

Experiment: Barrier Synchronization

Use the tester program to do the following

1. Create a new barrier group with gid 1 and number of processes 3.
`./tester 1 3`

```
My PID is: 7232
Going to print from 0 to 9, calling block after 4
0
1
2
3
4
Calling block
```

2. See the current stats using the sysfs interface:

```
cat /sys/barrier/stats
```

```
Group ID           : 1
Total no. of procs : 3
No. of blocked procs: 1
PIDs               : 7232
```

3. Create a new barrier group with gid 2 and number of processes 2.
`./tester 2 2`

```
My PID is: 7262
Going to print from 0 to 9, calling block after 4
0
1
2
3
4
```

4. See the current stats using the sysfs interface:

```
cat /sys/barrier/stats
```

```
Group ID           : 1
```

```
Total no. of procs : 3
No. of blocked procs: 1
PIDs                : 7232
```

```
Group ID            : 2
Total no. of procs  : 2
No. of blocked procs: 1
PIDs                : 7262
```

5. Create a new barrier group with gid 3 and number of processes 2.

```
./tester 3 2
```

My PID is: 7374

Going to print from 0 to 9, calling block after 4

```
0
1
2
3
4
```

6. See the current stats using the sysfs interface:

```
cat /sys/barrier/stats
```

```
Group ID            : 1
Total no. of procs  : 3
No. of blocked procs: 1
PIDs                : 7232
```

```
Group ID            : 2
Total no. of procs  : 2
No. of blocked procs: 1
PIDs                : 7262
```

```
Group ID            : 3
Total no. of procs  : 2
No. of blocked procs: 1
PIDs                : 7374
```

7. Add a process instance to the group with gid 1

```
./tester 1
```

My PID is: 7405

Going to print from 0 to 9, calling block after 4

```
0
1
2
```

3
4

- ```
cat /sys/barrier/stats
```

```

Group ID : 1
Total no. of procs : 3
No. of blocked procs: 2
PIDs : 7232 7405

```

```
Group ID : 2
Total no. of procs : 2
No. of blocked procs: 1
PIDs : 7262
```

```
Group ID : 3
Total no. of procs : 2
No. of blocked procs: 1
PIDs : 7374
```

- ```
./tester 2
```

<<<<<<<<OUTPUT FROM INSTANCE 1 of GROUP 2>>>>>>>>

Out of block

5

6

7

8

9

```
<<<<<<<<OUTPUT FROM INSTANCE 2 of GROUP 2 (current process)>>>>>>>>
```

My PID is: 7438

Going to print from 0 to 9, calling block after 4

0

1

2

3

4

Calling block

Out of block

5

6

7

8

9

10. See the current stats using the sysfs interface:

```
Group ID      : 1
Total no. of procs : 3
No. of blocked procs: 2
PIDs         : 7232 7405
```

11. See the stats of GROUP 1 using the sysfs interface:

```
Group ID      : 1
Total no. of procs : 3
No. of blocked procs: 2
PIDs         : 7232 7405
```

```
./tester 1
```

Out of block

6

7

8

9

<<<<<<<OUTPUT FROM INSTANCE 2 of GROUP 1>>>>>>>

Out of block

6

7

8

9

```
<<<<<<<<OUTPUT FROM INSTANCE 3 of GROUP 1 (current process)>>>>>>>>
```

My PID is: 7683

Going to print from 0 to 9, calling block after 4

0

1

```
2
3
4
Calling block
Out of block
5
6
7
8
9
```

13. See the current stats using the sysfs interface:
`cat /sys/barrier/stats`

```
Group ID           : 3
Total no. of procs : 2
No. of blocked procs: 1
PIDs               : 7374
```