CHAPTER 18

Examples

1   This chapter contains various code examples that PMIx users may find helpful.

18.1   Example C Code

3   Example block of C code

```c
int main() {
    printf("Hello World!\n");
    return 0;
}
```

4   The inline code `printf("Hello World");` prints "Hello World".

5   Example of a selection of a file:

```c
/* Fence to hold all processes in this namespace */
pmix_proc_t wildproc;
PMIX_PROC_CONSTRUCT(&wildproc);
(void)strncpy(wildproc.nspace, myproc.nspace, PMIX_MAX_NSLEN);
wildproc.rank = PMIX_RANK_WILDCARD;

rc = PMIx_Fence(&wildproc, 1, NULL, 0);
if (PMIX_SUCCESS != rc) {
    fprintf(stderr,
            "Client ns %s rank %d: PMIx_Fence failed: %s\n",
            myproc.nspace, myproc.rank, PMIx_Error_string(rc));
    goto done;
}
```

6   Example with highlighting:

```c
/* Fence to hold all processes in this namespace */
pmix_proc_t wildproc;
PMIX_PROC_CONSTRUCT(&wildproc);
(void)strncpy(wildproc.nspace, myproc.nspace, PMIX_MAX_NSLEN);
```

```
5  wildproc.rank = PMIX_RANK_WILDCARD;
6
7  rc = PMIx_Fence(&wildproc, 1, NULL, 0);
8  if (PMIX_SUCCESS != rc) {
9      fprintf(stderr,
10             "Client ns %s rank %d: PMIx_Fence failed: %s\n",
11             myproc.nspace, myproc.rank, PMIx_Error_string(rc));
12     goto done;
13 }
```

18.2 Example C Code from Preprocessor

Example of a selection of a file:

```
1  pmix_status_t rc = PMIX_SUCCESS;
2  pmix_proc_t myproc;
3
4  rc = PMIx_Init(&myproc, NULL, 0);
5  if (PMIX_SUCCESS != rc) {
6      return 1;
7  }
```

Example with highlighting:

```
1  pmix_status_t rc = PMIX_SUCCESS;
2  pmix_proc_t myproc;
3  pmix_value_t *val;
4  uint16_t localrank;
5
6  /* Get our rank local to this node */
7  rc = PMIx_Get(&myproc, PMIX_LOCAL_RANK, NULL, 0, &val);
8  if (PMIX_SUCCESS != rc) {
9      return 2;
10 }
11 localrank = val->data.uint16;
12 PMIX_VALUE_RELEASE(val);
```

Another example

```
1  pmix_status_t rc = PMIX_SUCCESS;
2  pmix_proc_t myproc;
3
```

```
4  rc = PMIx_Init(&myproc, NULL, 0);
5  if (PMIX_SUCCESS != rc) {
6      return 1;
7  }
```

18.3 Example Python Code from Preprocessor

The inline code `print("Hello World")` prints "Hello World".

Another example

```
1  client_hdl = PMIxClient()
2
3  info = []
4  (rc,myproc) = client_hdl.init(info)
5  if 0 != rc:
6      exit(1)
```

18.4 Synchronizing Fence

This example shows how to call a synchronizing **PMIx_Fence** operation across the entire
namespace. To signify the entire namespace we are using the **PMIX_RANK_WILDCARD** constant.

```
1  /* Fence to hold all processes in this namespace */
2  pmix_proc_t wildproc;
3  PMIX_PROC_CONSTRUCT(&wildproc);
4  (void)strncpy(wildproc.nspace, myproc.nspace, PMIX_MAX_NSLEN);
5  wildproc.rank = PMIX_RANK_WILDCARD;
6
7  rc = PMIx_Fence(&wildproc, 1, NULL, 0);
8  if (PMIX_SUCCESS != rc) {
9      fprintf(stderr,
10             "Client ns %s rank %d: PMIx_Fence failed: %s\n",
11             myproc.nspace, myproc.rank, PMIx_Error_string(rc));
12     goto done;
13 }
```