked folder `phantomjs-2.1.1-linux-x86_64`, you will find another folder with the name `bin`. Within this folder is the file `phantomjs`. Copy this file into the `/usr/local/bin` folder. Then adjust the rights of the file:

```
chown root.staff /usr/local/bin/phantomjs; 
chmod +x /usr/local/bin/phantomjs
```

### Completing the system preparation

If you have completed all steps successfully, you can now continue with installing BlueSpice.

### Installing Python on Linux
**Important!** Python is required to render the MediaWiki extension "SyntaxHighlight", which is part of BlueSpice. The steps listed here are required.

## Installation

Install Python via Aptitude:

```
apt-get update; 
apt-get -y install python3; 
apt-get clean
```

## Next step

If you have successfully completed all steps, you can proceed to the next step "Memcached".

## Installing Texvc

### Contents

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2. Installation ................................................................. 50
3. Next Step ................................................................. 50
Prerequisites

A prerequisite for installing Texvc is the installation of some external packages in your Linux distribution with the following commands:

```
apt update; \
apt install dvipng \n  g++ \n  gcc \n  make \n  ocaml-nox \n  texlive-latex-base \n  texlive-latex-extra; \
apt clean
```

Installation

To install Texvc, go to the codebase of your BlueSpice sources in the folder `extensions/Math/math`. Here, execute the command `make`. Texvc will now be compiled.

After finishing the process, move the `texvc` file that was just created in the same folder to `/usr/local/bin` and make it executable by the following commands.

```
chown root.staff /usr/local/bin/math; 
chmod +x /usr/local/bin/math
```

Next Step

If you have completed all steps successfully, you can proceed to the next step "PhantomJS".

Setup:Installation Guide/System Preparation/Windows

This part of the installation guide provides step-by-step instructions for the Windows system preparation. This is necessary if you want to install BlueSpice afterwards.

Follow these chapters in the order listed. At the end of each chapter you will see a link to the next chapter.
Please also pay attention to the chapter "Introduction". It contains additional information about this manual.

- Introduction
- Setting the system rights of the temporary Windows folder
- .NET Framework 3.5
- IIS-Webserver
- urlrewrite
- Microsoft Visual C++ Redistributable
- PHP Manager
- PHP
- MariaDB
- OpenJDK
- Apache Tomcat
- Elasticsearch
- Python


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2. Installation of the framework in the Roles Manager ....................................................... 53
3. Next step ....................................................................................................................... 54
The .NET Framework 3.5 is required by some of the applications that will be installed in the following chapters. The steps listed here are mandatory.

The .NET Framework setup may fail if your server is in a domain and accessing a WSUS.

One solution would be to temporarily take the server out of the domain for this part of the Setup or follow the documentation steps from this external source.

Open the Server Manager and the roles Manager

Open the Server Manager. Unless otherwise configured, it automatically starts when you log on to the server. You can also find it in the start menu with the search term "Server Manager".

You are now looking at the following view:

Click "Manage" (1) in the top toolbar and then click "Add Roles and Features" (2) in the context menu:
Installation of the framework in the Roles Manager

You are now in the Roles Manager (Window "Add Roles and Features Wizard").

Click "Next >" multiple times until you have reached the section "Features" (1).

Activate the checkbox ".NET Framework 3.5-Funktionen" (2). After that, proceed to the next step (3):

Activate the checkbox "Restart the destination server automatically if required" (1) and click "Install" (2):
Click "Close" to finish the installation of the .net Framework:

Next step

If you have successfully completed all of the above steps, proceed to the next step: IIS-Webserver.

Apache Tomcat on Windows

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6 Next step ........................................................................................................................................ 58
Apache Tomcat is required for the PDF export, VisualDiff (BlueSpice pro only) and the LaTeX renderer (BlueSpice pro only). The following steps are optional and only required if you want to use one or more of these services in your BlueSpice installation.

Operation of Apache Tomcat requires OpenJDK. If you have not installed it, follow the link above.

Download

Open the official download page (1) in your browser and go to the version 10 (2) download page.

Download the "32-bit/64-bit Windows Service Installer"

Please note that the download on your Windows server with Internet Explorer only works if you have configured the Internet Explorer Advanced Security Settings in the Server Manager. Please refer to the technical documentation from Microsoft.

This guide uses version 10.0.12 of Apache Tomcat and is just an example of the latest version that you can download at the time of installation.

Installing Apache Tomcat

Open the downloaded file "apache-tomcat-10.0.12.exe".

Start the installation by clicking "Next >":

Confirm the license agreement by clicking "I Agree":

Click "Next >":
Click "Next >" again:

Select (1) the home directory of your OpenJDK Installation (2) and click "Next>" (3):

Start the Tomcat Installation:

At the end of the installation, leave both preselected checkboxes (1) and finish the setup (2)

**Configuring Apache Tomcat**

Change to the installation directory of Tomcat. By default, you can find it at `C:\Program Files\Apache Software Foundation\Tomcat 9.0\conf`.

Open the context.xml file in a text editor and replace the one-time line

```xml
<Context>
```

with

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

Save and close the file.

In the same directory, open the file server.xml in a text editor and make sure that the complete block

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

looks like this:

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

Save and close the file.

Find the entry "Configure Tomcat" in the start menu and open it:
Set "Startup type" to "Automatic" (1) and start Tomcat (2). Then exit the configuration console (3):

**Tomcat Configuration 04**

### Reviewing the installation

To check if Tomcat is working correctly, open the address http://localhost:8080/ in a browser on the server.

You should now see the homepage of the Tomcat server:

**Tomcat Check 01**

### Installing the web apps

Please unzip the installed BlueSpice folder and move the subfolder to C:\bluespice\var\www. Rename the folder to "w".

---

After the successful installation of BlueSpice, please follow the next steps to install the web services and activate the respective BlueSpice extension:

- PDF-Export
- VisualDiff (BlueSpice pro only)
- LatexRenderer (BlueSpice pro only)

### Next step

If you have completed all steps successfully, you can delete the previously downloaded "apache-tomcat-10.0.11.exe" file from your hard drive and continue to the next step "Elasticsearch".

---

**Setup:Installation Guide/System Preparation/Windows /Elasticsearch**

---

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| 3   | Installing the plugin ingest-attachment                                 | 60 |
| 4   | Installing the Elasticsearch service                                    | 61 |
| 5   | Configuring and starting the Elasticsearch service                      | 61 |
| 6   | Next step                                                               | 63 |
Elasticsearch is a prerequisite for running Advanced Search. The steps listed here are optional and only required if you plan to use them in your BlueSpice installation.

To run Elasticsearch, OpenJDK is required. If you have not installed it, install it now.

**Download**

The content of this section refers to external sources and is current at the time of writing this documentation. We cannot guarantee how long these sources will remain unchanged. Please let us know if you notice any discrepancies to the information provided here.


Folgen Sie dabei den Download-Anweisungen Ihres Browsers.

In the following, the Elasticsearch version 6.8.23 is used and only serves as an example for the latest version of the 6.x version series, which you can download at the time of your installation.

**Unpacking the ZIP archive**

Unpack the ZIP archive that you have just downloaded in a Archiv in a suited system path of your hard drive.

This documentation assumes the folder structure recommended by us. For
this reason, Elasticsearch is unpacked at this point in the folder C: \\bluespice\bin\elasticsearch-6.8.23. If you have individual wishes, adjust these paths according to your own understanding.

Installing the plugin ingest-attachment

Change to the directory "C:\bluespice\bin\elasticsearch-6.8.23\bin" (1).

Right-click on a free area of the Explorer window with the Shift-key pressed.

Click "Open PowerShell window here" (2):

Execute the command ". \elasticsearch-plugin.bat install -b ingest-attachment":
If your server does not have an active internet connection, then **download the plug-in ingest-attachment as zip archive** and install it, as documented directly by the manufacturer.

### Installing the Elasticsearch service

**Run** the "elasticsearch-service.bat install" command and wait for the process to complete:

![Image of Elasticsearch service installation]

### Configuring and starting the Elasticsearch service

**Press** the key combination Windows+R.

**Enter** "services.msc" (1) in the dialog window and **click** "OK" (2):

![Image of services.msc dialog window]

**Search** for the service "Elasticsearch 6.8.23" and open it with a double-click:
Select the startup type “Automatic” (1) and start the service (2).

Click “OK” (3) to close the window after the service is started:
Next step

If you have successfully completed all of the above steps, proceed to the next step: Python.

Setup:Installation Guide/System Preparation/Windows/IIS-Webserver

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The web server delivers your BlueSpice installation to the users’ browsers. Without a web server, BlueSpice cannot be used. The steps listed here are required.

Introduction

We recommend to use the most system-optimized software possible for a live operation of BlueSpice both under Linux and under Windows. For this reason, the documentation of an installation of Apache (XAMP) under Windows is omitted. This chapter lists the steps that are necessary to install the Microsoft IIS Web Server service on Windows Server >= 2016.

Open the Server Manager and the Roles Manager

Open the Server Manager (like in the previous step). Unless otherwise configured, it starts automatically as soon as you log in to the server. Otherwise, you will find it in the start menu under the search term "Server Manager". You are now looking at the following view:

Click "Manage" (1) and then click "Add Roles and Features" (2):
Installation of IIS in the Roles Manager

Sie befinden sich jetzt im Roles manager.

**Click** "Next >" until you reach the "Server Roles" area (1). There, you **activate** the role "Web Server (IIS)" (2):

**Click** "Add Features" in the resulting pop-up window:
Click "Next >":

You are now in the section "Features".

Click "Next >":

You are now in the section "Web Server Role (IIS)".

Click "Next>":

You are now in the section "Role services".

Activate the option "Windows-Authentication" (2) under "Security" (1) and the option "CGI" (4) under "Application development" (3).

Click "Next >" (5):
You are now in the "Confirmation" section.

**Activate** the option "Restart the destination server automatically if required" (1) and **click** "Install" (2):

Click "Close" once the installation has been completed.
With the successful completion of all these steps, the IIS web server is now installed. Check the functionality by starting Internet Explorer on the server and calling the URL http://localhost/. If installed correctly, you will see the welcome page of the IIS Web server:

Next step

If you have successfully completed all of the above steps, proceed to the next step: urlrewrite.

Setup:Installation Guide/System Preparation/Windows /Introduction

This documentation is as detailed as possible and illustrated with screenshots. It covers the recommended basic system configuration. Nevertheless, we assume that you already have previous knowledge of the installation and operation of Windows Server systems.

The prerequisite is an already installed Windows server starting at version 2016 without any additional software already installed.
In this documentation, Windows Server 2022 was used. With different versions, it is possible that you will notice slight differences in the installation interface.

The documentation also includes clearly marked infoboxes that inform you about whether particular installation steps are necessary and that provide any further information.

First start with setting the system rights of the temporary Windows folder.

### MariaDB on Windows

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BlueSpice stores your content in a database for which you need to install a corresponding server. The steps listed here are required.

Alternatively, you can also use MySQL at this point, but we recommend the MariaDB database server described as below.

**Download**

The content of this section refers to external sources and is current at the time of writing this documentation. We cannot guarantee how long these sources will remain unchanged. Please let us know if you notice any discrepancies to the information provided here.

**Open** the [official download page](#) (1) in your browser. If not everything is already filled out correctly, select the latest version of MariaDB (1), the Windows operating system (2), the architecture x86_64 (3) and the MSI package (4).

**Click** on "Download" (5) and follow the further download instructions.
Im Folgenden wird die MariaDB-Version 10.7.3 verwendet und dient nur beispielhaft für die aktuellste Version 10.7.x, die Sie zum Zeitpunkt Ihrer Installation herunterladen können.

**Installation**

**Open** the MSI file that you have just downloaded.

**Click** "Next" to start the installation:

![MariaDB 10.7 (x64) Setup](image)

**Confirm** the License Agreement (1) and **click** "Next" (2):
Click "Next" to confirm the installation setup:

Enter a new root password for the administrative ("root") user of the database server (1) and click "Next" (2):
Click "Next" in the Default instance properties window:

Click "Install" to start the installation:
Click "Finish" after the installation to exit the setup:

Setting the environment variable

To be able to use MariaDB on the Windows command line without any problems, it is necessary to configure an environment variable in Windows. To do this, follow these steps:
Enter the key combination Windows+R.

Enter "SystemPropertiesAdvanced.exe" (1) in the dialog window and click "OK" (2):

![Image of System Properties Advanced window]

Click "Environment Variables...":

![Image of System Properties Advanced window with Environment Variables highlighted]

Double-click the entry "Path" in the section "System variables":

![Image of System Properties Advanced window with Path highlighted]
Click "New":
Add the path to your MariaDB installation, which includes among others the file `mysql.exe`. By default, this is the path `C:\Program Files\MariaDB 10.7\bin`
Close all newly opened windows one after the other by clicking "OK".

Next step

If you have successfully completed all of the above steps, proceed to the next step: OpenJDK

Setup:Installation Guide/System Preparation/Windows
/Microsoft Visual C++ Redistributable

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The installation of Visual C++ Redistributable for Visual Studio 2015 is required to run PHP in version 7.x on Windows. The steps listed here are required.

Download

The content of this section refers to external sources and is current at the time of writing this documentation. We cannot guarantee how long these sources will remain unchanged. Please let us know if you notice any discrepancies to the information provided here.

According to Microsoft, the corresponding installation package is available under a permanent download link (documentation at Microsoft). Download this setup package.

Installation

Open the Setup, confirm the "license terms and conditions" (1) and click "Install" (2):

Next step

If you have successfully completed all of the above steps, go to the next step: PHP Manager.

OpenJDK on Windows
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OpenJDK is a prerequisite for operating the Extended Search and the PDF export. The steps listed here are therefore optional and only required if you want to use one or more of these services in your BlueSpice installation.

In the following documentation, we work with OpenJDK in version 17.0.2, the current version at the time of writing. You can also use other versions as long as they meet the system requirements we have published. Please note that you then have to adjust the information in this documentation accordingly.

Download

The content of this section refers to external sources and is current at the time of writing this documentation. We cannot guarantee how long these sources will remain unchanged. Please let us know if you notice any discrepancies to the information provided here.

Open the official website at java.net (1) and click "JDK 17" (2):

jdk.java.net
Java Development Kit builds, from Oracle

Ready for use: JDK 17, JDK 8
Early access: JDK 19, JDK 18, Loom, Metropolis, Panama, & Valhalla
Reference implementations: Java SE 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, & 7

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Unpacking the ZIP archive

This documentation is based on the folder structure recommended by us. If you want to adjust this individually, you have to adjust the paths yourself according to your own level of knowledge.

Unpack the downloaded ZIP archive to `C:\BlueSpice\bin`. The file structure `C:\BlueSpice\bin\jdk-17.0.2` should be the result.

Setting the environment variable

Enter the key combination Windows+R.

Enter "SystemPropertiesAdvanced.exe" (1) in the dialog window and click "OK" (2):
**Click** "Environment Variables...":

**Click** "New...":

**Set** the variable name to "JAVA_HOME" (1), and the variable value to the directory of your OpenJDK installation that you just copied to *C:/bluespice/bin* (2).

You can use the "Browse directory" button (3) for that.

**Click** "OK" (4):

**Close** all newly opened windows one after the other by clicking "OK".

**Next step**

If you have successfully completed all of the above steps, proceed to the next step: Apache Tomcat.

**Setup:Installation Guide/System Preparation/Windows/PHP**

---

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</tr>
<tr>
<td>4</td>
<td>Checking the environment variable .................................................. 92</td>
</tr>
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</tr>
<tr>
<td>6</td>
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</tr>
</tbody>
</table>
The source code of BlueSpice is based on the scripting language "PHP". It must be installed on your server in order to operate BlueSpice. The steps listed here are required.

PHP is not installed with a "classic installation package" but the sources are downloaded and integrated into IIS via the PHP Manager that you installed in the previous step.

Download

The content of this section refers to external sources and is current at the time of writing this documentation. We cannot guarantee how long these sources will remain unchanged. Please let us know if you notice any discrepancies to the information provided here.

Open the official download page for Windows auf php.net (1).

Find the currently most recent version 7.4.x (2) 64-bit Non Thread Safe (3) and download it (4):
Follow the download instructions.

Please note that BlueSpice is not compatible with PHP 8.x at this time.

In the following steps, we use PHP-Version 7.4.28 which only serves as an example for the latest version 7.4.x that is available at the time of your download.

Unpacking the ZIP archive

Unpack the ZIP archive that you just downloaded into a useful system path on your hard drive.

This documentation assumes the recommended folder structure.

For this reason PHP will be unpacked into the folder C:\bluespice\bin\php-7.4.28. If you have a different folder structure, you must adapt these paths accordingly.

Setting the environment variable

To use PHP easily on the command line of Windows, it is necessary to configure an environment variable in Windows. Perform the following steps:

Enter the key combination Windows+R.

Enter "SystemPropertiesAdvanced.exe" (1) in the dialog window and click "OK" (2):
**Click** "Environment Variables...":

![Environment Variables dialog box]

**Double-click** the entry "Path" in the section "System variables":

Click "New":

```
Environment Variables

User variables for -adm-bhofmann

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path</td>
<td>C:\Users\adm-bhofmann\AppData\Local\Microsoft\WindowsApps;</td>
</tr>
<tr>
<td>TEMP</td>
<td>C:\Users\adm-bhofmann\AppData\Local\Temp</td>
</tr>
<tr>
<td>TMP</td>
<td>C:\Users\adm-bhofmann\AppData\Local\Temp</td>
</tr>
</tbody>
</table>

System variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ComSpec</td>
<td>C:\Windows\system32\cmd.exe</td>
</tr>
<tr>
<td>DriverData</td>
<td>C:\Windows\System32\Drivers\DriverData</td>
</tr>
<tr>
<td>JAVA_HOME</td>
<td>C:\BlueSpice\bin\jdk-17.0.2</td>
</tr>
<tr>
<td>NUMBER_OF_PROCESSORS</td>
<td>8</td>
</tr>
<tr>
<td>OS</td>
<td>Windows_NT</td>
</tr>
<tr>
<td>Path</td>
<td>C:\Windows\system32;C:\Windows;C:\Windows\System32\Wbem;...</td>
</tr>
<tr>
<td>PATH/EXT</td>
<td>COM, EXE, BAT, CMD, VBS, VBE, IS, JSE, WSH, WSH+, MSC</td>
</tr>
</tbody>
</table>
```

OK
Add the path to your unpacked PHP version, which contains the php.exe file:


Close all newly opened windows one after the other by clicking "OK".

Checking the environment variable

To make sure the environment variable is set correctly, perform the following steps:

Enter the key combination Windows+R.

Enter "cmd" (1) in the dialog window and click "OK" (2):

The command prompt opens.
Type "php -v" (1) and press the Enter key. The found PHP version will be displayed (2).

If this is not the case, then the path to the php.exe file in the environment variables was specified incorrectly.

**Configuring IIS for PHP**

In the following steps, PHP will be included in IIS and IIS will be configured to provide a working basic setup:

**Press** the key combination Windows+R to call up IIS Manager.

**Enter** "inetmgr" (1) in the dialog window and **click** "OK" (2):

**Select** your server name (1) in the left pane and then **double-click** "PHP Manager" (2):
Click "Register new PHP version":

Select the browse "(...)" button in the next window:
**Change** to the path to which you previously unzipped PHP (1), **mark** the "php-cgi.exe" (2) and **click** "Open" (3):

![Image of PHP executable file selection]

**Click** "OK":

![Image of PHP executable file registration]

**Click** "Configure error reporting":

![Image of error reporting configuration]
Select the item "Production machine" (1) and enter a path and a file of your choice where PHP should save its log (2). Click "Apply" (3):

This documentation assumes the recommended folder structure. If the path you specify here does not yet exist, please create it before clicking "Apply".

Click "Enable or disable an extension" in the main window:
Make sure that the following extensions are activated:

![PHP Manager](image)

To activate an extension, find it in the "Disabled" extensions (1) and **click** "Enable" (2):
Open the configuration file `php.ini`:

Replace the line `extension=php_opcache.dll` with `zend_extension=php_opcache.dll`:
**Change** the following options to the values below:

<table>
<thead>
<tr>
<th>Name</th>
<th>Wert</th>
<th>Kommentar</th>
</tr>
</thead>
<tbody>
<tr>
<td>date.timezone</td>
<td>&quot;Europe/Berlin&quot;</td>
<td>Select the appropriate <strong>time zone</strong> for you. Uncomment the entry</td>
</tr>
<tr>
<td>max_execution_time</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>post_max_size</td>
<td>1024M</td>
<td></td>
</tr>
<tr>
<td>upload_max_filesize</td>
<td>1024M</td>
<td></td>
</tr>
<tr>
<td>opcache.enable</td>
<td>1</td>
<td>Uncomment the entry</td>
</tr>
<tr>
<td>opcache.enable_cli</td>
<td>0</td>
<td>Uncomment the entry</td>
</tr>
<tr>
<td>opcache.memory_consumption</td>
<td>512</td>
<td>Uncomment the entry</td>
</tr>
<tr>
<td>opcache.max_accelerated_files</td>
<td>1000000</td>
<td>Uncomment the entry</td>
</tr>
<tr>
<td>opcache.validate_timestamps</td>
<td>1</td>
<td>Uncomment the entry</td>
</tr>
<tr>
<td>opcache.revalidate_freq</td>
<td>2</td>
<td>Uncomment the entry</td>
</tr>
<tr>
<td>opcache.optimization_level</td>
<td>0x7FFF9FFF</td>
<td>Uncomment the entry</td>
</tr>
<tr>
<td>opcache.blacklist_filename</td>
<td>C:\bluespice\etc\opcache.blacklist</td>
<td>Uncomment the entry</td>
</tr>
<tr>
<td>zlib.output_compression</td>
<td>On</td>
<td></td>
</tr>
<tr>
<td>zlib.output_compression_level</td>
<td>9</td>
<td>Uncomment the entry</td>
</tr>
</tbody>
</table>
Save and close the file.

Create the folder C:\bluespice\etc.

Create a text file named `opcache.blacklist` content:

C:\bluespice\var\www\w\extensions\BlueSpiceFoundation\config\*

Expand the tree in the left pane of the IIS Manager until the "Default Web Site" becomes visible:

Right-click (1) and then click "Remove" (2):

Confirm the following dialog with "Yes":
Right-click "Sites" (1) and click "Add Website" (2):

Enter the site name "BlueSpice" (1) and select the path on your server where your BlueSpice installation will be located later (2).

Click "OK" (3):
This documentation assumes the **recommended folder structure**. If the path you specify here does not yet exist, please create it before clicking “OK”.

The site is now listed in the IIS overview page:
Next step

If you have successfully completed all of the above steps, proceed to the next step: MariaDB.

Setup:Installation Guide/System Preparation/Windows/PHP Manager

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PHP Manager conveniently integrates PHP into your IIS installation. The steps listed here are required.

Download

The content of this section refers to external sources and is current at the time of writing this documentation. We cannot guarantee how long these sources will remain unchanged. Please let us know if you notice any discrepancies to the information provided here.

Open the official website at iis.net (1) and click "Download this extension" (2).

Click "OK" after reading the disclaimer:
Follow the download instructions of your browser.

Installation

Open the installation file which you have just downloaded.

Click "Next >" to start the installation:

Select "I agree" (1) in the License Agreement and click "Next >" (2):
The installation is now executed and completed without further confirmation.

Close the setup program when finished:

Next step

If you have successfully completed all of the above steps, go to the next step: PHP.

Setup:Installation Guide/System Preparation/Windows/Python
## Contents

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3 Installing Pygmentize .................................................................................................. 111  
3.1 Completion ............................................................................................................... 113
Python with the Pygmentize extension is required for rendering the MediaWiki extension SyntaxHighlight, which is part of BlueSpice. If you do not need the functionality, the installation of Python is not relevant for the installation and operation of BlueSpice.

Download

The content of this section refers to external sources and is current at the time of writing this documentation. We cannot guarantee how long these sources will remain unchanged. Please let us know if you notice any discrepancies to the information provided here.

Download Python directly at python.org.

In the following, Python in version 3.10.2 is used and only serves as an example for the most current version that you can download at the time of your installation.
Installation

**Open** the file that you have just downloaded.

**Select** both checkboxes (1).

**Click** "Customize installation" (2):

![Python 3.10.2 (64-bit) Setup]

- **Install Now**
- **Install launcher for all users (recommended)**
- **Add Python 3.10 to PATH**
- **Customize installation**
- **Choose location and features**

**Click** "Next" in the Optional Features window.

![Optional Features]

- **Documentation**
- **pip**
- **tcl/tk and IDLE**
- **Python test suite**
- **py launcher** for all users (requires elevation)
Make sure to install Python for all users (1). Choose an appropriate path, if possible without spaces and special characters (2).

**Click** "Install" to start the installation (3).

This documentation assumes the **folder structure recommended by us**. For this reason, Python is unpacked at this point in the folder C:\bluespice\bin\python-3.10.2. If you have individual wishes, adjust these paths according to your own understanding.

**Deactivate** the limitation of the path length to 260 characters after the installation:
Click "Close" to finish the installation.

**Installing Pygmentize**

Open the PowerShell (the command prompt in older Windows versions). To do this, right-click "Start" (1) and select "Command Prompt (Administrator)" (2):
Geben Sie den Befehl "pip install pygments" ein und warten Sie, bis der folgende Prozess
Completion

Your Windows server is now fully prepared for the actual installation of BlueSpice.

Setup:Installation Guide/System Preparation/Windows
/Setting the system rights of the temporary Windows folder

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Various applications require rights to write to the C:\Windows\Temp folder. These are not set as needed by default. In order to be able to carry out all further steps smoothly and also to be able to operate BlueSpice, you must first set these rights.

Procedure

Open Windows Explorer:

Right-click on the folder "Temp" (1) and open the "Properties" (2):
Select the tab "Security" (1) and click "Advanced" (2):

Click "Continue":

Click "Advanced":

Click "Select a principal":

15.03.2022
This document was created with BlueSpice
Ensure that your local machine is selected in the field "From this location" (1). If this is not the case, open "Locations..." (2):

Choose the top path in the list (1) and close the dialog window (2):
Enter the user name "everyone" in the free-text field (1) of the window "Select User or Group". Confirm with "OK" (2).

Activate the "Modify" checkbox (1) for basic permissions in the "Permission Entry for Temp" window and click "OK". (2):
Close all further dialog windows with "OK" or "Yes".

The rights for the temporary Windows folder are now set up correctly.

Next step

If you have successfully completed all of the above steps, proceed to the next step: .NET Framework 3.5.

Setup:Installation Guide/System Preparation/Windows /Vorwort

Redirect to:
- Setup:Installation Guide/System Preparation/Windows/Introduction

Setup:Installation Guide/System Preparation/Windows /urlrewrite

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The "urlrewrite" module for IIS is only necessary if you want to configure redirection rules in your web server. If you want a setup which is recommended by us and also according to the recommendations of the Wiki Media Foundation, this step is required.

Download

The content of this section refers to external sources and is current at the time of writing this documentation. We cannot guarantee how long these sources will remain unchanged. Please let us know if you notice any discrepancies to the information provided here.

Open the official website at iis.net (1) and click "additional downloads" (2):

Download the "x64 installer" in your language:
Installation

Open the Setup window, accept the License Agreement (1) and click "Install" (2):

Next step

If you have successfully completed all of the above steps, go to the next step: Microsoft Visual C++ Redistributable.

Webservice: PDF-Export
## Contents

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Make sure that the *Apache Tomcat server* is completely installed and configured on the BlueSpice server before setting up PDF-Export.

### Moving the BShtml2PDF Application

Download the file "BShtml2PDF.war" from [https://sourceforge.net/projects/bluespice/files/webservices/BShtml2PDF.war/download](https://sourceforge.net/projects/bluespice/files/webservices/BShtml2PDF.war/download) and copy it to `<tomcat-webapps>`.

The default paths are as follows:
- C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps *(Apache Tomcat on Windows)*
- /var/lib/jetty9/webapps *(Jetty on Debian)*

Or run the command `sudo mv /var/www/bluespice/w/extensions/BlueSpiceUEModulePDF/webservices/BShtml2PDF.war /var/lib/jetty9/webapps` in the terminal. *(Linux)*

The application usually starts automatically without the need for rebooting the application server.

### Checking the functionality

The correct functionality of the BShtml2PDF service can be checked as follows:

On Windows, open Internet Explorer using the URL http://localhost:8080/BShtml2PDF. With correct functionality, you should see the following website:

![BShtml2PDF Website](image)

### Enable PDF Export in BlueSpice

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

Or open the 020-BlueSpiceUEModulePDF.php in the terminal using the command `sudo nano /var/www/bluespice/w/settings.d/020-BlueSpiceUEModulePDF.php`. *(Linux)*

In the second line is the 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.

---

**Note:** Give the user "Everyone" full access to the Temp folder under C:|Widows.
Installing BlueSpice 3 with installer

1. Open `localhost/w` in your Browser and follow the instructions.
2. For BlueSpice WikiFarm, move the .htaccess and web.config files to C:\bluespice\var

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

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

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

**Note:** Note that you must update the file system permissions after running update.php.

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

If there is a problem with the PDF export in BlueSpice, first check the file system permissions.

Download Web services

If the required war-file is missing in your installation package, you can download it here: Webservices.

Installing BlueSpice 4.1.x
Introduction

BlueSpice 4 is installed as a complete package with MediaWiki 1.35 and BlueSpice 4. This installation guide gives you step-by-step instructions to install BlueSpice.

**Important!** If you do a fresh install of BlueSpice 4.1, it might be necessary to run update.php afterwards if you get an error.

**Note:** This document only describes the steps for installing the web application itself. For the installation of extended functions such as VisualEditor and Extendedsearch, please refer to the corresponding documentation.

We will not go into details about your operating system installation here, but assume that you have already configured your system and stored the installation package in a web root of your choice, where you can access it via your browser. You can find more details in our detailed installation guide.

Further help on optimizing the operating system can be found in our compendium.

Step-by-step installation

**Note:** If you also install the paid extension "BlueSpiceWikiFarm", make sure that the codebase is not located directly in the DocumentRoot of your web server or VirtualHost - it must be located in the /w subfolder!

First use your browser to call up the URL under which the web application can be reached. Then complete the following steps:

<table>
<thead>
<tr>
<th>Step 1: Start the installation setup</th>
</tr>
</thead>
<tbody>
<tr>
<td>First, open the URL of your web application in your browser. Then click on &quot;set up the wiki&quot; to start the installation.</td>
</tr>
</tbody>
</table>
If you don't meet all necessary requirements for PHP yet, you won't be able to view this setup page yet. Please make the necessary corrections to your PHP installation first. Otherwise, you are now on the page shown in the screenshot (click on the thumbnail to see the full screenshot).

### Step 2: Select your language

You are now in the language selection. "Your language" defines the language that guides you through the installer, "Wiki language" the later language settings of your wiki.

### Step 3: MediaWiki installation check

This step takes you to the MediaWiki installation check. Please read this check carefully, as possible hints may not block the installation itself, but may lead to restrictions of the wiki functionality in practice. Make the necessary corrections to your system and reload the page in your browser before proceeding with the setup.

### Step 4: Establish the database connection

In this step, you configure the database connection. Here you can either specify the root user of your MySQL server and in the following step have the installer create an additional user who only has access to the BlueSpice database. The database will also be created automatically if it does not yet exist. Or, alternatively, you can create a user and a database in advance and directly enter this information here. You can find information on the manual creation of users and databases in the [official Mediawiki documentation](https://www.mediawiki.org/wiki/Manual:Database_setup).

### Step 5: Create the BlueSpice database user
Depending on the procedure you followed in the previous step, you can now define an exclusive user for your BlueSpice database. If you have already created the user explicitly for the database in advance, leave the check mark at "Use the same database account as during the installation process".

### Step 6: Create your wiki name and administrator account

Enter the name for your wiki. This name is displayed in the title bar of your browser and in various other places such as in notification mails. Pay extra attention to the correct spelling, because this name can afterwards only be changed with a certain effort and certain risks. Next, enter the username, password and e-mail address of the first wiki administrator. The administrator account is then created by the wiki during setup.

### Step 7: Options

In this step, you specify the e-mail address for notification e-mails.

### Step 8: Installation

This step announces the installation of the wiki. If you don't need to make any changes to the previous steps, click "Next" to start the installation process.

### Step 9: Installation status

After the successful installation of BlueSpice, you see a confirmation page that you confirm with "Next".

### Step 10: Download LocalSettings.php
In the last step of the installation, you will be asked to download the configuration file "LocalSettings.php" of your installation. Download it and place it in the root directory of your BlueSpice codebase.

**Step 11: Rename the template folders**

Open the folder `..\extensions\BluesSpiceFoundation` and rename the subfolder `config.template` to `config` and create the new folder `data`. These folders should have read and write access, see File System Permissions. Run the script `..\maintenance\update.php` from the console.

If you receive the error message "Fatal exception of type MWException", open the terminal and run the command "sudo nautilus". After that, give the folder /var where bluespice was installed all rights.

**Step 12: Load the BlueSpice welcome page**

If you now access the URL you specified for BlueSpice, you now see the BlueSpice welcome page. You can start using BlueSpice immediately.

---

**BlueSpice WikiFarm**

If you are installing BlueSpice WikiFarm follow these instructions

Now open a command line and change to the folder `<installpath-bluespice>`. Run the following command:

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

---

**Next steps**
**Note:** If the page is not loading, give the group "users" change-permissions for the folder C:\Windows\Temp.

**Important!** As next step, you can configure [VisualEditor](#) and [ExtendedSearch](#).