

Defining and Requiring Modules

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Defining and Requiring Modules

- Using the `require()` and `define()` functions.
- Asynchronous Module Definition (`AMD`)
- `Module` Design Pattern
- `AMD` vs `CommonJS` syntax.

require() Function Parameters

- `require({dependencyArray}, {callbackFunction});`
`require(["m1", "m2"], function (m1, m2) { ... });`

define() Function Parameters

- When defining a module **inline** with other code:

```
define({moduleNameString}, {dependencyArray}, {callbackFunction});
```

- Simplified **CommonJS** Wrapper:

```
define({moduleNameString}, function(require, exports, module) {  
  var {module} = require({moduleName});  
  exports.{publicMember} = {publicValue};  
});
```

Asynchronous Module Definition (AMD)

- AMD stemmed from CommonJS module APIs
- Originally proposed as “CommonJS Transport/C”
- AMD modules can be loaded by any AMD module loader
 - Require.js
 - Curl.js
- **For More Information, See:**
 - <http://requirejs.org/docs/whyamd.html>
 - <https://github.com/amdjs/amdjs-api/wiki/AMD>
 - <http://wiki.commonjs.org/wiki/CommonJS>

Module Design Patterns

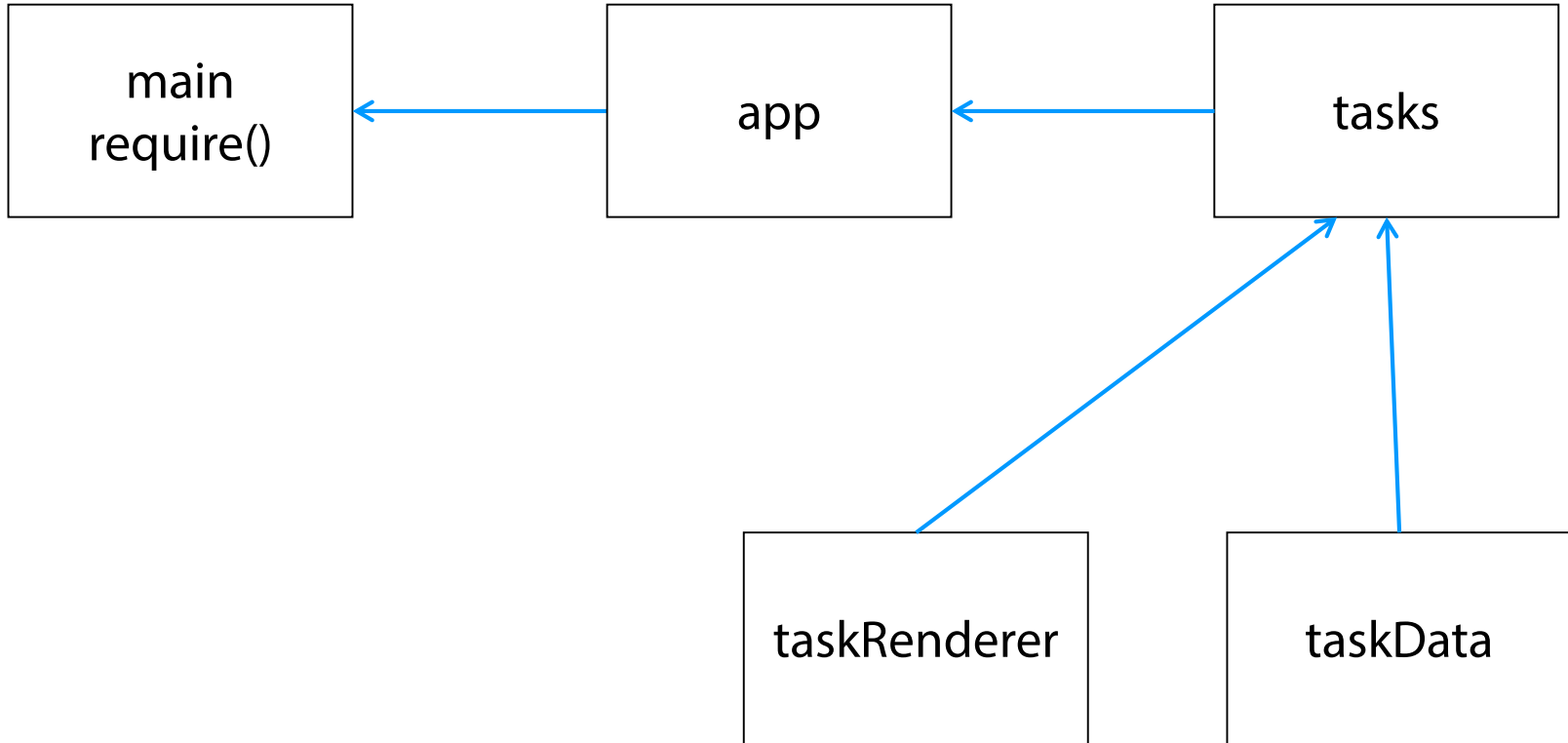
Module Pattern

```
var myModule = (function () {  
    "use strict";  
  
    // define "private" members  
    var iAmPrivate = "private";  
  
    // return an object exposing "public" members  
    return {  
        iAmPublic: "public"  
    };  
})();  
  
myModule.iAmPublic; // returns "public"  
myModule.iAmPrivate; // returns undefined
```

Revealing Module Pattern

```
var myModule = (function () {  
    "use strict";  
  
    // define all members  
    var iAmPrivate = "private";  
    var iAmPublic = "public";  
  
    // return an object exposing "public" members  
    return {  
        iAmPublic: iAmPublic  
    };  
})();  
  
myModule.iAmPublic; // returns "public"  
myModule.iAmPrivate; // returns undefined
```

Module Dependencies



Summary

- The **define()** function is used to define a module.
 - Standard AMD syntax.
 - Simplified CommonJS Wrapper syntax.
- The **require()** function is used to load an initial set of modules.
- Each module is identified by a **string name**.
- RequireJS is one implementation of an **AMD** module loader.
- The **Module** and **Revealing Module** design patterns fit well with AMD modules.