How to write your floodlight module
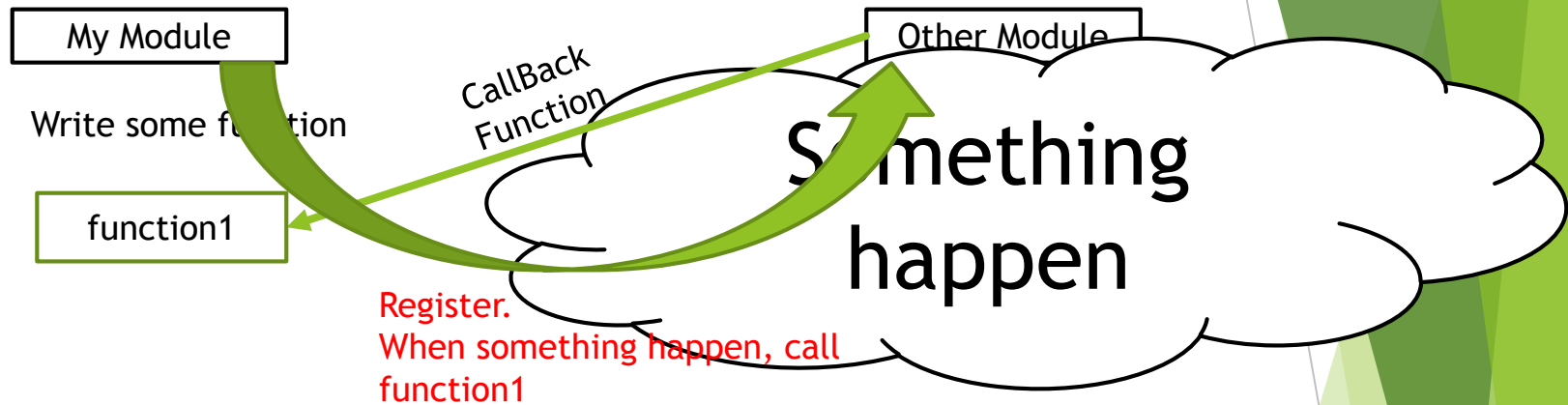
Create floodlight eclipse project

- ant eclipse

Architecture (cont'd)

My Module → Call Function → Other Module

I want to know something

Architecture (cont'd)

My Module

Write some function

function1

CallBack Function

Other Module

Something happen

Register.
When something happen, call function1
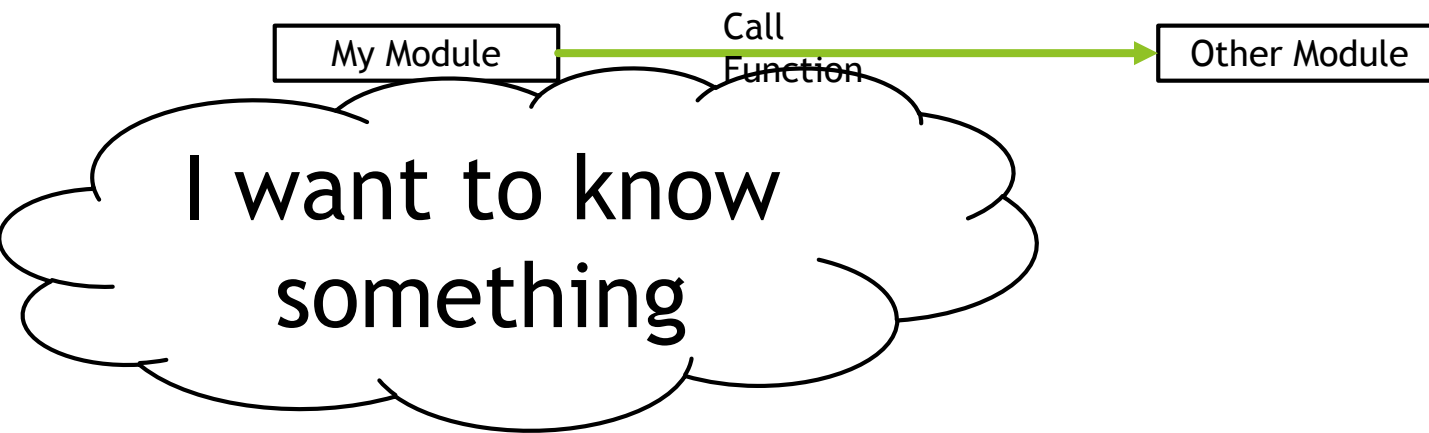
Basic module

- Inheritance IFloodlightModule
- Override some functions
  - getModuleServices (optional)
    - Return the list of interfaces that this module implements.
  - getServiceImpls (optional)
    - Instantiate (as needed) and return objects that implement each of the services exported by this module
  - getModuleDependencies (optional)
    - Get a list of Modules that this module depends on.
  - Init
  - startUp

Basic module (Cont.)

- Inheritance IOFMessageListener
- Override some functions
  - getName
    - The name assigned to this listener
  - isCallbackOrderingPrereq (optional)
    - Check if the module called name is a callback ordering post-requisite for this module.
  - isCallbackOrderingPostreq (optional)
    - Check if the module called name is a callback ordering prerequisite for this module.

Service

- IDeviceService
- ILinkDiscoveryService
- IRestApiService
- IStorageSourceService
- ITopologyService
- IRoutingService.java
- IVirtualNetworkService
- ....

IDeviceService

- Device (MAC,IPV4,VLAN,Switch,port)
- findDevice
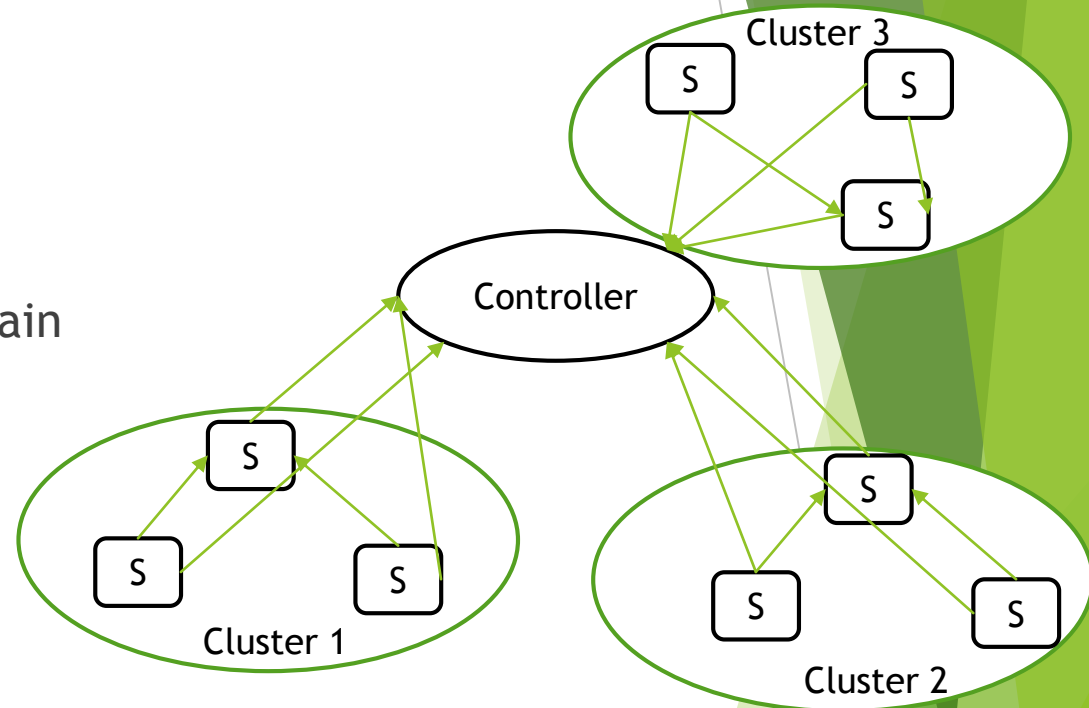- getDevices
- getAllDevices

ILinkDiscoveryService

- isTunnelPort
- getLinks
- getLinkType
- generateLLDPMessage
- getSwitchLinks

IRestApiService

- addRestletRoutable

ITopologyService

- getOpenflowDomainId
- inSameOpenflowDomain
- getSwitchesInOpenflowDomain
- getBlockedPorts
- getPorts

IRoutingService.java

- getRoute (dijkstra)
- getRoutes
- routeExists

Listener

- IOFSwitchListener
- IOFMessageListener
- IDeviceListener
- ILinkDiscoveryListener
- ITopologyListener
- ....

IOFSwitchListener

- addedSwitch
- removedSwitch
- switchPortChanged

IDeviceListener

- deviceAdded
- deviceRemoved
- deviceMoved
- deviceIPV4AddrChanged

ILinkDiscoveryListener

- linkDiscoveryUpdate
  - srcDpid,srcPort,dstDpid,dstPort,SwitchType,LinkType,Operation
  - SwitchType
    - BASIC_SWITCH, CORE_SWITCH
  - LinkType
    - direct,multihop,tunnel
  - Operation:
    - Link updated/removed
    - port up/down
    - switch updated/removed
    - Tunnel port added/removed

ITopologyListener

- topologyChanged

Reference modules

- learningswitch
- loadbalancer