# Ruby - Feature #12019

## Better low-level support for writing concurrent libraries

01/25/2016 07:16 PM - pitr.ch (Petr Chalupa)

| | | |
|---|---|---|
| **Status:** | Assigned | |
| **Priority:** | Normal | |
| **Assignee:** | matz (Yukihiro Matsumoto) | |
| **Target version:** | | |

### Description

Nowadays, almost every processor has more than one core. Therefore it becomes more and more important for languages to have good support of concurrent and/or parallel computation. Currently Ruby supports concurrency mainly through high-level classes: Thread, Queue, Mutex, Monitor, ConditionVariable.

This work is not colliding with plans for Ruby 3 (to provide an easy-to-use and safe concurrent abstraction to Ruby users). Following proposals suggest several key low-level Ruby extensions which will allow those interested in these topics to create fast concurrency abstractions (gems) for Ruby community, providing more choices and complementing the effort of Ruby 3. The proposed APIs are not expected to be used for every day programming but rather by concurrency enthusiast.

This issue is intended to serve as an aggregator for other various proposals described in following issues.

### Related issues:

| | |
|---|---|
| Related to Ruby - Feature #12020: Documenting Ruby memory model | **Assigned** |
| Related to Ruby - Feature #11539: Support explicit declaration of volatile in... | **Open** |
| Related to Ruby - Feature #8259: Atomic attributes accessors | **Open** |
| Related to Ruby - Feature #12021: Final instance variables | **Open** |
| Related to Ruby - Feature #11541: Let attr_accessor, _reader & _writer return... | **Closed** |

### History

**#1 - 01/25/2016 07:18 PM - pitr.ch (Petr Chalupa)**

I'll be adding or linking existing proposals gradually:

- Documenting Ruby memory model
- Volatile instance variables
- Atomic instance variables
- Final instance variables
- Let Module.attr.* methods return symbols of the defined methods
- Relaxing variable volatility/atomicity

I've tried to describe the intentions for Ruby 3 as best as I could, please correct the statement if it's inaccurate.

**#2 - 01/25/2016 10:19 PM - Eregon (Benoit Daloze)**

*- Related to Feature #12020: Documenting Ruby memory model added*

**#3 - 01/25/2016 10:19 PM - Eregon (Benoit Daloze)**

*- Related to Feature #11539: Support explicit declaration of volatile instance variables added*

**#4 - 01/25/2016 10:19 PM - Eregon (Benoit Daloze)**

*- Related to Feature #8259: Atomic attributes accessors added*

**#5 - 01/25/2016 10:19 PM - Eregon (Benoit Daloze)**

*- Related to Feature #12021: Final instance variables added*

**#6 - 01/25/2016 10:20 PM - Eregon (Benoit Daloze)**

*- Related to Feature #11541: Let attr_accessor, _reader & _writer return symbols of the defined methods added*

**#7 - 01/27/2016 06:27 AM - ferdinandrosario@gmail.com (ferdinand rosario)**

*- Assignee changed from pitr.ch (Petr Chalupa) to matz (Yukihiro Matsumoto)*

**#8 - 12/23/2021 11:43 PM - hsbt (Hiroshi SHIBATA)**

*- Project changed from 14 to Ruby*

**#9 - 04/03/2024 03:50 AM - hsbt (Hiroshi SHIBATA)**

*- Status changed from Open to Assigned*