

# Contributing to Docker CLI: Demystifying open source contributions

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George Margaritis  
@gmargaritis

Apr 16 2024, Docker Athens

→ ~ docker stack deploy --detach=false

→ ~ docker stack rm --detach=false

**What was the issue?**

# Support `--detach` flag in `docker stack deploy / rm` #373

🔒 Closed

dedalusj opened this issue on Jul 21, 2017 · 37 comments



dedalusj commented on Jul 21, 2017



The `docker stack deploy` command should support a `--detach` flag much like the `docker service create` and `docker service update` commands.



111



2



4



2



4



**decentral1se** commented on Jun 15, 2021 · edited ▾



If someone would like to discuss being funded to work on this issue, please gimme a shout [lukewm@riseup.net](mailto:lukewm@riseup.net). We need this as part of a project which we're using swarm as the underlying orchestrator and having to write custom workarounds for the fact that `--detach` is missing is not ideal. There are so many +1s on this issue, clearly a lot of people need this to get done.



4



7

**Why did nobody  
contribute directly?**



sorenhsensndk commented on Aug 16, 2018

**@drozzy:** We have the same problem, but we solved it with few lines of Powershell.

Run this right after your `docker stack deploy` command:

```
Do
{
  $Services = $(docker stack services [YOUR-STACK-NAME] -q);
  $Inspects = (docker service inspect $Services) | ConvertFrom-Json

  $Updating = @();
  $Completed = @();
  $Rolledback = @();

  ForEach ($Service in $Inspects | Where-Object { $_.UpdateStat
  {
    if ($Service.UpdateStatus.State -eq 'completed') {
      $Completed += $Service
    } elseif ($Service.UpdateStatus.State -like 'rollback*')
      $Rolledback += $Service
    }

    $Updating += $Service;
  }

  "Waiting for {0} service(s) to update ({1} completed / {2} ro
  Start-Sleep 5

} Until ($Updating.Count -eq ($Completed.Count + $Rolledback.Coun
```



sudo-bmitch commented on Oct 8, 2018

Adding to the list of external implementations, here's a script to run after a `docker stack deploy` completes.

<https://github.com/sudo-bmitch/docker-stack-wait>



vitalets commented on Aug 23, 2020

I'd like to share my script waiting for `docker stack deploy` to complete.

<https://github.com/vitalets/docker-stack-wait-deploy>

Compared to existing solutions it shows update progress per instance of each service.

Example output:

STATUS (nodejs_service):	updating				
ID	NAME	IMAGE	NODE	DESIRED STATE	
h1isbgdgmvl	nodejs_service.1	nodejs_service_prod:1.5	swarm-manager	Running	P
8zu8v3waxyjx	\_ nodejs_service.1	nodejs_service_prod:1.4	swarm-manager	Running	Ri
b45471xoq9d4	nodejs_service.2	nodejs_service_prod:1.4	swarm-manager	Running	Ri
xyagddf48560	nodejs_service.3	nodejs_service_prod:1.5	swarm-manager	Running	Ri



ushuz commented on Apr 19, 2018

**@AdrianSkierniewski**

For deploying stack with Ansible, I modified `docker_stack` module ([ansible/ansible docker service 's behaviour](https://docs.ansible.com/ansible/latest/modules/docker_service_module.html)) to wait for services to be converged.

You can find the modified module in this [gist](#), hope it's useful.



mattmattmatt commented on Feb 14, 2018

Any update on this, or on **nullobject's** question above?

[This tool tries to help with that](#) but native support is certainly preferred.



Contributing process

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# Understanding the need

- Look for similar issues
- Pay attention to the maintainers' way of thinking
- Analyze user feedback



**dnephin** commented on Jul 26, 2017

Contributor



When `--detach=false` is used, what should we show as output? I assume progress bars, should we have a progress bar per task (like we have with service commands), or should it be a progress bar per service?

cc [@thaJeztah](#) [@vdemeester](#)



**thaJeztah** commented on Jul 26, 2017

Member





Perhaps the same (set of) progress bars as for service create/update - grouped per service (although I can see that becoming too verbose with large stacks containing lots of services)

Should we have someone from the UX / design team craft a design?



# Synchronous service create and service update #31144

 Merged vieux merged 2 commits into `moby:master` from `aaronlehmann:synchronous-service-commands`  on Apr 4, 2017

 Conversation 90

 Commits 2

 Checks 0

 Files changed 14



**aaronlehmann** commented on Feb 18, 2017 • edited ▾

Contributor 

Change "service create" and "service update" to wait until the creation or update finishes, when `--detach=false` is specified. Show progress bars for the overall operation and for each individual task (when there are a small enough number of tasks), unless `-q / --quiet` is specified.

Internals:

- The current implementation is polling. It would be much better to use the Swarm events API once it's ready ([@dongluochen](#)).
- The task endpoint spec is not included when evaluating if a task is up to date. This structure isn't exposed through the REST API, so it would need to be added (or we need to come up with a better way of checking if a task is up to date).
- The method of checking for global service convergence is a terrible hack. The constraint evaluator was ported to the client so it can tell which nodes match the constraints. This needs to be redone in a better way.
- Handle rollback update states (once [Automatic service rollback on failure #31108](#) is merged)

Cosmetic/UX:

- The progress bars show numbers like "9B/9B", assuming the units are bytes. This should be changed to drop the "B" suffix.
- Upon `^C`, the command should print a notice that the creation or update is still continuing in the background.
- Possible visual improvements: line up progress bars, etc.

cc [@docker/core-swarmkit-maintainers](#) [@tiborvass](#) [@anusha-ragunathan](#)



# Doing the dirty work

- Get familiar with the codebase
- Pay attention to the coding style
- Try to get something working fast

→ ~ docker stack deploy --detach=false

```
287 func waitOnServices(ctx context.Context, dockerCli command.Cli, serviceIDs []string, quiet bool) error {
288     var errs []error
289     for _, serviceID := range serviceIDs {
290         if err := servicecli.WaitOnService(ctx, dockerCli, serviceID, quiet); err != nil {
291             errs = append(errs, fmt.Errorf("%s: %w", serviceID, err))
292         }
293     }
294
295     if len(errs) > 0 {
296         return errors.Join(errs...)
297     }
298
299     return nil
300 }
301
```

→ ~ docker stack rm --detach=false

```
170 func waitOnTasks(ctx context.Context, client apiclient.APIClient, namespace string) error {
171     terminalStatesReached := 0
172     for {
173         tasks, err := getStackTasks(ctx, client, namespace)
174         if err != nil {
175             return fmt.Errorf("failed to get tasks: %w", err)
176         }
177
178         for _, task := range tasks {
179             if terminalState(task.Status.State) {
180                 terminalStatesReached++
181                 break
182             }
183         }
184
185         if terminalStatesReached == len(tasks) {
186             break
187         }
188     }
189     return nil
190 }
```

# Add support for --detach flag in stack rm #4259

Merged

thaJeztah merged 1 commit into `docker:master` from `gmargaritis:373-support-detach-flag-in-stack-rm` on Mar 4

Conversation 25

Cor

# Add support for --detach flag in stack deploy #4258



gmargaritis commented on

Merged

thaJeztah merged 1 commit into `docker:master` from `gmargaritis:373-support-detach-in-docker-stack-deploy` on Ma

Part of [#373](#) along with [#4](#)

Added --detach to stack r



Conversation 24

Commits 1

Checks 88

Files changed 13



gmargaritis commented on May 5, 2023 · edited

Contributor

Part of [#373](#) along with [#4259](#)

Added `--detach` and `--quiet / -q` flags to `stack deploy`. Setting `--detach=false` waits until all of the services have converged. Shows progress bars for each individual task, unless `--quiet / -q` is specified.

I have used the `WaitOnService` under the hood, so that the behavior is in line with `service update` or `service create` while using the `--detach` flag.



# Collaborating with the maintainers

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cli/command/stack/swarm/deploy\_composefile.go Outdated

```
260 - return errors.Wrapf(err, "failed to create service %s", name)
267 + response, err := apiClient.ServiceCreate(ctx, serviceSpec, createOpts)
268 + if err != nil {
269 + return errors.Wrapf(err, "Failed to create service %s", name)
```



**thaJeztah** on Sep 2, 2023

Member



These errors should probably remain lowercase (go convention it to have lowercase errors). (If needed, we can still add some prefix when printing)



**gmargaritis** on Sep 14, 2023 · edited

Contributor

Author



Reverted this change in [0dcc6f0!](#)



```
cli/command/stack/deploy.go
```

Comment on lines +45 to +46

```
45 + flags.BoolVarP(&opts.Detach, "detach", "d", true, "Exit immediately instead of waiting  
46 + flags.BoolVarP(&opts.Quiet, "quiet", "q", false, "Suppress progress output")
```



**thaJeztah** on Oct 25, 2023

Member ...

It looks like this PR (currently at least) keeps the old behavior ( `docker stack deploy` being non-interactive / detached as default).

If the plan is to eventually make "interactive" ( `--detach=false` ) the default, I also went looking how we handled the transition for `docker service create` ; [moby/moby@ 21ec12b](#) ([moby/moby#31144](#))

For that we chose to print a warning; wondering if (and if: when? / which release?) we want to do the same for `docker stack` ; inform users that we plan to switch non-detach as default, with the option to return to the old ( `--detach[=true]` ) behavior.



**gmargaritis** on Nov 30, 2023

Contributor Author ...

I've added a message just like in [moby/moby@21ec12b](#) ([moby/moby#31144](#)) as you said, indicating that we plan to switch non-detach as default.



```
11 +  
12 + | Name          | Type | Default | Description |  
13 + |:-----|:-----|:-----|:-----|  
14 + | -d, --detach |      |         | Do not wait for stack removal |
```



thaJeztah on Feb 8

Member



Interesting; for some reason it doesn't show the default here 🤔

`--help` shows the correct output, but the markdown generator doesn't 🤔 Any ideas [@crazy-max](#)?

```
./build/docker stack rm --help
```



```
Usage: docker stack rm [OPTIONS] STACK [STACK...]
```

```
Remove one or more stacks
```

```
Aliases:
```

```
docker stack rm, docker stack remove, docker stack down
```

```
Options:
```

```
-d, --detach Do not wait for stack removal (default true)
```




# Improve documentation for boolean flags with `true` as default value #47

 Closed gmargaritis opened this issue on Feb 11 · 1 comment · Fixed by #48



gmargaritis commented on Feb 11

Contributor 

[@thaJeztah](#) [@crazy-max](#) Following up on our discussion in [docker/cli#4259 \(comment\)](#) and in [#19 \(comment\)](#).

We should add values in `Type` and `Default` columns for boolean flags that have `true` as default value.

I'll be opening a PR soon!

 + Add tasklist 



 gmargaritis mentioned this issue on Feb 11

**Improve boolean flag documentation generation #48**

 Merged



crazy-max commented on Feb 11

Member 

SGTM



 crazy-max closed this as `completed` in [#48](#) on Feb 12

Assignees

No one assigned

Labels

None yet

Projects

None yet

Milestone

No milestone

Development

Successfully merged this issue.

 **Improve boolean flag documentation generation #48**  
gmargaritis

Notifications

You're receiving notifications for this issue.

**Responsibility**



**thaJeztah** approved these changes on Mar 4

[View reviewed changes](#)

**thaJeztah** left a comment

Member ...

LGTM let's bring this one in as a first iteration.



**thaJeztah** merged commit **4a43b8e** into `docker:master` on Mar 4  
88 checks passed

[View details](#)

[Revert](#)




**thaJeztah** added the `impact/changelog` label on Mar 4



**thaJeztah** mentioned this pull request on Mar 4

Support `--detach` flag in docker stack deploy / rm #373

[Closed](#)

 happens, life goes on

Lessons learned

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- **Don't be afraid to experiment**
- **Follow the guidelines**
- **Make their life easier**

**Thank you** 🎉

George Margaritis  
@gmargaritis

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