

Info

This example illustrates webpack's algorithm for automatic deduplication using `optimization.splitChunks`.

This example application contains 7 pages, each importing 1-3 modules from the `node_modules` folder (vendor libs) and 0-3 modules from the `stuff` folder (application modules). In reality, an application is probably more complex, but the same mechanisms apply.

The following configuration is used:

- `optimization.splitChunks.chunks: "all"` - This opt-in into automatic splitting of initial chunks which is off by default
- `optimization.splitChunks.maxInitial/AsyncRequests: 20` - This opt-in into an HTTP2 optimized splitting mode by increasing the allowed amount of requests. The browser only supports 6 requests in parallel for HTTP1.1.

Interpreting the result

- `pageA.js` the normal output files for the entrypoint `pageA`
- `vendors~pageD~pageE~pageF~pageG.js` vendor libs shared by these pages extracted into a separate output file when larger than the threshold in size
- `vendors~pageA.js` vendors only used by a single page but larger than the threshold in size
- `pageA~pageD~pageF.js` application modules shared by these pages and larger than the threshold in size

Here, the threshold is 40 bytes but by default (in a real application) 30kb.

Some modules are intentionally duplicated, i. e. `./stuff/s4.js` is shared by `pageA` and `pageC`, but it's the only shared module so no separate output file is created because it would be smaller than the threshold. A separate request (which comes with an overhead and worsen gzipping) is not worth the extra bytes.

Note: decreasing `maxInitial/AsyncRequest` will increase duplication further to reduce the number of requests. Duplication doesn't affect the initial page load, it only affects download size of navigations to other pages of the application.

webpack.config.js

```
module.exports = {
  // mode: "development" || "production",
  entry: {
    pageA: "./pages/a",
    pageB: "./pages/b",
    pageC: "./pages/c",
    pageD: "./pages/d",
    pageE: "./pages/e",
    pageF: "./pages/f",
    pageG: "./pages/g"
  },
  optimization: {
    splitChunks: {
      chunks: "all",
```

```

    maxInitialRequests: 20, // for HTTP2
    maxAsyncRequests: 20, // for HTTP2
    minSize: 40 // for example only: chosen to match 2 modules
    // omit minSize in real use case to use the default of 30kb
  }
}
};

```

Production mode

```

assets by chunk 772 bytes (id hint: vendors)
  asset 115.js 164 bytes [emitted] [minimized] (id hint: vendors)
  asset 833.js 164 bytes [emitted] [minimized] (id hint: vendors)
  asset 402.js 111 bytes [emitted] [minimized] (id hint: vendors)
  asset 497.js 111 bytes [emitted] [minimized] (id hint: vendors)
  asset 730.js 111 bytes [emitted] [minimized] (id hint: vendors)
  asset 777.js 111 bytes [emitted] [minimized] (id hint: vendors)
asset pageC.js 1.26 KiB [emitted] [minimized] (name: pageC)
asset pageB.js 1.26 KiB [emitted] [minimized] (name: pageB)
asset pageD.js 1.18 KiB [emitted] [minimized] (name: pageD)
asset pageF.js 1.18 KiB [emitted] [minimized] (name: pageF)
asset pageA.js 1.18 KiB [emitted] [minimized] (name: pageA)
asset pageE.js 1.17 KiB [emitted] [minimized] (name: pageE)
asset pageG.js 1.15 KiB [emitted] [minimized] (name: pageG)
asset 505.js 140 bytes [emitted] [minimized]
chunk (runtime: pageA, pageB, pageC) 115.js (id hint: vendors) 86 bytes [initial]
[rendered] split chunk (cache group: defaultVendors)
  > ./pages/a pageA
  > ./pages/b pageB
  > ./pages/c pageC
    ./node_modules/m1.js 43 bytes [built] [code generated]
    ./node_modules/m2.js 43 bytes [built] [code generated]
chunk (runtime: pageB) pageB.js (pageB) 199 bytes (javascript) 3.02 KiB (runtime)
[entry] [rendered]
  > ./pages/b pageB
    runtime modules 3.02 KiB 5 modules
    dependent modules 93 bytes [dependent] 3 modules
    ./pages/b.js 106 bytes [built] [code generated]
chunk (runtime: pageC) pageC.js (pageC) 199 bytes (javascript) 3.02 KiB (runtime)
[entry] [rendered]
  > ./pages/c pageC
    runtime modules 3.02 KiB 5 modules
    dependent modules 93 bytes [dependent] 3 modules
    ./pages/c.js 106 bytes [built] [code generated]
chunk (runtime: pageE) pageE.js (pageE) 93 bytes (javascript) 3.02 KiB (runtime)
[entry] [rendered]
  > ./pages/e pageE
    runtime modules 3.02 KiB 5 modules
    dependent modules 31 bytes [dependent] 1 module
    ./pages/e.js 62 bytes [built] [code generated]
chunk (runtime: pageC) 402.js (id hint: vendors) 43 bytes [initial] [rendered] split

```

```

chunk (cache group: defaultVendors)
  > ./pages/c pageC
  ./node_modules/m5.js 43 bytes [built] [code generated]
chunk (runtime: pageA) pageA.js (pageA) 137 bytes (javascript) 3.02 KiB (runtime)
[entry] [rendered]
  > ./pages/a pageA
  runtime modules 3.02 KiB 5 modules
  dependent modules 31 bytes [dependent] 1 module
  ./pages/a.js 106 bytes [built] [code generated]
chunk (runtime: pageB) 497.js (id hint: vendors) 43 bytes [initial] [rendered] split
chunk (cache group: defaultVendors)
  > ./pages/b pageB
  ./node_modules/m4.js 43 bytes [built] [code generated]
chunk (runtime: pageA, pageD, pageF) 505.js 62 bytes [initial] [rendered] split chunk
(cache group: default)
  > ./pages/a pageA
  > ./pages/d pageD
  > ./pages/f pageF
  ./stuff/s2.js 31 bytes [built] [code generated]
  ./stuff/s3.js 31 bytes [built] [code generated]
chunk (runtime: pageG) pageG.js (pageG) 67 bytes (javascript) 3.02 KiB (runtime)
[entry] [rendered]
  > ./pages/g pageG
  runtime modules 3.02 KiB 5 modules
  dependent modules 31 bytes [dependent] 1 module
  ./pages/g.js 36 bytes [built] [code generated]
chunk (runtime: pageD) pageD.js (pageD) 137 bytes (javascript) 3.02 KiB (runtime)
[entry] [rendered]
  > ./pages/d pageD
  runtime modules 3.02 KiB 5 modules
  dependent modules 31 bytes [dependent] 1 module
  ./pages/d.js 106 bytes [built] [code generated]
chunk (runtime: pageA) 730.js (id hint: vendors) 43 bytes [initial] [rendered] split
chunk (cache group: defaultVendors)
  > ./pages/a pageA
  ./node_modules/m3.js 43 bytes [built] [code generated]
chunk (runtime: pageD, pageE, pageF, pageG) 777.js (id hint: vendors) 43 bytes
[initial] [rendered] split chunk (cache group: defaultVendors)
  > ./pages/d pageD
  > ./pages/e pageE
  > ./pages/f pageF
  > ./pages/g pageG
  ./node_modules/m6.js 43 bytes [built] [code generated]
chunk (runtime: pageF) pageF.js (pageF) 137 bytes (javascript) 3.02 KiB (runtime)
[entry] [rendered]
  > ./pages/f pageF
  runtime modules 3.02 KiB 5 modules
  dependent modules 31 bytes [dependent] 1 module
  ./pages/f.js 106 bytes [built] [code generated]
chunk (runtime: pageD, pageE, pageF) 833.js (id hint: vendors) 86 bytes [initial]
[rendered] split chunk (cache group: defaultVendors)
  > ./pages/d pageD

```

```
> ./pages/e pageE
> ./pages/f pageF
./node_modules/m7.js 43 bytes [built] [code generated]
./node_modules/m8.js 43 bytes [built] [code generated]
webpack 5.51.1 compiled successfully
```