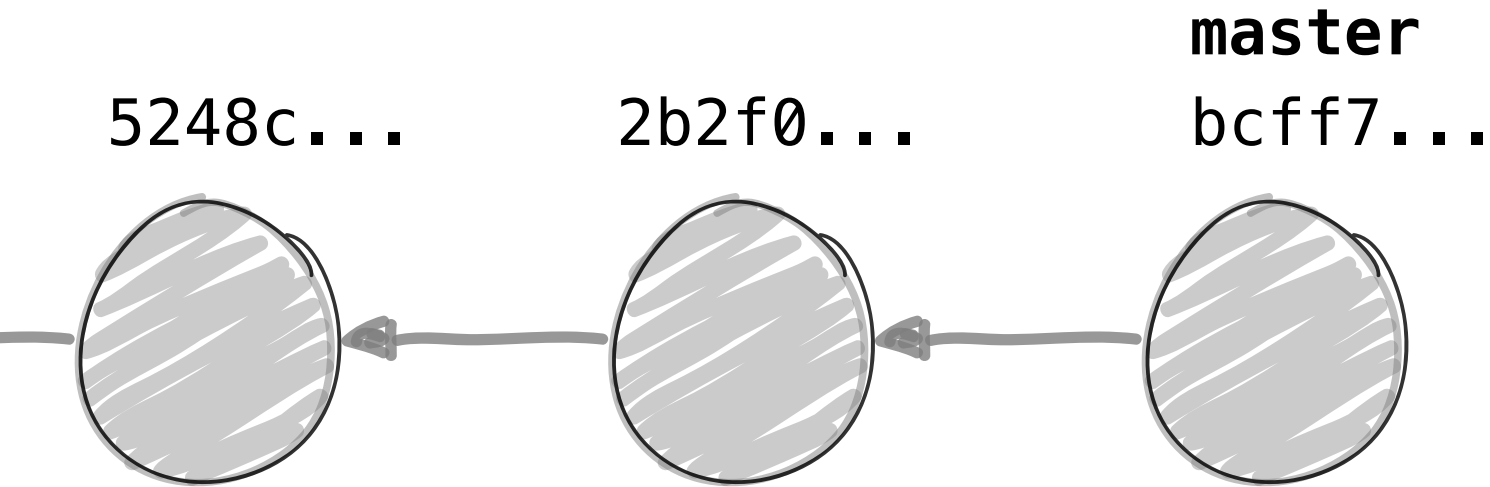


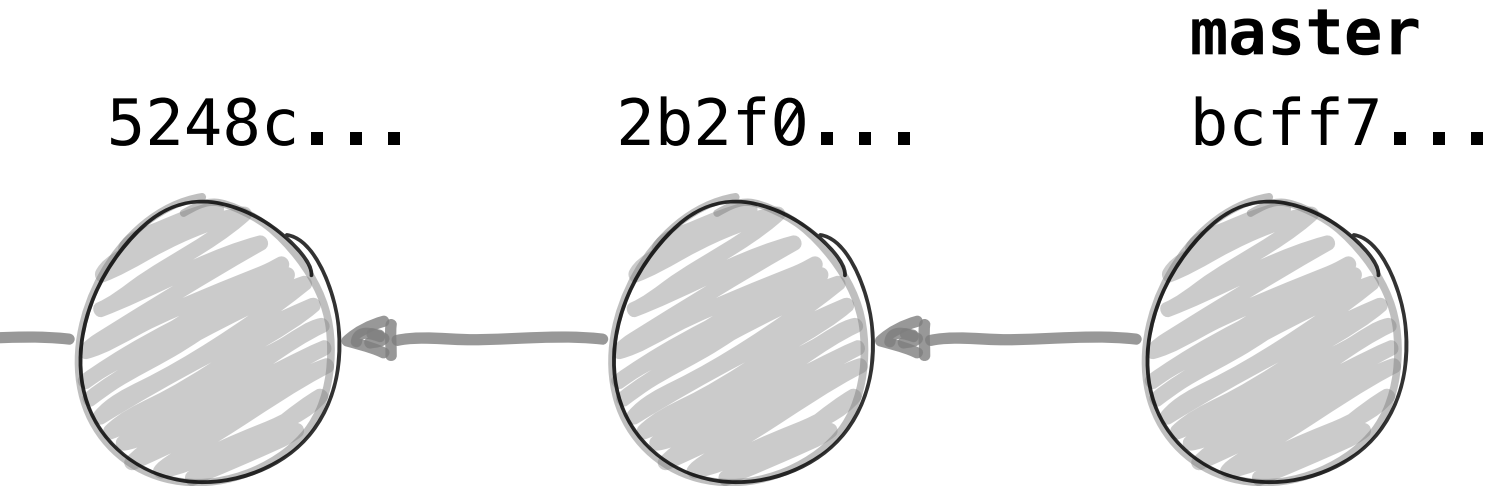
# Git Overview

Jonathan Sillito



A git repository is a collection of commit objects. The commits have pointers to their parents and together form a directed acyclic graph (DAG).

Each commit has a **globally** unique id (a 40 hex-digit SHA1). Such as:  
bcff7001f95c2d5524ee8090523a14d54cc913ea



```
$ git log
```

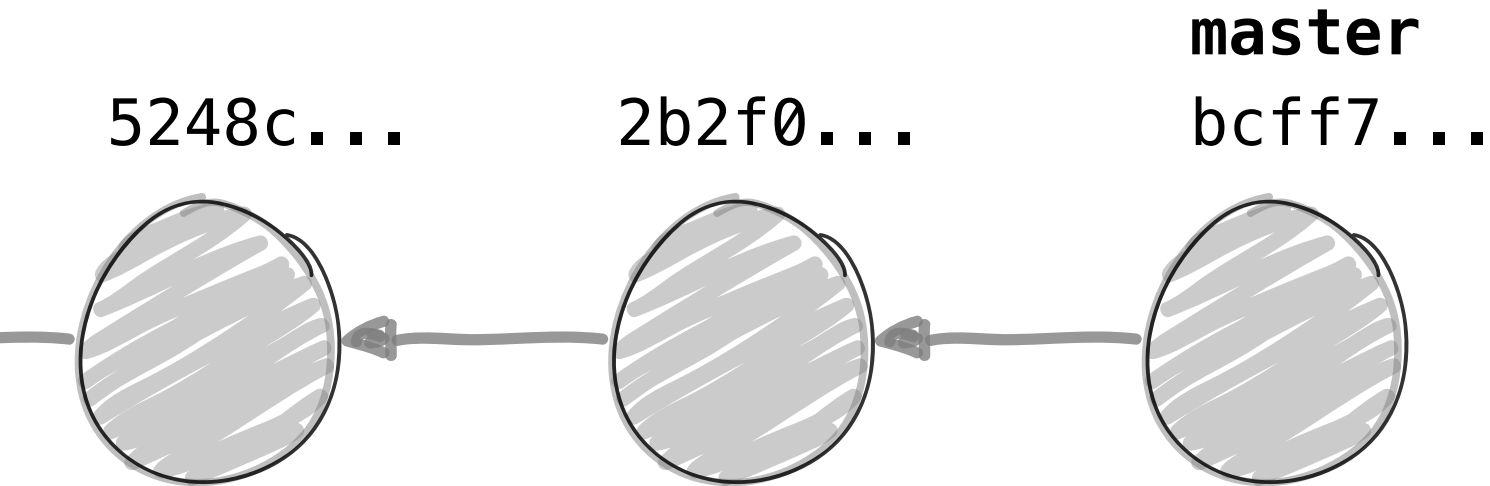
```
commit bcff7001f95c2d5524ee8090523a14d54cc913ea  
Author: Jonathan Sillito <sillito@ucalgary.ca>  
Date: Thu Dec 16 15:01:17 2010 -0700
```

```
added contraction support for stemmer
```

```
commit 2b2f0abbff02e09f940b45ce1ef91923e94f386e  
Author: Jonathan Sillito <sillito@ucalgary.ca>  
Date: Thu Dec 16 14:31:46 2010 -0700
```

```
improved layout of tag data
```

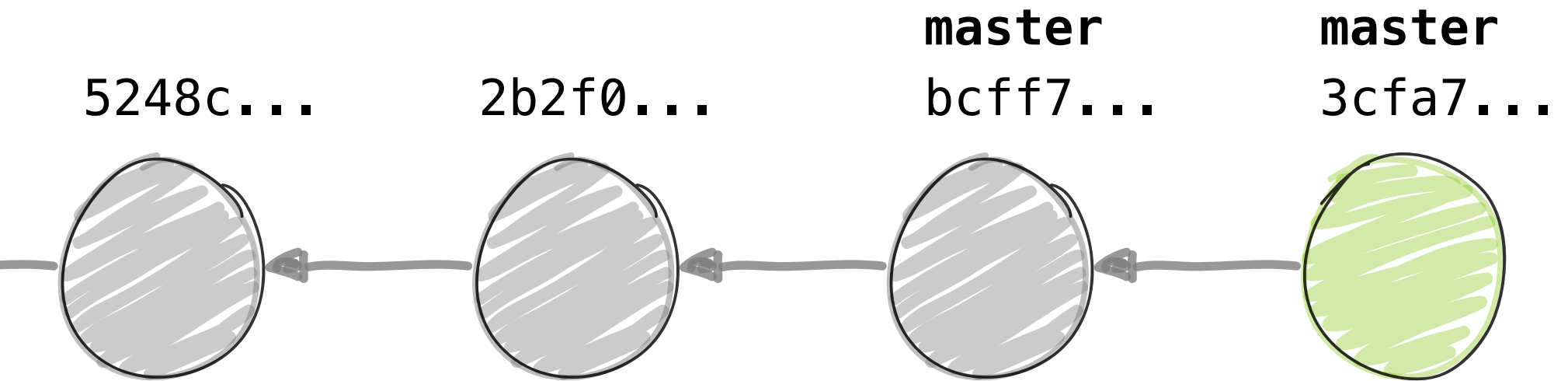
```
commit 5248c6deccabb64b461a0c370da2c132fa11b445  
Author: Jonathan Sillito <sillito@ucalgary.ca>
```



```
$ git show --pretty=raw bcff700
commit bcff7001f95c2d5524ee8090523a14d54cc913ea
tree 227bd4876cf2dd58650aa69a1e112dc128d563b2
parent 2b2f0abbff02e09f940b45ce1ef91923e94f386e
author Jonathan Sillito <sillito@ucalgary.ca> 1292536877
-0700
committer Jonathan Sillito <sillito@ucalgary.ca>
1292536877 -0700

    added contraction support for stemmer

diff --git a/lib/porter_stemmer.rb b/lib/porter_stemmer.rb
index 9ad7a61..c0ffca4 100644
--- a/lib/porter_stemmer.rb
+++ b/lib/porter_stemmer.rb
```



(Make some changes to the files.)

```
$ git status
```

```
# On branch master
```

```
# Changed but not updated:
```

```
#
```

```
#   modified: some/file/name.txt
```

```
#   modified: some/other/file.txt
```

```
no changes added to commit (use "git add" and/or "git commit -a")
```

```
$ git commit -am "some message"
```

By default the repository has one branch (**master**).

5248c...

2b2f0...

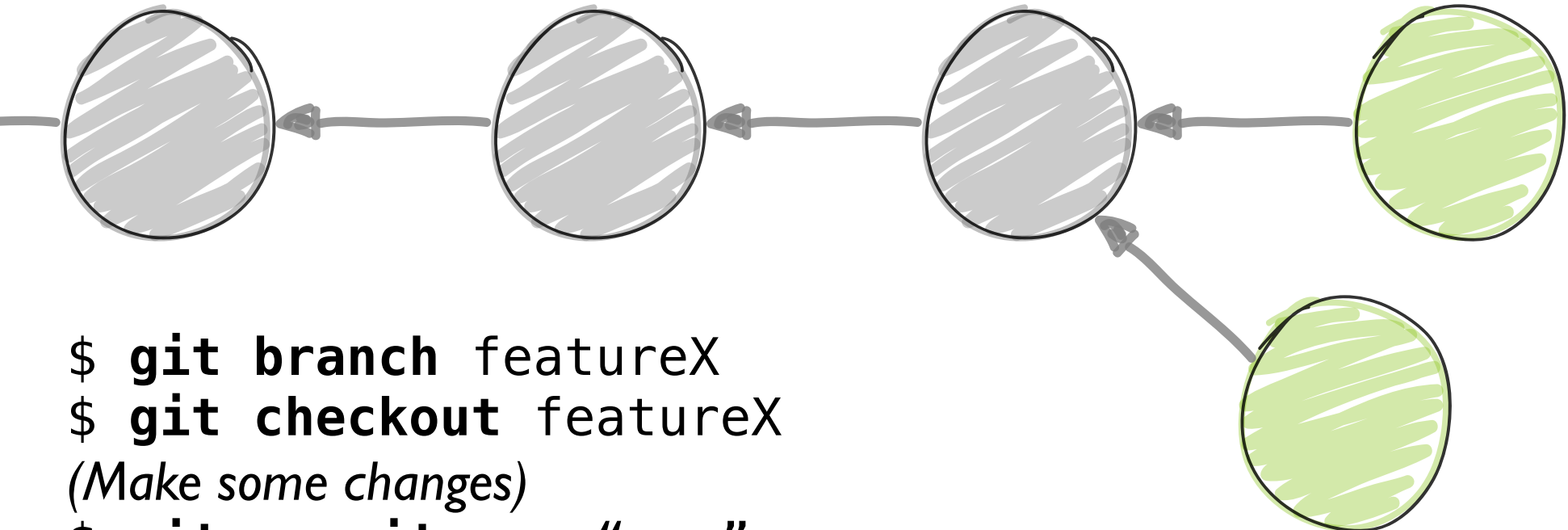
**featureX**

**master**

bcff7...

**master**

ff762...

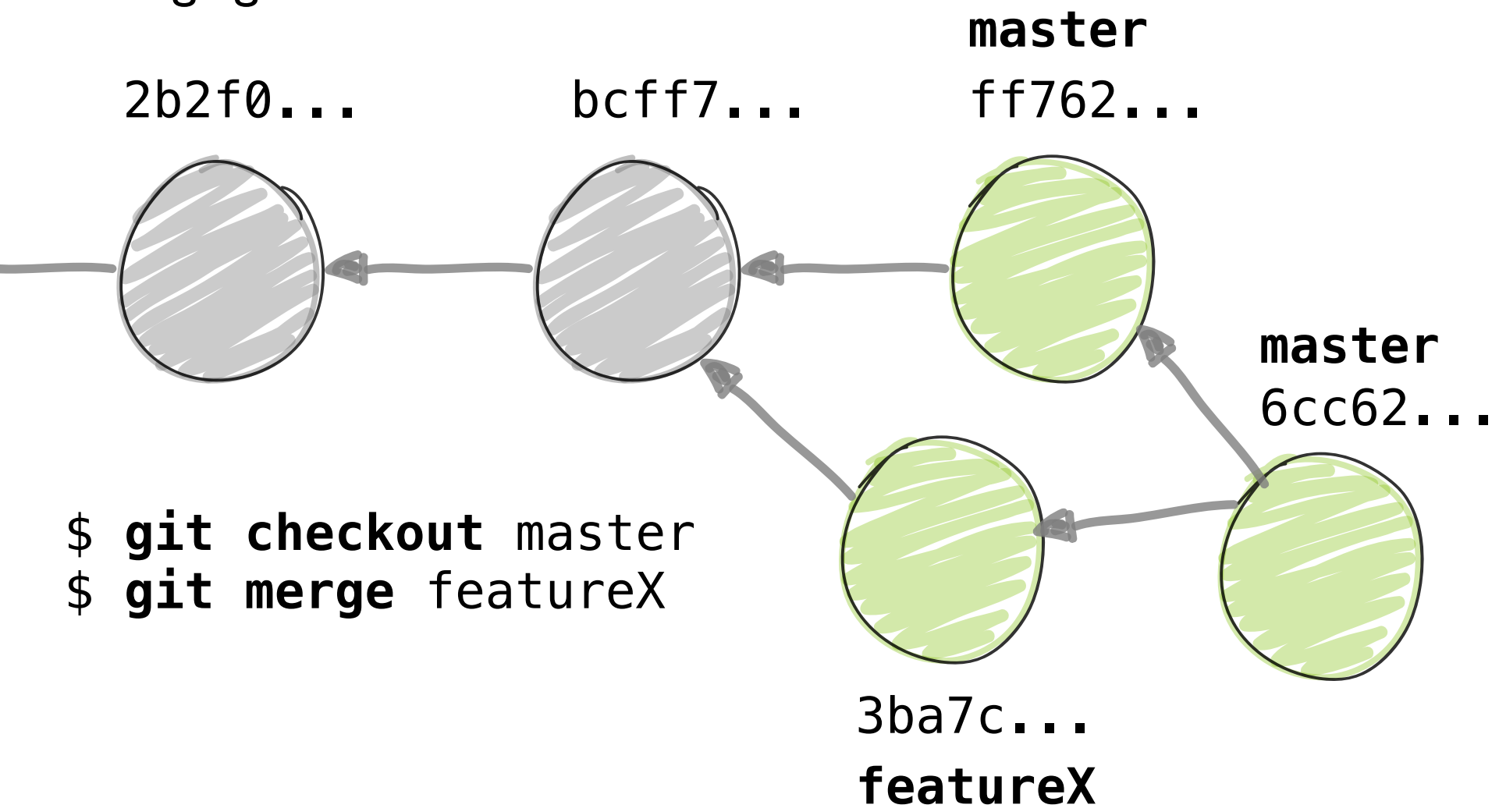


```
$ git branch featureX  
$ git checkout featureX  
(Make some changes)  
$ git commit -am "..."
```

```
$ git checkout master  
(Make some changes)  
$ git commit -am "..."
```

3ba7c...  
**featureX**

# Merging branches



```
$ git checkout master  
$ git merge featureX
```

bcff7001f95c2d5524ee8090523a14d54cc913ea

**What the heck?**

Commits can be referred to in different ways:

**bcff700** id's can be abbreviated

**HEAD** generally points to the most recent commit

**master** is the HEAD of the master branch

**master^** is the parent of that HEAD

**HEAD^^** grandparent

**HEAD~3** great-grandparent