

实验二的补充说明

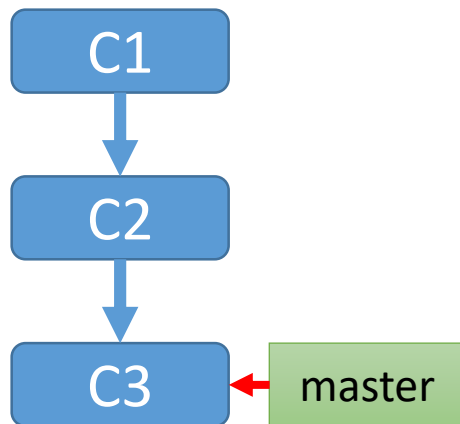
任课老师：李诚
助教：白有辉，邵新洋

- 如何从助教发布的项目获取更新
 - Git分支与远程分支
 - 合并(Merge)分支及出现冲突时的解决方法
- lab 2说明
 - doc
 - testcase
 - ddl extension
 - merge request
- lab 3提前说明

Git分支及远程分支

Commit: Snapshot

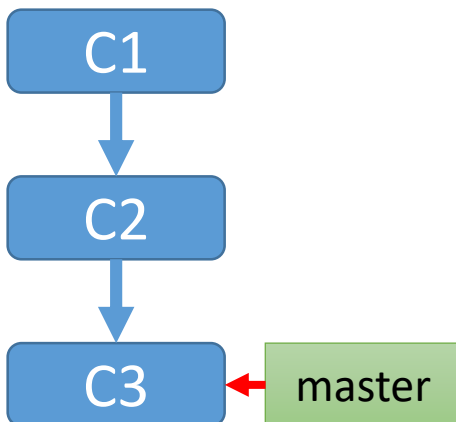
staff/compiler_cminus



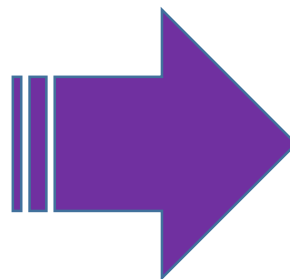
Git分支及远程分支

Commit: Snapshot

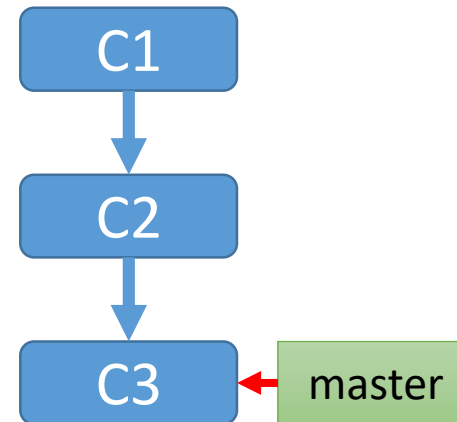
staff/compiler_cminus



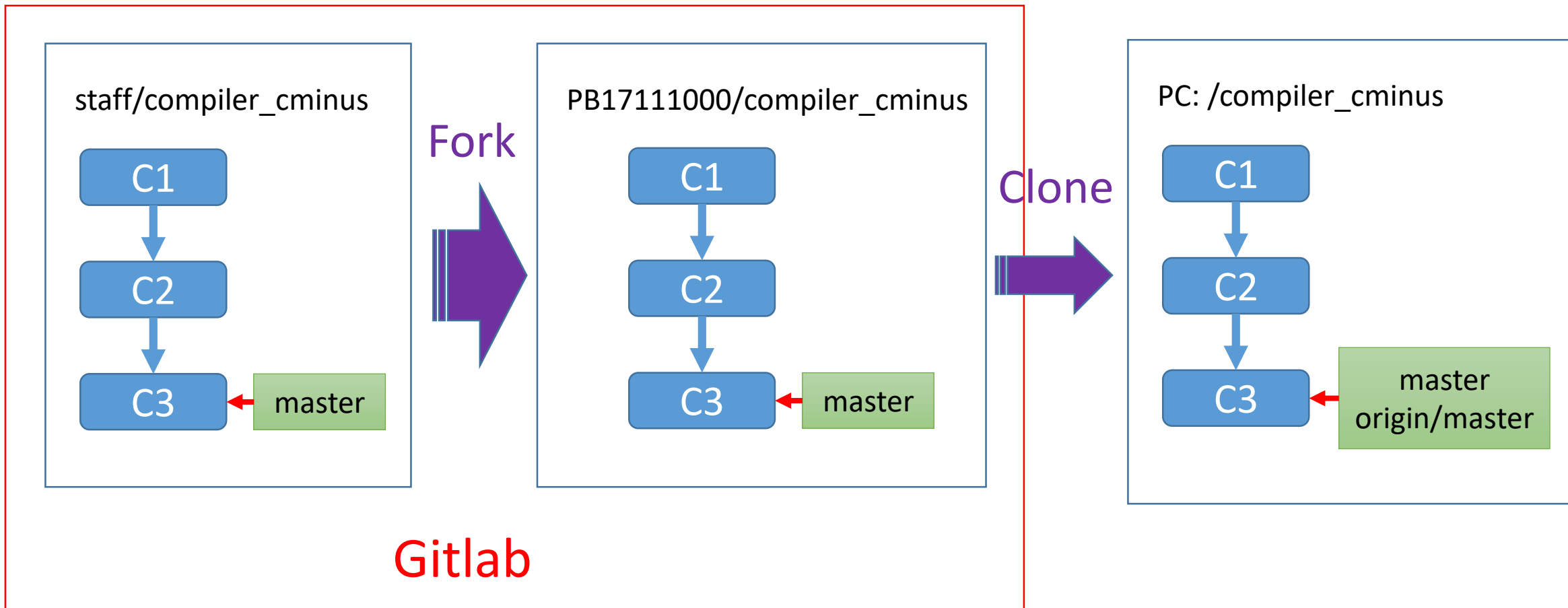
Fork



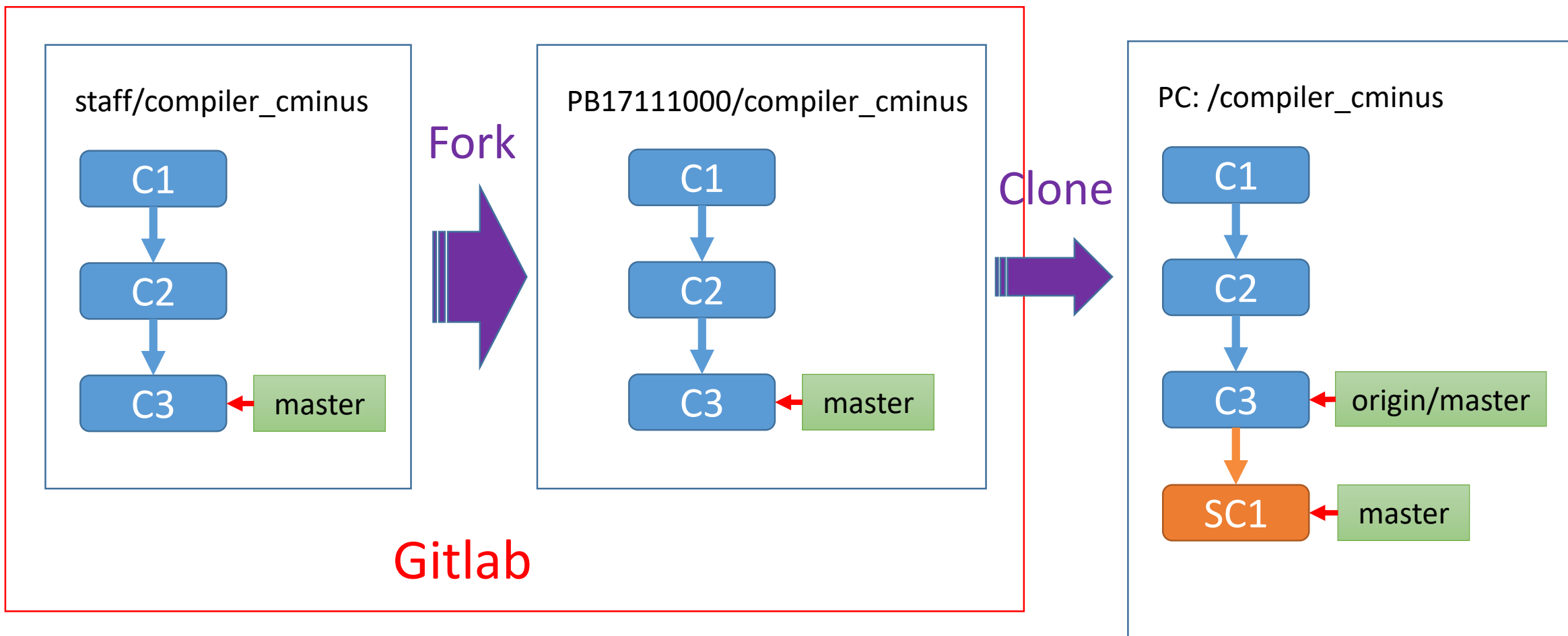
PB17111000/compiler_cminus



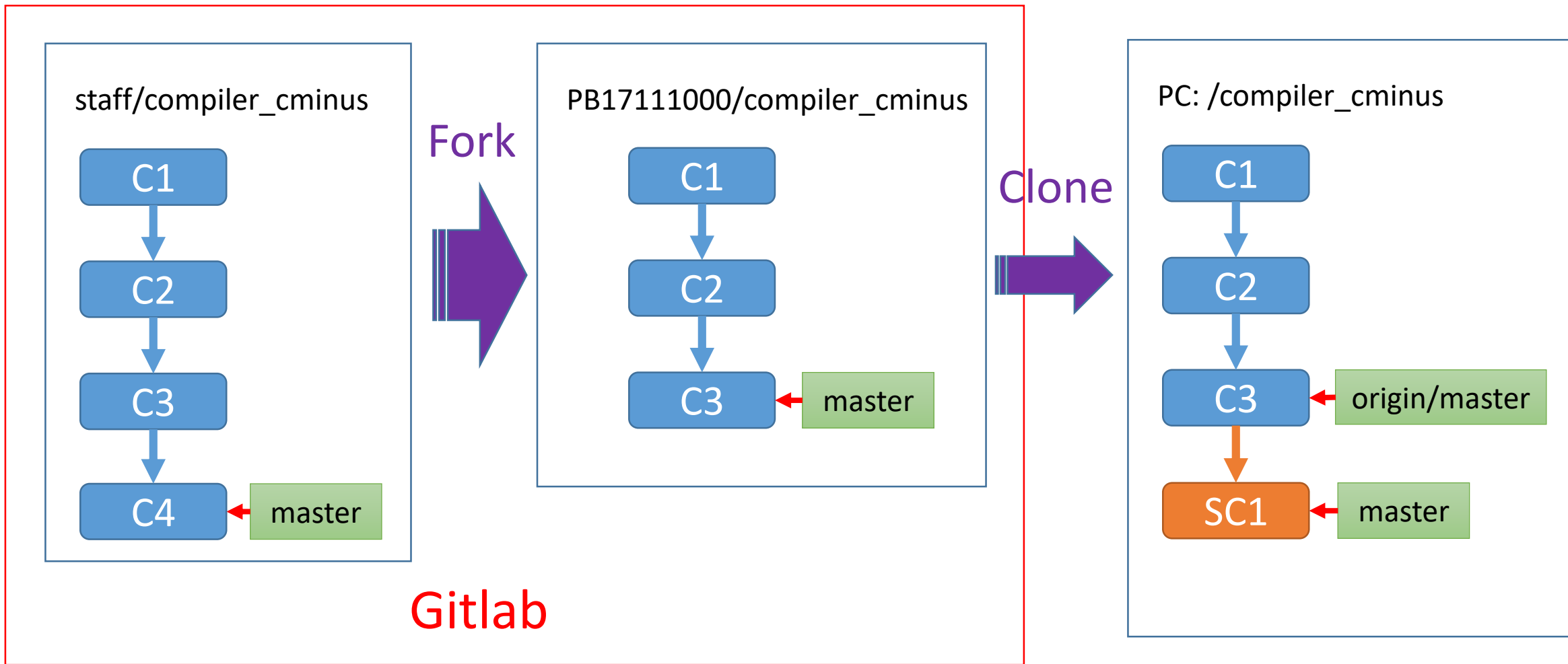
Git分支及远程分支



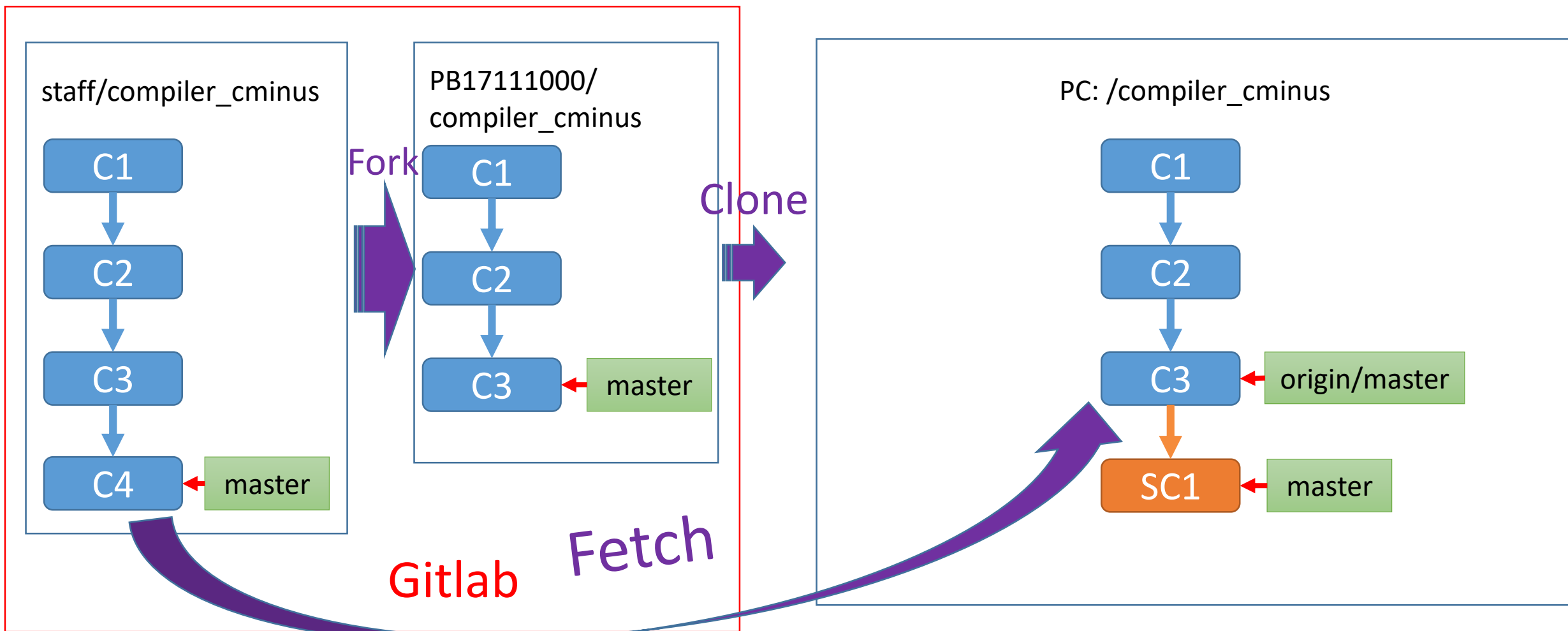
Git分支及远程分支



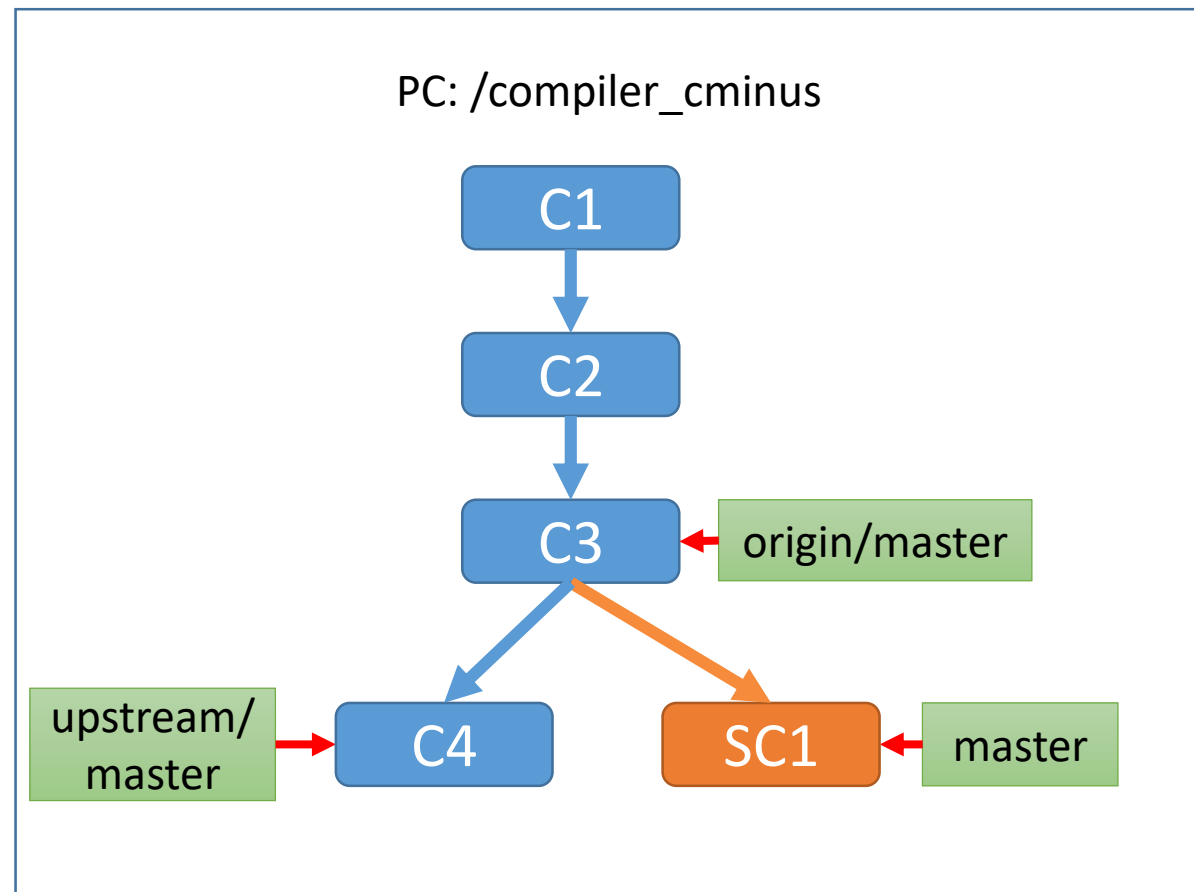
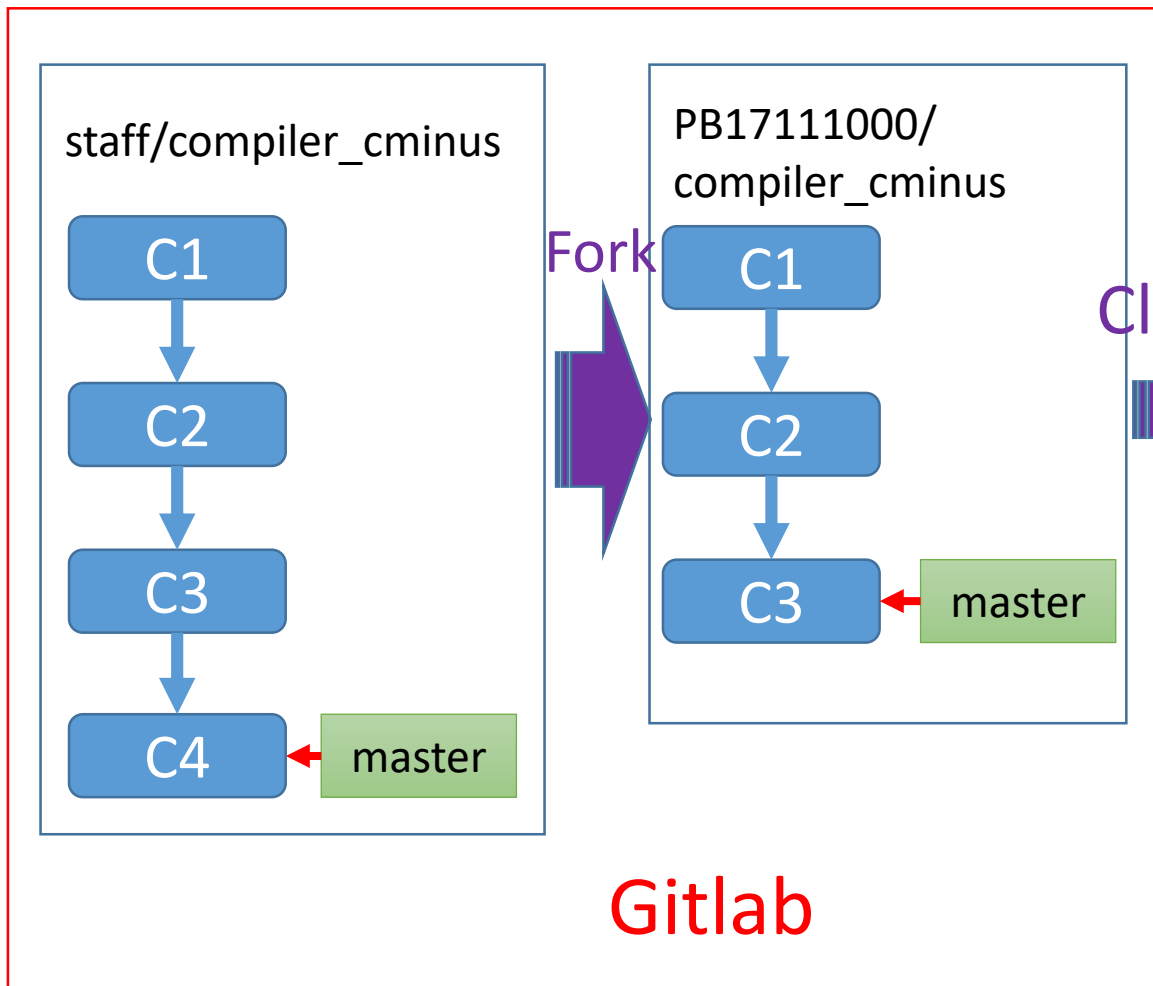
Git分支及远程分支



fetch远程分支

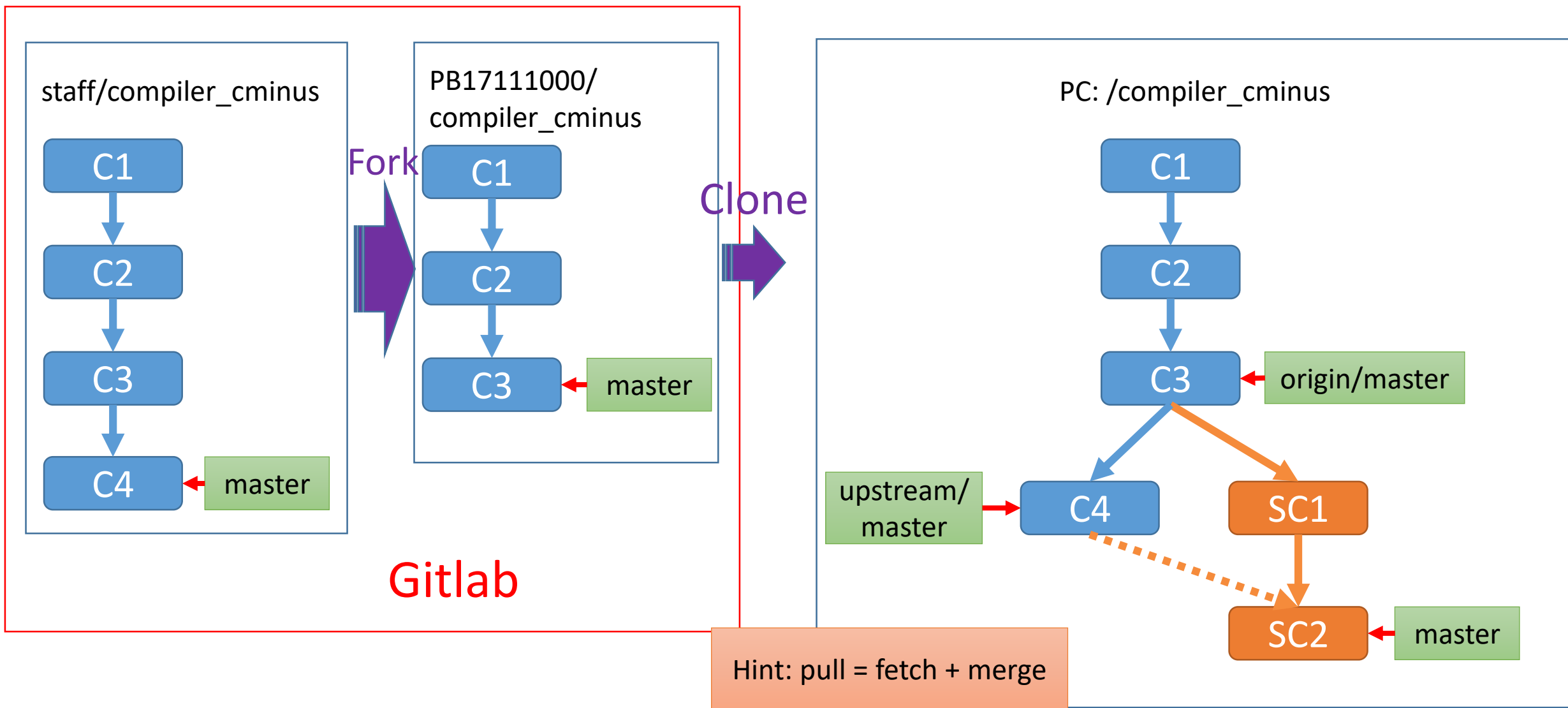


fetch远程分支

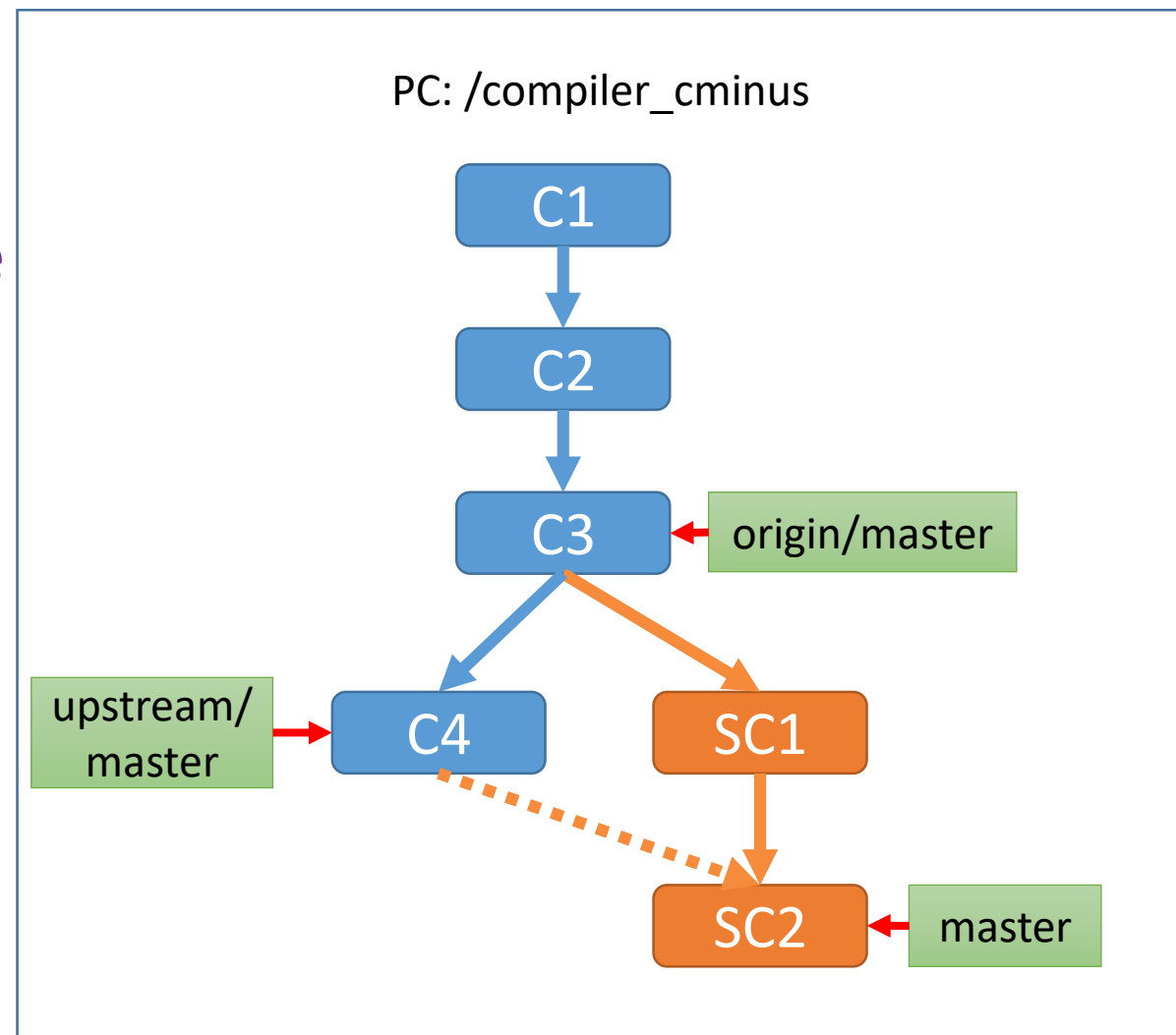
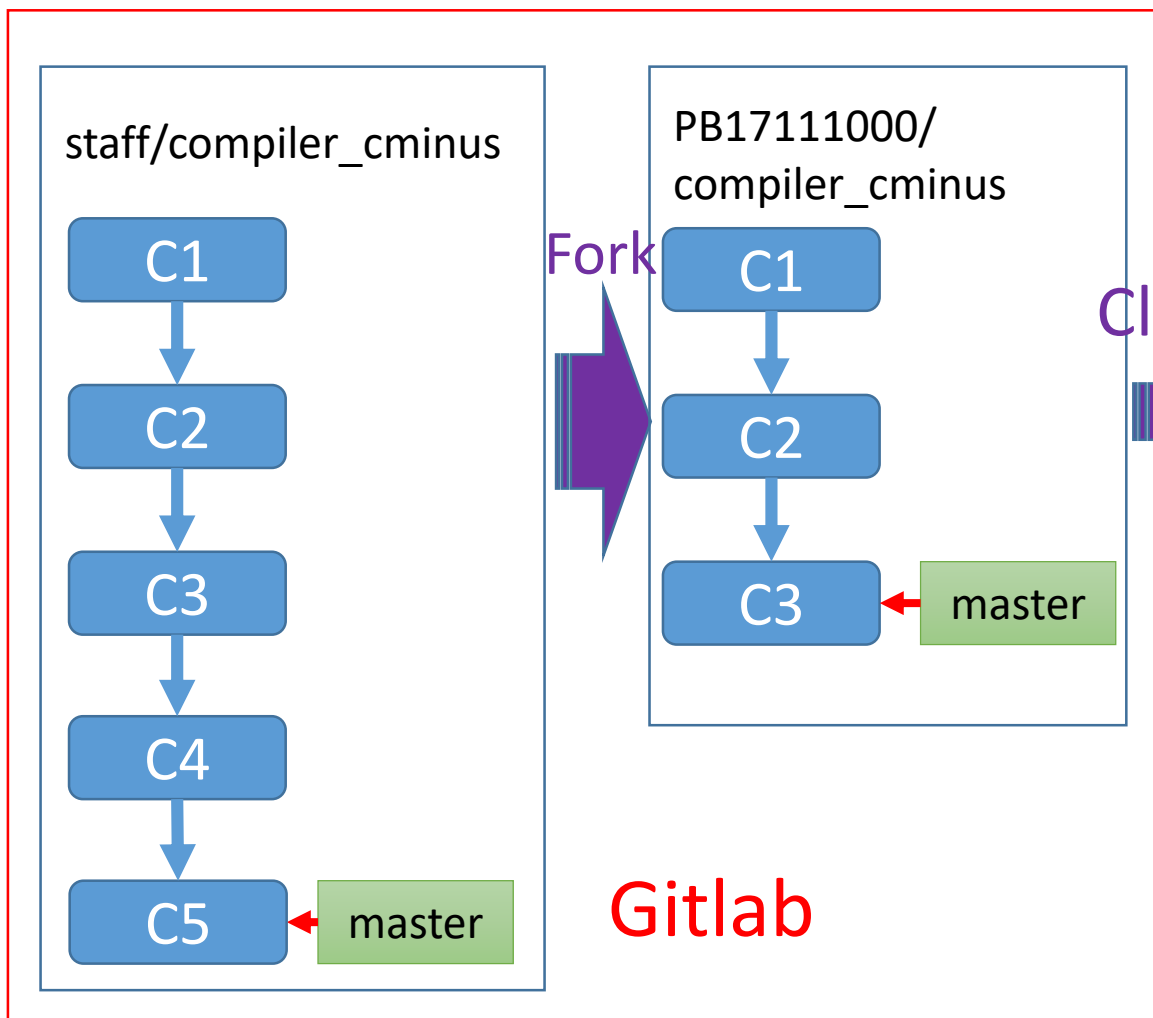


“upstream”和“origin”都是别名（可任意起），分别指代不同的远程仓库。“origin”约定俗成指代相同的远程仓库，clone时自动生成

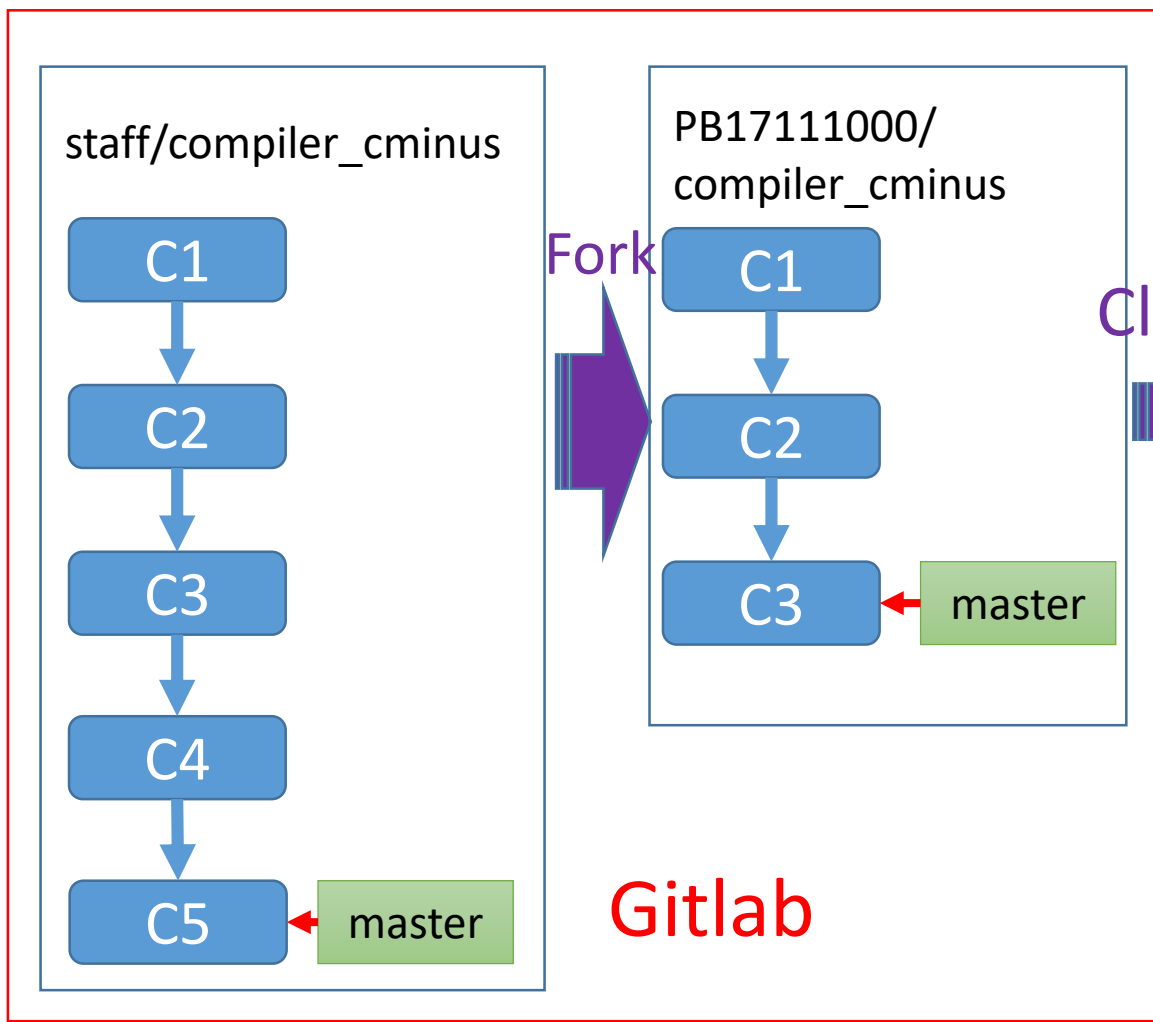
合并 (merge) 分支



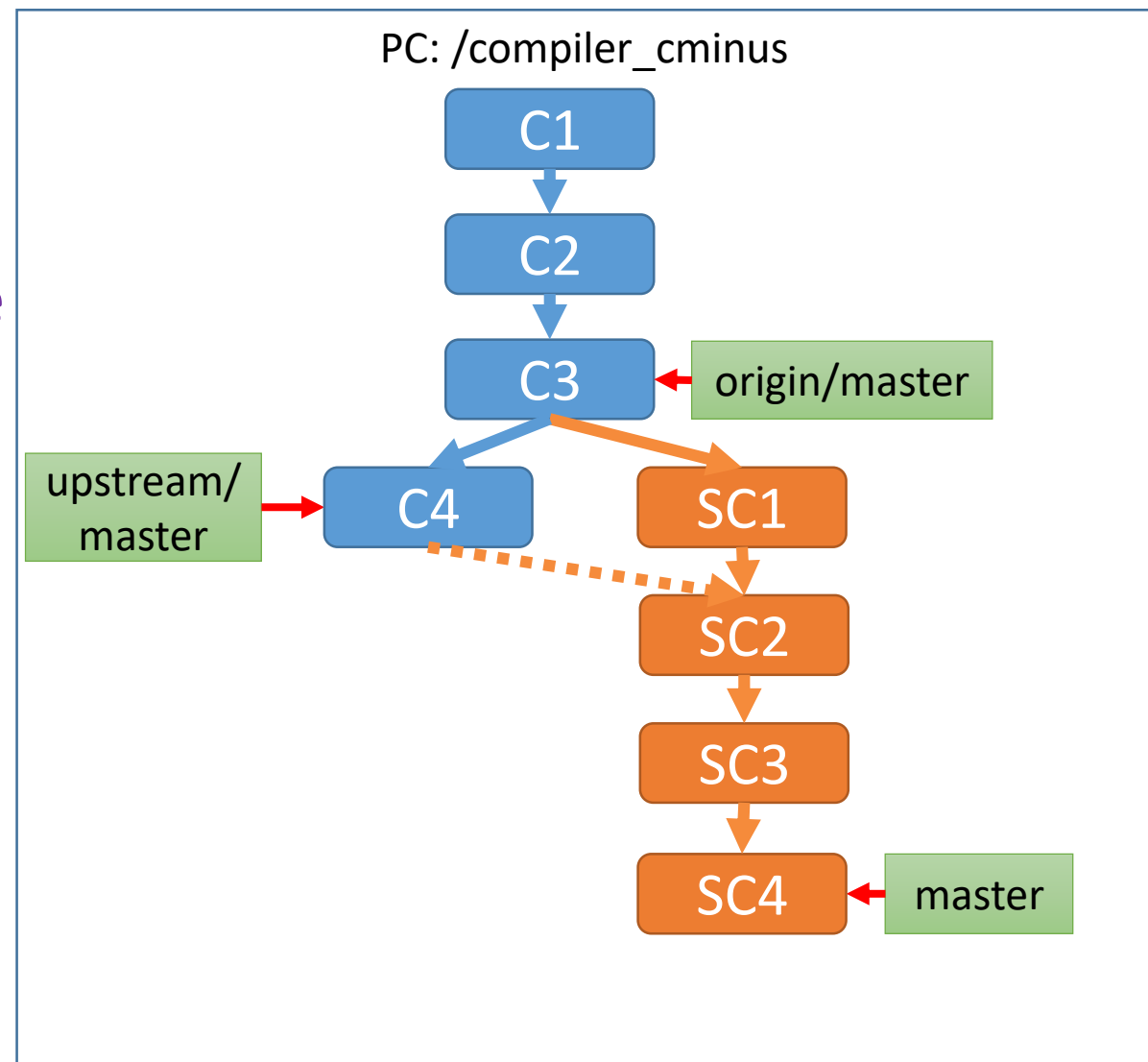
合并 (merge) 分支



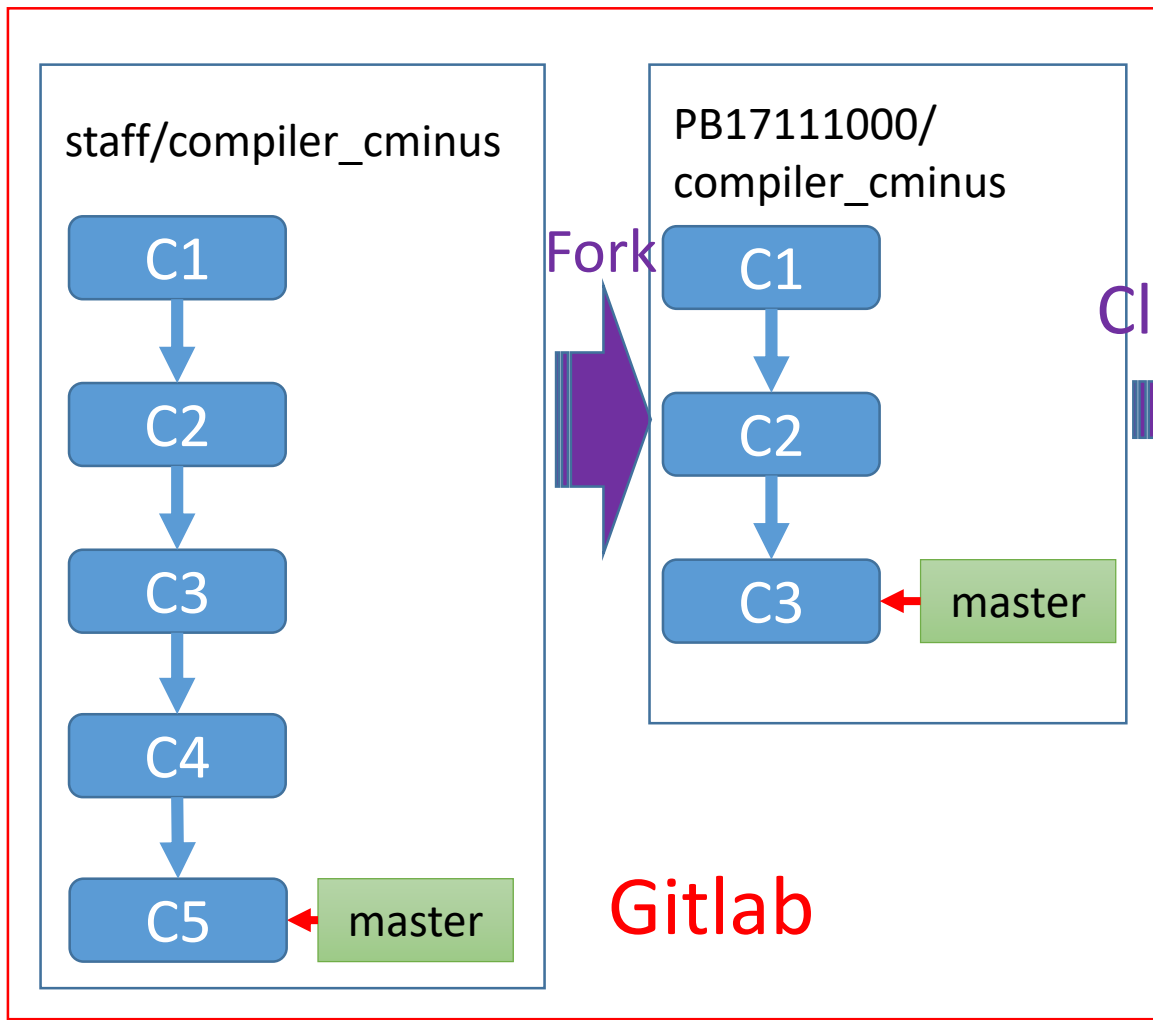
合并 (merge) 分支



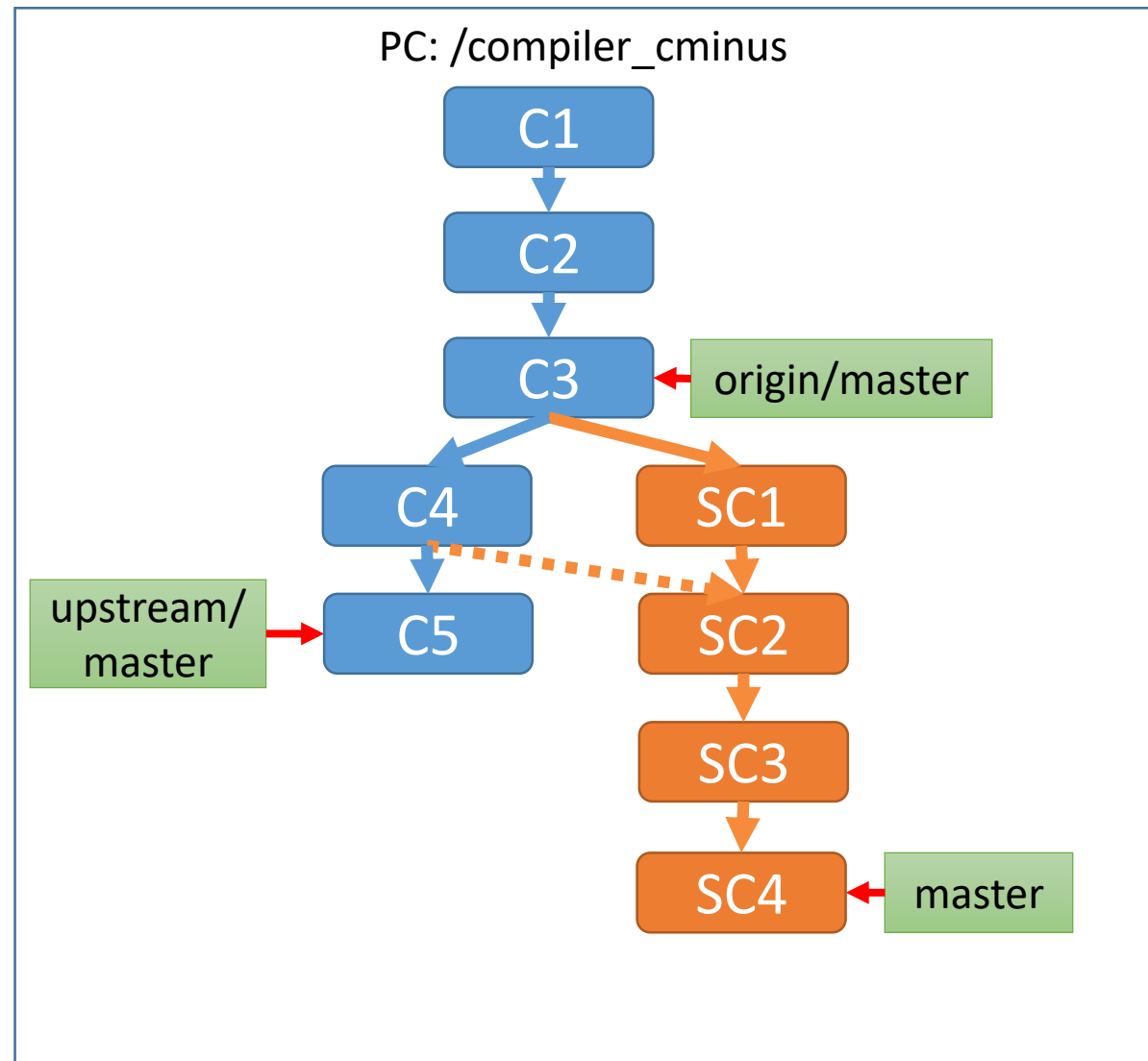
Gitlab



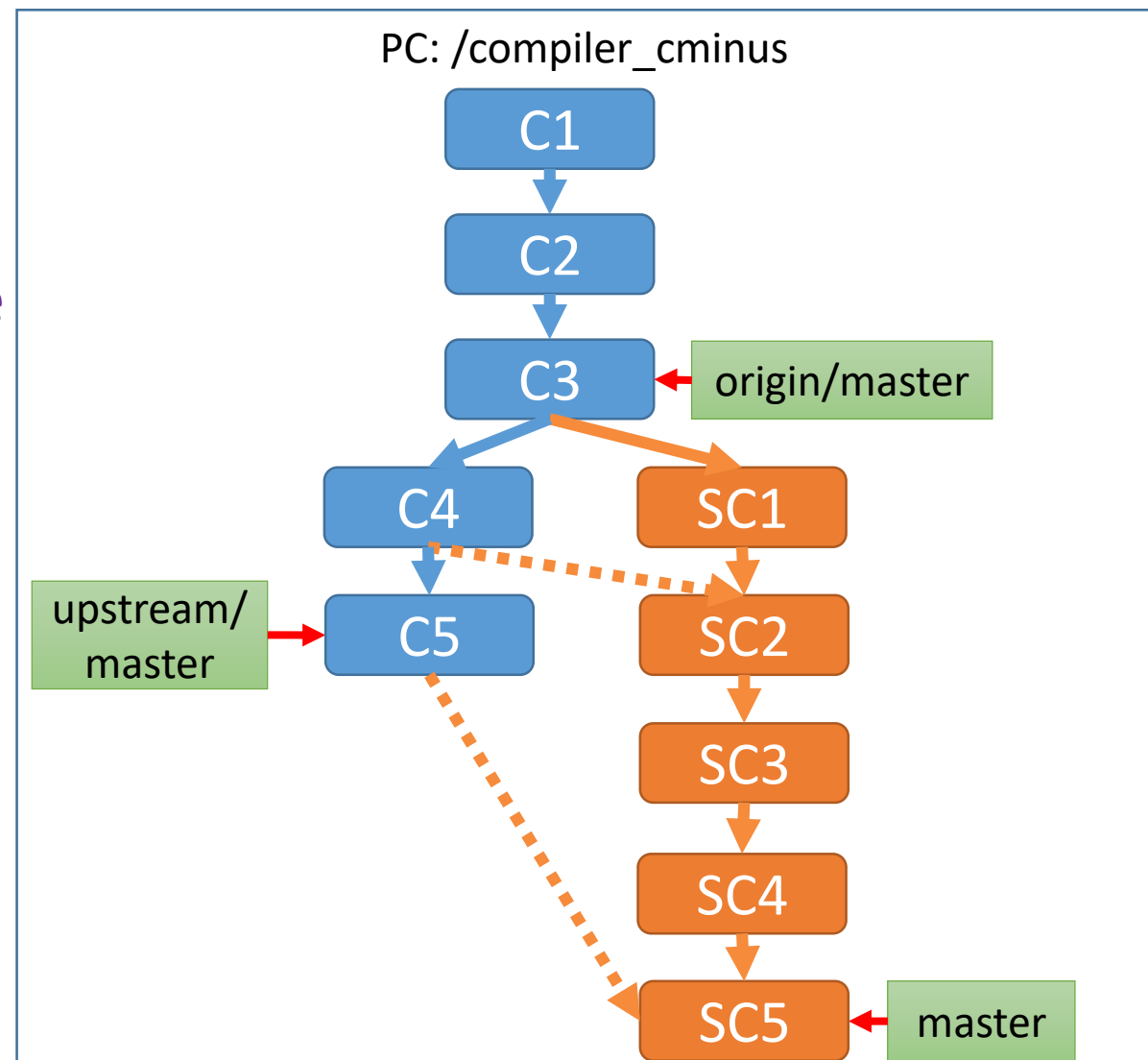
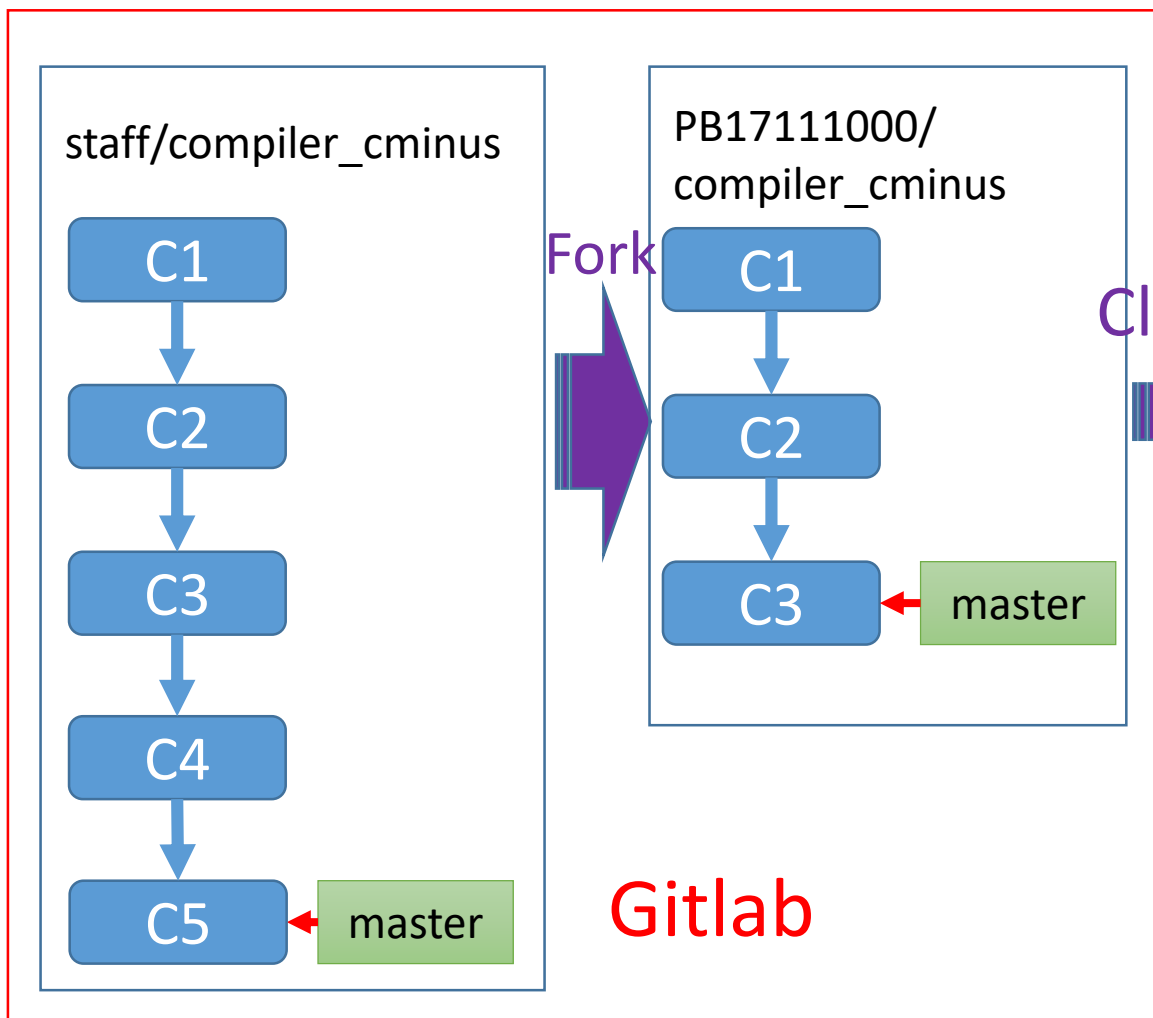
合并 (merge) 分支



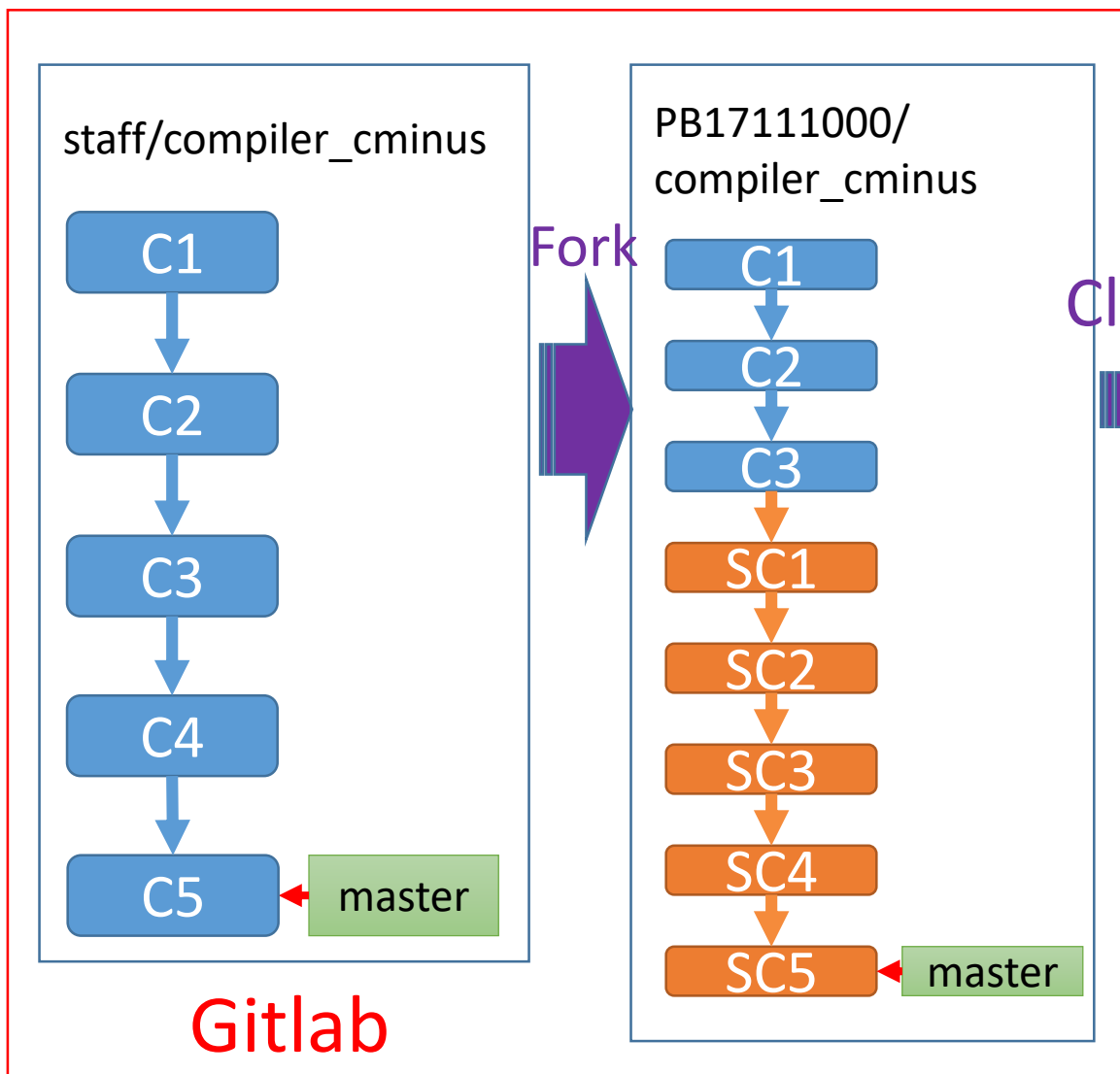
Gitlab



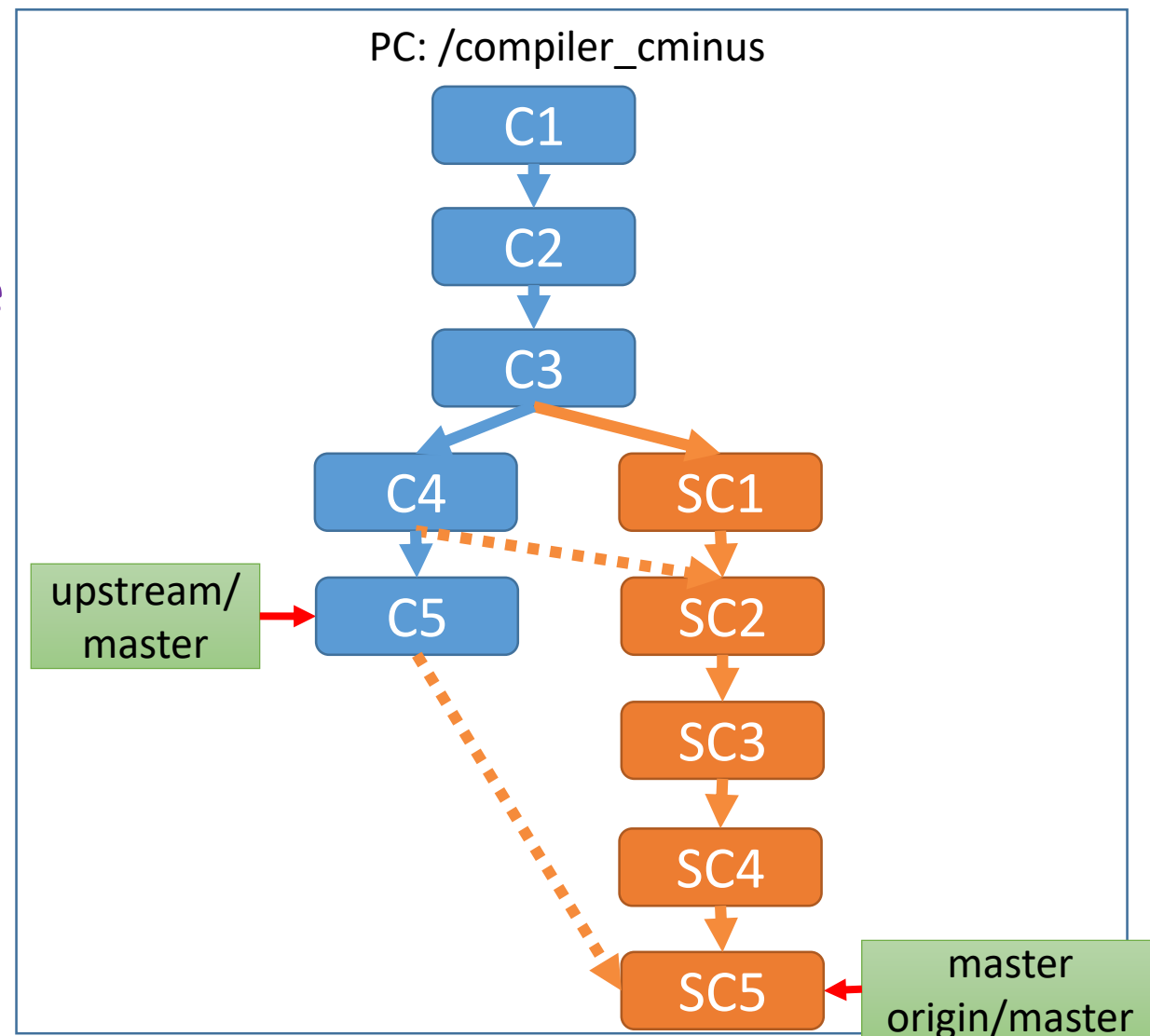
合并 (merge) 分支



合并 (merge) 分支后提交



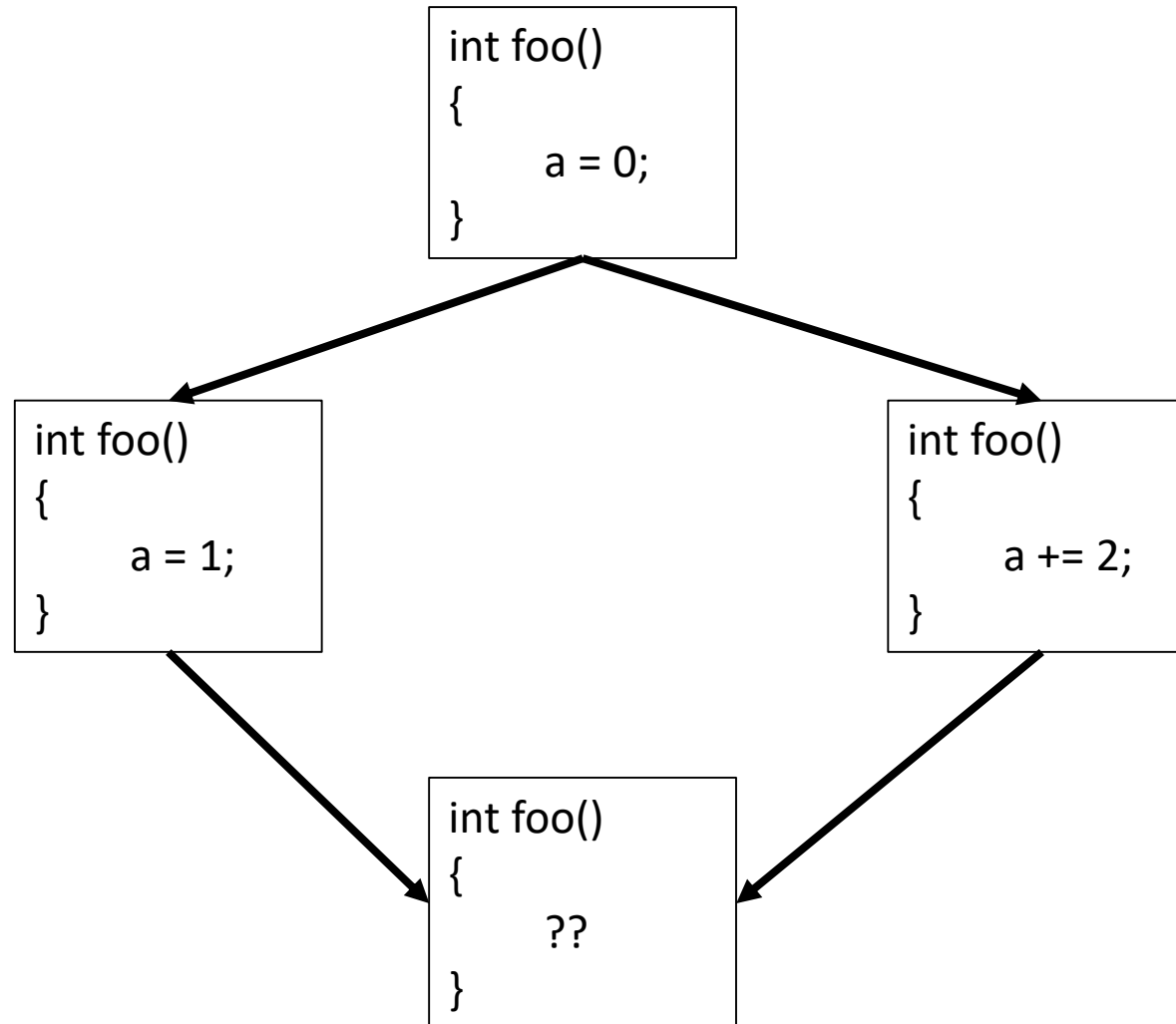
2019/10/14



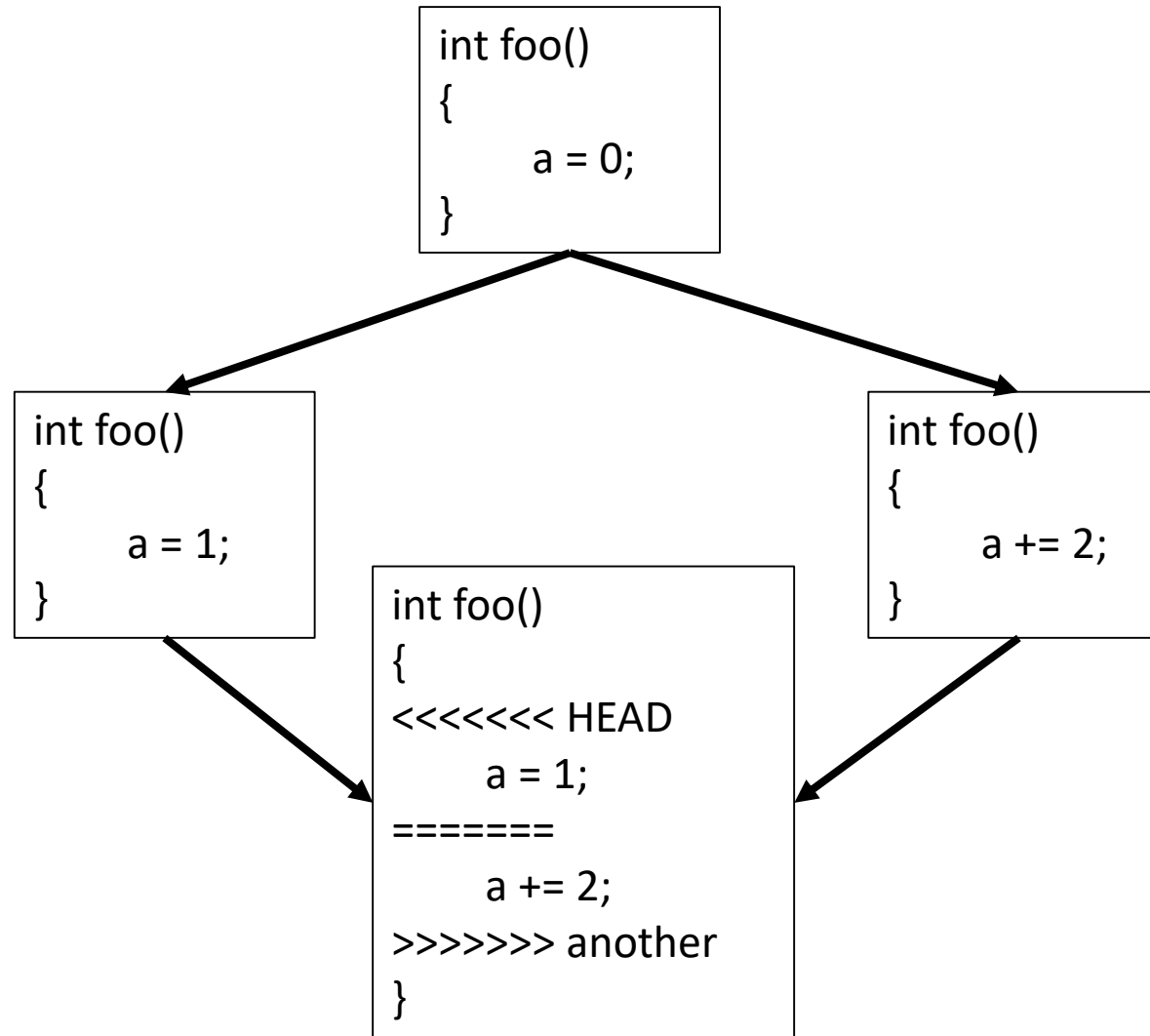
ADSL

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Merge Conflict



Merge Conflict



Merge Conflict in Lab 2

```
(0) Mon Oct 14 09:34:00 [ceph@node16 ~/test2/compiler_cminus] (master)
$ git remote add upstream git@210.45.114.30:staff/compiler_cminus.git

(0) Mon Oct 14 09:34:43 [ceph@node16 ~/test2/compiler_cminus] (master)
$ git fetch

(0) Mon Oct 14 09:34:46 [ceph@node16 ~/test2/compiler_cminus] (master)
$ git fetch upstream
From 210.45.114.30:staff/compiler_cminus
* [new branch]      TA-impl      -> upstream/TA-impl
* [new branch]      master       -> upstream/master

(0) Mon Oct 14 09:34:53 [ceph@node16 ~/test2/compiler_cminus] (master)
$ git merge upstream/b1f854ee03c75aac1522710cc88133f1cd7ea69b
fatal: upstream/b1f854ee03c75aac1522710cc88133f1cd7ea69b - not something we can merge

(128) Mon Oct 14 09:35:57 [ceph@node16 ~/test2/compiler_cminus] (master)
$ git merge b1f854ee03c75aac1522710cc88133f1cd7ea69b
Auto-merging lab1_lexical_analyzer/lexical_analyzer.l
CONFLICT (content): Merge conflict in lab1_lexical_analyzer/lexical_analyzer.l
Automatic merge failed; fix conflicts and then commit the result.
```

merge出现Conflict

Merge Conflict in Lab 2

出现Conflict

```
# You have unmerged paths.
# (fix conflicts and run "git commit")
#
# Changes to be committed:
#
#   new file:   .gitignore
#   new file:   CMINUS.md
#   new file:   CMakeLists.txt
#   modified:   README.md
#   new file:   cminus_compiler.c
#   new file:   common/CMakeLists.txt
#   new file:   common/common.c
#   new file:   common/common.h
#   new file:   do_cmake.sh
#   new file:   lab1_lexical_analyzer/CMakeLists.txt
#   new file:   lab1_lexical_analyzer/lexical_analyzer.c
#   new file:   lab1_lexical_analyzer/lexical_analyzer.h
#   new file:   lab1_lexical_analyzer/test_lex.c
#   modified:   "lab1_lexical_analyzer/\350\257\204\345\210\206\346\240\207\345\207\206.md"
#   new file:   lab2_syntax_analyzer/Bison_Tutorial.md
#   new file:   lab2_syntax_analyzer/CMakeLists.txt
#   new file:   lab2_syntax_analyzer/README.md
#   new file:   lab2_syntax_analyzer/syntax_analyzer.y
#   new file:   lab2_syntax_analyzer/test_syntax.c
#   new file:   "lab2_syntax_analyzer/\347\274\226\350\257\221\345\216\237\347\220\206\347\254\254\344\272\214\346\254\241\345\256\23
6\351\252\214_0930.pdf"
#   new file:   syntax_tree/CMakeLists.txt
#   new file:   syntax_tree/SyntaxTree.c
#   new file:   syntax_tree/SyntaxTree.h
#   new file:   syntax_tree/test_tree.c
#   new file:   testcase
#   new file:   tokens
#
# Unmerged paths:
# (use "git add <file>..." to mark resolution)
#
#       both modified:   lab1_lexical_analyzer/lexical_analyzer.l
```

Merge Conflict in Lab 2

```
19 <<<<<< HEAD
20 enum cminus_token_type{
21     ERROR = 258,
22     ADD = 259,
23     SUB = 260,
24     MUL = 261,
25     DIV = 262,
26     LT = 263,
27     LTE = 264,
28     GT = 265,
29     GTE = 266,
30     EQ = 267,
31     NEQ = 268,
32     ASSIN = 269,
33     SEMICOLON = 270,
34     COMMA = 271,
35     LPARENTHESIS = 272,
36     RPARENTHESIS = 273,
37     LBRACKET = 274,
38     PBRACKET = 275,
39     LBRACE = 276,
40     PBRACE = 277,
41     ELSE = 278,
42     IF = 279,
43     INT = 280,
44     RETURN = 281,
45     VOID = 282,
46     WHILE = 283,
47     IDENTIFIER = 284,
48     NUMBER = 285,
49     LETTER = 286,
50     ARRAY = 287,
51     EOL = 288,
52     COMMENT = 289,
53     BLANK = 290
54 };
55
56 =====
57 >>>>>> b1f854ee03c75aac1522710cc88133f1cd7ea69b
58 /*****声明和选项设置 end*****/
```

删掉。已在
lexical_....h中
定义

```
119 <<<<<< HEAD
120 /// \brief get all file paths under 'testcase' directory
121 ///
122 /// under 'testcase' directory, there could be many *.cminus files.
123 /// \return a path array
124 void getAllTestcase(char filename[][256]){
125     DIR* d;
126     struct dirent *file;
127     struct stat sb;
128     if(!(d = opendir("./testcase/"))){
129         printf("error opendir !\n");
130     }
131     while((file = readdir(d)) != NULL){
132         if(strncmp(file->d_name, ".", 1) == 0) continue;
133         strcpy(filename[files_count++], file->d_name);
134         if(stat(file->d_name, &sb) >= 0 && S_ISDIR(sb.st_mode)) continue;
135     }
136     closedir(d);
137     /// \todo student should fill this function
138 }
139
140 /// \brief process all *.cminus file
141 ///
142 /// note that: use relative path for all i/o operations
143 int main(int argc, char **argv){
144     =====
145     /// \brief process all *.cminus file
146     ///
147     /// note that: use relative path for all i/o operations
148     int lex_main(int argc, char **argv){
149         >>>>>> b1f854ee03c75aac1522710cc88133f1cd7ea69b
150         char filename[10][256];
151         char output_file_name[256];
152         char suffix[] = ".tokens";
153         files_count = getAllTestcase(filename);
154         for(int i = 0; i < files_count; i++){
155             int name_len = strstr(filename[i], ".cminus")-filename[i];
156             strncpy(output_file_name, filename[i], name_len);
157             strcpy(output_file_name+name_len, suffix);
158             analyzer(filename[i], output_file_name);
159         }
160     }
161 }
```

移动到common.c

Merge Conflict in Lab 2

```
1 #include "common.h"
2
3 int getAllTestcase(char filename[][256])
4 {
5     DIR* d;
6     struct dirent *file;
7     struct stat sb;
8     if(!(d = opendir("./testcase/"))){
9         printf("error opendir !\n");
10    }
11    while((file = readdir(d)) != NULL){
12        if(strncmp(file->d_name, ".", 1) == 0) continue;
13        strcpy(filename[files_count++], file->d_name);
14        if(stat(file->d_name, &sb) >= 0 && S_ISDIR(sb.st_mode))
15        }
16    closedir(d);
17    /// \todo student should fill this function
18 }
```

common/common.c

```
109         fprintf(fp, "%d\t%d\t%d\t%d\t%d\n", atoi(yytext),
110             break;
111         default :
112             fprintf(fp, "%s\t%d\t%d\t%d\t%d\n", yytext, token, lines, pos_start, pos_end);
113     }
114 }
115 fclose(fp);
116 printf("[END]: Analysis completed.\n");
117 }
118
119 <<<<<< HEAD
120 =====
121 /// \brief process all *.cminus file
122 ///
123 /// note that: use relative path for all i/o operations
124 int lex_main(int argc, char **argv){
125 >>>>>> b1f854ee03c75aac1522710cc88133f1cd7ea69b
126     char filename[10][256];
127     char output_file_name[256];
128     char suffix[] = ".tokens";
129
130     lab1_lexical_analyzer/lexical_analyzer.l [+]
131
132 2019/10/14
```

```
1 #include "common.h"
2
3 int getAllTestcase(char filename[][256])
4 {
5     DIR* d;
6     struct dirent *file;
7     struct stat sb;
8     if(!(d = opendir("./testcase/"))){
9         printf("error opendir !\n");
10    }
11    while((file = readdir(d)) != NULL){
12        if(strncmp(file->d_name, ".", 1) == 0) continue;
13        strcpy(filename[files_count++], file->d_name);
14        if(stat(file->d_name, &sb) >= 0 && S_ISDIR(sb.st_mode)) continue;
15    }
16    closedir(d);
17    /// \todo student should fill this function
18 }
```

common/common.c

```
109         fprintf(fp, "%d\t%d\t%d\t%d\t%d\n", atoi(yytext), token, lines, pos_start, pos_end);
110             break;
111         default :
112             fprintf(fp, "%s\t%d\t%d\t%d\t%d\n", yytext, token, lines, pos_start, pos_end);
113     }
114 }
115 fclose(fp);
116 printf("[END]: Analysis completed.\n");
117 }
118
119 /// \brief process all *.cminus file
120 ///
121 /// note that: use relative path for all i/o operations
122 int lex_main(int argc, char **argv){
123     char filename[10][256];
124     char output_file_name[256];
125     char suffix[] = ".tokens";
126
127     lab1_lexical_analyzer/lexical_analyzer.l [+]
128
129 2019/10/14
```

getAllTestcase()
已更改定义为
int型，需增加
返回值

Merge Conflict in Lab 2

```
5 #include <dirent.h>
6 #include "common.h"
7
8 int getAllTestcase(char filename[][256])
9 {
10     int files_count;
11     DIR* d;
12     struct dirent *file;
13     struct stat sb;
14     if(!(d = opendir("./testcase/"))){
15         printf("error opendir !\n");
16     }
17     while((file = readdir(d)) != NULL){
18         if(strncmp(file->d_name, ".", 1) == 0) continue;
19         strcpy(filename[files_count++], file->d_name);
20         if(stat(file->d_name, &sb) >= 0 && S_ISDIR(sb.st_mode)) continue;
21     }
22     closedir(d);
23     /// \todo student should fill this function
24     return files_count;
25 }

common/common.c
109         fprintf(fp, "%d\t%d\t%d\t%d\t%d\t%d\n", atoi(yytext), token, lines, pos_start, pos_end)
110         break;
111     default :
112         fprintf(fp, "%s\t%d\t%d\t%d\t%d\t%d\n", yytext, token, lines, pos_start, pos_end);
113     }
114 }
115 fclose(fp);
116 printf("[END]: Analysis completed.\n");
117 }
118
119 /// \brief process all *.cminus file
120 ///
121 /// note that: use relative path for all i/o operations
122 int lex_main(int argc, char **argv){
123     char filename[10][256];
124     char output_file_name[256];
125     char suffix[10] = ".tokens";
```

Merge Conflict in Lab 2

更改完成之后
检查和提交

```
# Changes to be committed:
#
#   new file:   .gitignore
#   new file:   CMINUS.md
#   new file:   CMakeLists.txt
#   modified:   README.md
#   new file:   cminus_compiler.c
#   new file:   common/CMakeLists.txt
#   new file:   common/common.c
#   new file:   common/common.h
#   new file:   do_cmake.sh
#   new file:   lab1_lexical_analyzer/CMakeLists.txt
#   new file:   lab1_lexical_analyzer/lexical_analyzer.c
#   new file:   lab1_lexical_analyzer/lexical_analyzer.h
#   new file:   lab1_lexical_analyzer/test_lex.c
#   modified:   "lab1_lexical_analyzer/\350\257\204\345\210\206\
#   new file:   lab2_syntax_analyzer/Bison_Tutorial.md
#   new file:   lab2_syntax_analyzer/CMakeLists.txt
#   new file:   lab2_syntax_analyzer/README.md
#   new file:   lab2_syntax_analyzer/syntax_analyzer.y
#   new file:   lab2_syntax_analyzer/test_syntax.c
#   new file:   "lab2_syntax_analyzer/\347\274\226\350\257\221\3
f"
#   new file:   syntax_tree/CMakeLists.txt
#   new file:   syntax_tree/SyntaxTree.c
#   new file:   syntax_tree/SyntaxTree.h
#   new file:   syntax_tree/test_tree.c
#   new file:   testcase
#   new file:   tokens
#
# Unmerged paths:
#   (use "git add <file>..." to mark resolution)
#
#       both modified:   lab1_lexical_analyzer/lexical_analyzer.l
#
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be committed)
#   (use "git checkout -- <file>..." to discard changes in working directory)
#
#       modified:   common/common.c
#
(0) Mon Oct 14 09:53:10 [ceph@node16 ~/test2/compiler_cminus] (master)
$ git commit -am "[LAB2] First merge"
```

```
(0) Mon Oct 14 09:54:47 [ceph@node16 ~/test2/compiler_cminus] (master)
$ git log --oneline | head -n 5
0fe0fa1 [LAB2] First merge
7e9ba8f [LAB1] Student finish
b1f854e add comma in lex token enum
ef08e73 Update 迟交请邮件提醒
da8d8c4 Upload New File

(0) Mon Oct 14 09:54:50 [ceph@node16 ~/test2/compiler_cminus] (master)
$ git status
# On branch master
# Your branch is ahead of 'origin/master' by 19 commits.
#   (use "git push" to publish your local commits)
#
nothing to commit, working directory clean
```


Merge Conflict in Lab 2

```
(0) Mon Oct 14 09:55:47 [ceph@node16 ~/test2/compiler_cminus] (master)
```

```
$ git merge upstream/master
```

```
Auto-merging lab1_lexical_analyzer/lexical_analyzer.l
```

```
Merge made by the 'recursive' strategy.
```

.gitignore	3	+-
CMakeLists.txt	4	+-
How-to-use-cmake.md	55	+++++
lab1_lexical_analyzer/TA_tokens/gcd.tokens	5	+-
lab1_lexical_analyzer/lexical_analyzer.l	2	-
lab1_lexical_analyzer/testcase/gcd.cminus	2	+-
lab2_syntax_analyzer/TA_syntree/gcd.syntax_tree	287	+++++
lab2_syntax_analyzer/syntax_analyzer.y	2	+
syntax_tree/SyntaxTree.c	18	+++++
syntax_tree/SyntaxTree.h	1	+
syntree/.gitkeep	0	

```
11 files changed, 370 insertions(+), 9 deletions(-)
```

```
create mode 100644 How-to-use-cmake.md
```

```
create mode 100644 lab2_syntax_analyzer/TA_syntree/gcd.syntax_tree
```

```
create mode 100644 syntree/.gitkeep
```

无冲突的merge

Git merge conflict

- vs code + git project manager (插件)

```
lab1_lexical_analyzer > testcase > gcd.cminus
1  int gcd (int u, int v) { /* calculate the gcd of u and v */
2      if (v == 0) return u;
3      else return gcd(v, u - u / v * v); /* v,u-u/v*v is equals t
4  }
5  int main(void) {
6      int x; int y; int temp;
7      <<<<<<< HEAD (当前更改)
8          x = 16;
9          y = 20;
10     =====
11         x = 20;
12         y = 16;
13     >>>>>>> assistant (传入的更改)
14     if (x<y) {
15         temp = x;
16         x = y;
17         y = temp;
18     }
19     gcd(x,y);
20     return 0;
21 }
22
```

Git merge conflict

廖雪峰的官方网站

<https://www.liaoxuefeng.com/wiki/896043488029600/900004111093344>



GitHub Help [GitHub.com](#) ▾

<https://help.github.com/en/articles/resolving-a-merge-conflict-using-the-command-line>



git --fast-version-control

<https://git-scm.com/book/zh/v2>

- 如何从助教发布的项目获取更新
 - Git分支与远程分支
 - 合并(Merge)分支及出现冲突时的解决方法
- lab 2说明
 - doc
 - testcase
 - ddl extension
 - merge request
- lab 3提前说明

- 提交说明

- http://210.45.114.30/staff/compiler_cminus/blob/master/lab2_syntax_analyzer/doc/lab2_report.md

- Testcase

- Cminus产生式:
http://210.45.114.30/staff/compiler_cminus/blob/master/lab1_lexical_analyzer/CMINUS.md
- testcases:
http://210.45.114.30/staff/compiler_cminus/blob/master/lab1_lexical_analyzer/testcase/
- 14个testcase, 基本涵盖29个产生式, 评分时会对testcase做扩充
- testcase中一些会Fail, 此时语法树的输出文件是个空文件 (这才正确)

- DDL extension
 - 因git merge conflict, testcase等因素, lab2提交截止日期推迟到
10月17日23:59:59
- Merge request
 - 新增testcases以及实验报告要求, 需要再merge一次, 增量式的修改, 没有conflict

Lab3 提前说明



- Lab3 使用LLVM生成IR
- 2人一组完成实验，请先自行组队