

# Package: flock (via r-universe)

October 14, 2024

**Type** Package

**Title** Process Synchronization Using File Locks

**Version** 0.7

**Date** 2016-11-10

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**Maintainer** Ivan Popivanov <ivan.popivanov@gmail.com>

**Description** Implements synchronization between R processes (spawned by using the ``parallel" package for instance) using file locks. Supports both exclusive and shared locking.

**License** Apache License 2.0

**Imports** Rcpp (>= 0.11.3), methods

**LinkingTo** Rcpp

**Repository** <https://ivannp.r-universe.dev>

**RemoteUrl** <https://github.com/ivannp/flock>

**RemoteRef** HEAD

**RemoteSha** 195ff7040a53182f378fb4e1eae83a0b6d6f7aae

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flock-package

*Process synchronization using file locks.*

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## Description

Enables synchronization between R processes using a file lock. Supports both exclusive (writer) and shared (readers) locks.

On UNIX, the implementation relies on the `fcntl` system call. While on Windows, the `LockFileEx/UnlockFileEx` APIs are used.

## Details

Package: flock  
Type: Package  
Version: 0.6  
Date: 2014-11-24  
License: Apache License 2.0

## Author(s)

Ivan Popivanov

Maintainer: Ivan Popivanov <ivan.popivanov@gmail.com>

## Examples

```
## Not run:
require(DBI)
require(flock)
require(RSQLite)
require(parallel)

dbpath <- tempfile()
con <- dbConnect(RSQLite::SQLite(), dbname=dbpath)
df <- data.frame(value = 0)
dbWriteTable(con, "test", df)
dbDisconnect(con)

write.one.value <- function(val, lock.name=NULL) {
  if(!is.null(lock.name)) {
    file.lock = lock(lock.name)
  }

  # The three lines below are the "critical section"
  con <- dbConnect(RSQLite::SQLite(), dbname = dbpath)
```

```
dbWriteTable(con, "test", data.frame(value = val), append = TRUE)
dbDisconnect(con)

if(!is.null(lock.name)) {
  unlock(file.lock)
}
}

lock.name = tempfile()

# Run the parallel database updates with two cores
mclapply(1:100, write.one.value, mc.cores=2, lock.name=lock.name)

# To see the failing scenario, run (on a multi-core system):
# mclapply(1:100, write.one.value, mc.cores=2)

## End(Not run)
```

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is.locked

*Locking/Unlocking*

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### **Description**

Checks whether a lock has been obtained.

### **Usage**

```
is.locked(file.lock)
```

### **Arguments**

file.lock      The lock as an object of type FileLock.

### **Author(s)**

Ivan Popivanov

### **Examples**

```
## Not run:
require(flock)

file.lock = lock("~/file.lock")
# Critical section code goes between here and the unlock call
if(is.locked(file.lock)) {
  print("Got the lock!")
}
unlock(file.lock)

## End(Not run)
```

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lock	<i>Locking/Unlocking</i>
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**Description**

Locks a file in exclusive or shared mode.

**Usage**

```
lock(path, exclusive = TRUE)
```

**Arguments**

path	Character. The path.
exclusive	Logical. The lock type, exclusive or shared.

**Details**

The file is created if it doesn't exist.

**Value**

Returns an object of type FileLock, which is to be used for the unlock call.

**Author(s)**

Ivan Popivanov

**Examples**

```
## Not run:  
require(flock)  
  
file.lock = lock("~/file.lock")  
# Critical section code goes here  
unlock(file.lock)  
  
## End(Not run)
```

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unlock	<i>Locking/Unlocking</i>
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**Description**

Unlocks a file previously locked via lock.

**Usage**

```
unlock(file.lock)
```

**Arguments**

file.lock      The FileLock object returned by lock.

**Author(s)**

Ivan Popivanov

**See Also**

[lock](#)

**Examples**

```
## Not run:  
require(flock)  
  
file.lock = lock("~/file.lock")  
# Critical section code goes here  
unlock(file.lock)  
  
## End(Not run)
```

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