

# Operating

The newer and more robust way of processing your chains is through the process called operating.

## C++ Workflow

### Using a Lambda

You can easily operate on your chain via a C++ lambda and this is how you do it:

```
Chain->Operate([](const FChain::FCursor& Cursor, FMyTrait Trait)
{
    ...
});
```

The type of cursor here must match the type of the chain used. Note that you're not allowed to acquire a reference to the trait while processing a non-solid chain, only its copy. So in order to operate on a solid chain, you could do something like this:

```
SolidChain->Operate([](const FSolidChain::FCursor& Cursor, FMyTrait& Trait)
{
    ...
});
```

Now you can change the properties (fields) of the trait directly, without copying involved.

## Concurrency

Solid Chains also support a special type of operating - a multi-threaded one. The function to call is explicitly named with a `Concurrently` prefix and accepts two more arguments: the maximum number of tasks to utilize and the minimum number of slots per each such task. For example:

```
SolidChain->OperateConcurrently([](const FSolidChain::FCursor& Cursor,
FMyTrait& Trait)
{
    ...
}, 4, 32);
```

The second parameter helps to also limit the number of tasks. If there are too little slots available,

excessive tasks not needed for that quantity won't be queued at all.

From:

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Last update: **2021/08/28 21:15**

