

# Package ‘rJavaEnv’

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**Title** 'Java' Environments for R Projects

**Version** 0.1.2

**Description** The 'rJavaEnv' package addresses common issues with 'Java' environment management in 'R' for users of 'Java'/rJava'-dependent 'R' packages such as 'r5r', 'opentripplanner', 'xlsx', 'openNLP', 'rWeka', 'RJDBC', 'tabulapdf', and many more. It resolves common problems like 'Java' not found, 'Java' version conflicts, missing 'Java' installations, and the inability to install 'Java' due to lack of administrative privileges. 'rJavaEnv' automates the download, installation, and setup of the 'Java Development Kit' ('JDK') on a per-project basis by setting the relevant 'JAVA\_HOME' in the current 'R' session or the current working directory (via '.Rprofile', with the user's consent). Similar to what 'renv' does for 'R' packages, 'rJavaEnv' allows different 'Java' versions to be used across different projects, but can also be configured to allow multiple versions within the same project (e.g. with the help of 'targets' package). Note: there are a few extra steps for 'Linux' users, who don't have any 'Java' previously installed in their system, and who prefer package installation from source, rather than installing binaries from 'Posit Package Manager'. See documentation for details.

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**URL** <https://github.com/e-kotov/rJavaEnv>,  
<https://www.ekotov.pro/rJavaEnv/>

**BugReports** <https://github.com/e-kotov/rJavaEnv/issues>

**Imports** checkmate, cli, curl, jsonlite, utils

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**VignetteBuilder** quarto

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**Author** Egor Kotov [aut, cre, cph] (<<https://orcid.org/0000-0001-6690-5345>>),  
Mauricio Vargas [ctb] (<<https://orcid.org/0000-0003-1017-7574>>)

**Maintainer** Egor Kotov <kotov.egor@gmail.com>

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java\_check\_version\_cmd

*Check installed Java version using terminal commands*

---

## Description

Check installed Java version using terminal commands

## Usage

```
java_check_version_cmd(java_home = NULL)
```

## Arguments

java_home	Path to Java home directory. If NULL, the function uses the JAVA_HOME environment variable.
-----------	---

## Value

TRUE if successful, otherwise FALSE.

## Examples

```
java_check_version_cmd()
```

---

`java_check_version_rjava`*Check Java Version with a Specified JAVA\_HOME Using a Separate R Session*

---

**Description**

This function sets the JAVA\_HOME environment variable, initializes the JVM using rJava, and prints the Java version that would be used if the user sets the given JAVA\_HOME in the current R session. This check is performed in a separate R session to avoid having to reload the current R session. The reason for this is that once Java is initialized in an R session, it cannot be uninitialized unless the current R session is restarted.

**Usage**

```
java_check_version_rjava(java_home = NULL, quiet = FALSE)
```

**Arguments**

<code>java_home</code>	The path to the desired JAVA_HOME. If NULL, uses the current JAVA_HOME environment variable.
<code>quiet</code>	A logical value indicating whether to suppress messages. Can be TRUE or FALSE.

**Value**

TRUE if successful, otherwise FALSE.

**Examples**

```
java_check_version_rjava()
```

---

`java_clear`*Manage Java installations and distributions caches*

---

**Description**

Wrapper function to clear the Java symlinked in the current project, installed, or distributions caches.

**Usage**

```

java_clear(
  type = c("project", "installed", "distrib"),
  target_dir = NULL,
  check = TRUE,
  delete_all = FALSE
)

```

**Arguments**

type	What to clear: "project" - remove symlinks to install cache in the current project, "installed" - remove installed Java versions, "distrib" - remove downloaded Java distributions.
target_dir	The directory to clear. Defaults to current working directory for "project" and user-specific data directory for "installed" and "distrib". Not recommended to change.
check	Whether to list the contents of the cache directory before clearing it. Defaults to TRUE.
delete_all	Whether to delete all items without prompting. Defaults to FALSE.

**Value**

A message indicating whether the cache was cleared or not.

**Examples**

```

## Not run:
java_clear("project", target_dir = tempdir())
java_clear("installed", target_dir = tempdir())
java_clear("distrib", target_dir = tempdir())

## End(Not run)

```

---

 java\_download

*Download a Java distribution*


---

**Description**

Download a Java distribution

**Usage**

```
java_download(  
  version = 21,  
  distribution = "Corretto",  
  cache_path = getOption("rJavaEnv.cache_path"),  
  platform = platform_detect()$os,  
  arch = platform_detect()$arch,  
  quiet = FALSE,  
  temp_dir = FALSE  
)
```

**Arguments**

version	The Java version to download. If not specified, defaults to the latest LTS version.
distribution	The Java distribution to download. If not specified, defaults to "Corretto".
cache_path	The destination directory to download the Java distribution to. Defaults to a user-specific data directory.
platform	The platform for which to download the Java distribution. Defaults to the current platform.
arch	The architecture for which to download the Java distribution. Defaults to the current architecture.
quiet	A logical value indicating whether to suppress messages. Can be TRUE or FALSE.
temp_dir	A logical. Whether the file should be saved in a temporary directory. Defaults to FALSE.

**Value**

The path to the downloaded Java distribution file.

**Examples**

```
## Not run:  
  
# download distribution of Java version 17  
java_download(version = "17", temp_dir = TRUE)  
  
# download default Java distribution (version 21)  
java_download(temp_dir = TRUE)  
  
## End(Not run)
```

---

java_env_set	<i>Set the JAVA_HOME and PATH environment variables to a given path</i>
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---

### Description

Set the JAVA\_HOME and PATH environment variables to a given path

### Usage

```
java_env_set(  
  where = c("session", "both", "project"),  
  java_home,  
  project_path = NULL,  
  quiet = FALSE  
)
```

### Arguments

where	Where to set the JAVA_HOME: "session", "project", or "both". Defaults to "session" and only updates the paths in the current R session. When "both" or "project" is selected, the function updates the .Rprofile file in the project directory to set the JAVA_HOME and PATH environment variables at the start of the R session.
java_home	The path to the desired JAVA_HOME.
project_path	The project directory where Java should be installed. If not specified or NULL, defaults to the current working directory.
quiet	A logical value indicating whether to suppress messages. Can be TRUE or FALSE.

### Value

Nothing. Sets the JAVA\_HOME and PATH environment variables.

### Examples

```
## Not run:  
# download, install Java 17  
java_17_distrib <- java_download(version = "17", temp_dir = TRUE)  
java_home <- java_install(  
  java_distrib_path = java_17_distrib,  
  project_path = tempdir(),  
  autosest_java_env = FALSE  
)  
  
# now manually set the JAVA_HOME and PATH environment variables in current session  
java_env_set(  
  where = "session",
```

```
    java_home = java_home
  )

# or set JAVA_HOME and PATH in the specific projects' .Rprofile
java_env_set(
  where = "session",
  java_home = java_home,
  project_path = tempdir()
)

## End(Not run)
```

---

java_env_unset	<i>Unset the JAVA_HOME and PATH environment variables in the project .Rprofile</i>
----------------	--

---

## Description

Unset the JAVA\_HOME and PATH environment variables in the project .Rprofile

## Usage

```
java_env_unset(project_path = NULL, quiet = FALSE)
```

## Arguments

project_path	The project directory where Java should be installed. If not specified or NULL, defaults to the current working directory.
quiet	A logical value indicating whether to suppress messages. Can be TRUE or FALSE.

## Value

Nothing. Removes the JAVA\_HOME and PATH environment variables settings from the project .Rprofile.

## Examples

```
## Not run:
# clear the JAVA_HOME and PATH environment variables in the specified project .Rprofile
java_env_unset(project_path = tempdir())

## End(Not run)
```

---

java_install	<i>Install Java from a distribution file</i>
--------------	--

---

### Description

Install Java from a distribution file

### Usage

```
java_install(  
  java_distrib_path,  
  project_path = NULL,  
  autosest_java_env = TRUE,  
  quiet = FALSE  
)
```

### Arguments

java_distrib_path	The path to the Java distribution file.
project_path	The project directory where Java should be installed. If not specified or NULL, defaults to the current working directory.
autosest_java_env	Whether to set the JAVA_HOME and PATH environment variables to the installed Java directory. Defaults to TRUE.
quiet	A logical value indicating whether to suppress messages. Can be TRUE or FALSE.

### Value

The path to the installed Java directory.

### Examples

```
## Not run:  
  
# set cache dir to temporary directory  
options(rJavaEnv.cache_path = tempdir())  
# download, install and autosest environmnet variables for Java 17  
java_17_distrib <- java_download(version = "17")  
java_install(java_distrib_path = java_17_distrib, project_path = tempdir())  
  
## End(Not run)
```



---

`java_list`*List the contents of the Java versions installed or cached*

---

### Description

This function lists one of the following:

- `project` - list the contents of the Java symlinked/copied in the current project or directory specified by `target_dir`
- `distrib` - list the contents of the downloaded Java distributions cache in default location or specified by `target_dir`
- `installed` - list the contents of the Java installations cache (unpacked distributions) in default location or specified by `target_dir`

### Usage

```
java_list(  
  type = c("project", "installed", "distrib"),  
  output = c("data.frame", "vector"),  
  quiet = TRUE,  
  target_dir = NULL  
)
```

### Arguments

<code>type</code>	The type of cache to list: "distrib", "installed", or "project". Defaults to "project".
<code>output</code>	The format of the output: <code>data.frame</code> or <code>vector</code> . Defaults to <code>data.frame</code> .
<code>quiet</code>	A logical value indicating whether to suppress messages. Can be <code>TRUE</code> or <code>FALSE</code> .
<code>target_dir</code>	The cache directory to list. Defaults to the user-specific data directory for "distrib" and "installed", and the current working directory for "project".

### Value

A dataframe or character vector with the contents of the specified cache or project directory.

### Examples

```
## Not run:  
java_list("project")  
java_list("installed")  
java_list("distrib")  
  
## End(Not run)
```

---

java_quick_install	<i>Download and install and set Java in current working/project directory</i>
--------------------	---

---

**Description**

Download and install and set Java in current working/project directory

**Usage**

```
java_quick_install(
  version = 21,
  distribution = "Corretto",
  project_path = NULL,
  platform = platform_detect()$os,
  arch = platform_detect()$arch,
  quiet = FALSE,
  temp_dir = FALSE
)
```

**Arguments**

version	The Java version to download. If not specified, defaults to the latest LTS version.
distribution	The Java distribution to download. If not specified, defaults to "Corretto".
project_path	The project directory where Java should be installed. If not specified or NULL, defaults to the current working directory.
platform	The platform for which to download the Java distribution. Defaults to the current platform.
arch	The architecture for which to download the Java distribution. Defaults to the current architecture.
quiet	A logical value indicating whether to suppress messages. Can be TRUE or FALSE.
temp_dir	A logical. Whether the file should be saved in a temporary directory. Defaults to FALSE.

**Value**

Message indicating that Java was installed and set in the current working/project directory.

**Examples**

```
## Not run:

# quick download, unpack, install and set in current working directory default Java version (21)
java_quick_install(17, temp_dir = TRUE)

## End(Not run)
```

---

rje_consent	<i>Obtain User Consent for rJavaEnv</i>
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### Description

Get user consent for rJavaEnv to write and update files on the file system. rJavaEnv needs permission to manage files in your project and cache directories to function correctly.

### Usage

```
rje_consent(provided = FALSE)
```

### Arguments

provided	Logical indicating if consent is already provided. To provide consent in non-interactive R sessions use <code>rJavaEnv::rje_consent(provided = TRUE)</code> . Default is FALSE.
----------	---

### Details

In line with [CRAN policies](#), explicit user consent is required before making these changes. Please call `rJavaEnv::consent()` to provide consent.

Alternatively, you can set the following R option (especially useful for non-interactive R sessions):

```
options(rJavaEnv.consent = TRUE)
```

The function is based on the code of the `renv` package. Copyright 2023 Posit Software, PBC  
License: <https://github.com/rstudio/renv/blob/main/LICENSE>

### Value

TRUE if consent is given, otherwise an error is raised.

### Examples

```
## Not run:  
  
# to provide consent and prevent other functions from interrupting to get the consent  
rje_consent(provided = TRUE)  
  
## End(Not run)
```

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