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- Namespaces and modules are two concepts that help you to organize your TypeScript code by partitioning them in some logical fashion
- namespace MyFirstNamespace {
  export let homeworld = "Jakku";
  export function sayName() { alert("Rey"); };
  }
  alert(MyFirstNamespace.homeworld);
  MyFirstNamespace.sayName();
  namespace MyFirstNamespace {
  export class Jedi { }
- export interface RebelScum { }
- }

### Namespaces

- JavaScript code produced from this TypeScript code:
- "use strict";
- var MyFirstNamespace;
- (function (MyFirstNamespace) {
- MyFirstNamespace.homeworld = "Jakku";
- function sayName() { alert("Rey"); }
- MyFirstNamespace.sayName = sayName;
- ;
- })(MyFirstNamespace | | (MyFirstNamespace = {}));
- alert(MyFirstNamespace.homeworld);
- MyFirstNamespace.sayName();

- TypeScript uses the IIFE (Immediately Invoked Function Expression) pattern to keep the namespace's contents separate from everything else on the page when the code finally executes
- namespace MyFirstNamespace {
- export let homeworld = "Jakku";
- }
- const homeworld = "Coruscant";
- alert(MyFirstNamespace.homeworld); // Jakku
- alert(homeworld); // Coruscant

- namespaces can break into multiple files:
- // app.ts
- SomeNS.someFunc1();
- SomeNS.someFunc2();
- // file1.ts
- namespace SomeNS { export someFunc1() { } }
- // file2.ts
- namespace SomeNS { export someFund2() { } }

- To use it import both of the resultant .js files (file1.js and file2.js) in the HTML file
- Also need to import app.js
- Instead of having to import multiple .js files in the HTML document, you can instead have tsc bundle them for you:
- tsc --outFile main.js file1.ts file2.ts app.ts
- When bundling like this, you must be aware that order can matter. The files are concatenated in the order you provide

- TypeScript-specific syntax for important namespaces, the /// symbol.
- To use it, in the app.ts file,
- /// <reference path="file1.ts" />
- /// <reference path="file2.ts" />
- TypeScript, at compile time, will take care of bundling those files together.
- Once you have the code bundled
- import h = MyFirstNamespace.homeworld;
- alert(h) to see "Jakku."

## Nested namespace

- namespace SomeNS {
- export namespace InnerNS {
- export someFunc() { }
- }
- }
- SomeNS.InnerNS.someFunc();
- To use it:
- import sf = SomeNS.InnerNS.someFunc;
- sf();

- namespaces are more lightweight and are purely about code organization
- classes are about things
- interfaces are about contracts

```
    // Variable

  export let captain = "Picard";

    // Interface

 export interface CaptainChecker {
  isGreat(inName: string): boolean;
  // Function
   export function addFirst(inLast: string): string {
  return "Jean Luc" + inLast;
   // Class
  export class Ship {
   const name = "Enterprise";
   // Type alias
   export type cap = captain;
```

- Import { addFirst } from "./MyModule"
- execute it like any other function:
- addFirst("Riker"); // Wrong last name, but not the point!
- Alternatively, you could write your module like so:
- function addFirst(inLast: string): string {
- return "Jean Luc " + inLast;
- }
- export addFirst;

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- export { addFirst as myAddFirstFunc }
- If you want to import an entire module, there is a handy shortcut for that:
- import \* as TheModule from "./MyModule"
- export default let captain = "Picard";
- What that does for you is that now your import can be this:
- import cap from "./MyModule"



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