

Large Inter-Language Binding Class (LILBC)

Example: PyCLIENT is a C++ class bound using Pybind11, which is called in Python through the function name CLIENT, as shown in Listing 1. Twenty-nine functions are bound to this class, and the binding process employs the alias PY_LOCAL_CLIENT¹. Despite this, we have not observed bindings through this alias elsewhere.

```
1 py::class_<PyClient, std::shared_ptr<PyClient>> py_local_client(m, "Client");
2   py_local_client.def_property_readonly("platform", &PyClient::platform_name)
3   .def_property_readonly("platform_version", &PyClient::platform_version)
4   .def_property_readonly("runtime_type", &PyClient::runtime_type)
5   .def("device_count", &PyClient::device_count)
6
7   ...
8
74  .def("emit_python_callback", &PyClient::EmitPythonCallback,
75      py::arg("callable"), py::arg("builder"), py::arg("operands"),
76      py::arg("result_shapes"), py::arg("operand_layouts") = std::nullopt,
77      py::arg("has_side_effects") = false);
```

Listing 1. Design Smell - Large Inter-language Binding Class

¹<https://github.com/tensorflow/tensorflow/blob/v2.12.0/tensorflow/compiler/xla/python/xla.cc>[230-306]