

# Creating Proxies with an Object Adapter



Proxies are created as a side-effect of using the [servant activation operations](#), but the [life cycle](#) of proxies is completely independent from that of servants. The `ObjectAdapter` interface provides several operations for creating a proxy for an object, regardless of whether a servant is currently activated for that object's [identity](#):

## Slice

```
module Ice
{
    local interface ObjectAdapter
    {
        Object* createProxy(Identity id);
        Object* createDirectProxy(Identity id);
        Object* createIndirectProxy(Identity id);
        // ...
    }
}
```

These operations are described below:

- `createProxy`  
The `createProxy` operation returns a new proxy for the object with the given identity. The adapter's configuration determines whether the return value is a [direct proxy](#) or an [indirect proxy](#). If the adapter is configured with an [adapter ID](#), the operation returns an indirect proxy that refers to the adapter ID. If the adapter is also configured with a [replica group ID](#), the operation returns an indirect proxy that refers to the replica group ID. Otherwise, if an adapter ID is not defined, `createProxy` returns a direct proxy containing the adapter's [published endpoints](#).
- `createDirectProxy`  
The `createDirectProxy` operation returns a direct proxy containing the adapter's [published endpoints](#).
- `createIndirectProxy`  
The `createIndirectProxy` operation returns an [indirect proxy](#). If the adapter is configured with an adapter ID, the returned proxy refers to that adapter ID. Otherwise, the proxy refers only to the object's identity.

In contrast to `createProxy`, `createIndirectProxy` does not use the replica group ID. Therefore, the returned proxy always refers to a specific replica.

After using one of the operations discussed above to create a proxy, you will receive a proxy that is configured by default for twoway invocations. If you require the proxy to have a different configuration, you can use the [proxy factory methods](#) to create a new proxy with the desired configuration. As an example, the code below demonstrates how to configure the proxy for oneway invocations:

## C++11

```
std::shared_ptr<Ice::ObjectAdapter> adapter = ...;
Ice::Identity id = ...;
auto proxy = adapter->createProxy(id)->ice_oneway();
```

## C++98

```
Ice::ObjectAdapterPtr adapter = ...;
Ice::Identity id = ...;
Ice::ObjectPrx proxy = adapter->createProxy(id)->ice_oneway();
```

You can also instruct the object adapter to use a different default proxy configuration by setting the property `name.ProxyOptions`. For example, the following property causes the object adapter to return proxies that are configured for oneway invocations by default:

```
MyAdapter.ProxyOptions=-o
```

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## See Also

- [Servant Activation and Deactivation](#)
- [Object Life Cycle](#)
- [Object Identity](#)

- Terminology
- Object Adapter Endpoints
- Object Adapter Replication
- Proxy Methods
- Object Adapter Properties

