

A common challenge with combining `[chunkhash]` and Code Splitting is that the entry chunk includes the webpack runtime and with it the chunkhash mappings. This means it's always updated and the `[chunkhash]` is pretty useless because this chunk won't be cached.

A very simple solution to this problem is to create another chunk that contains only the webpack runtime (including chunkhash map). This can be achieved with `optimization.runtimeChunk` options. To avoid the additional request for another chunk, this pretty small chunk can be inlined into the HTML page.

The configuration required for this is:

- use `[chunkhash]` in `output.filename` (Note that this example doesn't do this because of the example generator infrastructure, but you should)
- use `[chunkhash]` in `output.chunkFilename` (Note that this example doesn't do this because of the example generator infrastructure, but you should)

example.js

```
// some module
import("./async1");
import("./async2");
```

webpack.config.js

```
var path = require("path");
module.exports = {
  // mode: "development" || "production",
  entry: {
    main: "./example"
  },
  optimization: {
    runtimeChunk: true
  },
  output: {
    path: path.join(__dirname, "dist"),
    filename: "[name].[chunkhash].js",
    chunkFilename: "[name].[chunkhash].js"
  }
};
```

index.html

```
<html>
  <head> </head>
  <body>
    <!-- inlined minimized file "runtime~main.[chunkhash].js" -->
    <script>
```

```

        (()=>{"use strict";var e,r,t,o,n={},a={};function i(e){var
r=a[e];if(void 0!==r)return r.exports;var t=a[e]={exports:{}};return n[e]
(t,t.exports,i),t.exports}i.m=n,e=[],i.O=(r,t,o,n)=>{if(!t){var
a=1/0;for(s=0;s<e.length;s++){for(var[t,o,n]=e[s],l=!0,u=0;u<t.length;u++)
(!l&n||a>n)&&Object.keys(i.O).every((e=>i.O[e](t[u])))?t.splice(u--,1):(l=!1,n<a&&
(a=n));if(l){e.splice(s--,1);var f=o();void 0!==f&&(r=f)}}return r}n=n||0;for(var
s=e.length;s>0&&e[s-1][2]>n;s--)e[s]=e[s-1];e[s]=[t,o,n]},t=Object.getPrototypeOf?
e=>Object.getPrototypeOf(e):e=>e.__proto__,i.t=function(e,o){if(l&o&&
(e=this(e)),8&o)return e;if("object"===typeof e&&e){if(4&o&&e.__esModule)return
e;if(16&o&&"function"===typeof e.then)return e}var n=Object.create(null);i.r(n);var
a={};r=r||[null,t({}),t([],t(t))];for(var l=2&o&&e;"object"===typeof
l&&!~r.indexOf(l);l=t(l))Object.getOwnPropertyNames(l).forEach((r=>a[r]=
()=>e[r]));return a.default=()=>e,i.d(n,a,n),i.d=(e,r)=>{for(var t in
r)i.O(r,t)&&!i.O(e,t)&&Object.defineProperty(e,t,{enumerable:!0,get:r[t]}),i.f=
({},i.e=e=>Promise.all(Object.keys(i.f).reduce((r,t)=>(i.f[t](e,r),r)),
[])),i.u=e=>e+".[chunkhash].js",i.o=
(e,r)=>Object.prototype.hasOwnProperty.call(e,r),o={},i.l=(e,r,t,n)=>
{if(o[e])o[e].push(r);else{var a,l;if(void 0!==t)for(var
u=document.getElementsByTagName("script"),f=0;f<u.length;f++){var
s=u[f];if(s.getAttribute("src")==e){a=s;break}}a||l=!0,
(a=document.createElement("script")).charset="utf-
8",a.timeout=120,i.nc&&a.setAttribute("nonce",i.nc),a.src=e,o[e]=[r];var c=(r,t)=>
{a.onerror=a.onload=null,clearTimeout(d);var n=o[e];if(delete
o[e],a.parentNode&&a.parentNode.removeChild(a),n&&n.forEach((e=>e(t))),r)return
r(t)},d=setTimeout(c.bind(null,void 0,
{type:"timeout",target:a}),12e4);a.onerror=c.bind(null,a.onerror),a.onload=c.bind(null,
{"undefined"!==typeof
Symbol&&Symbol.toStringTag&&Object.defineProperty(e,Symbol.toStringTag,
{value:"Module"}),Object.defineProperty(e,"__esModule",{value:!0})),i.p="dist/",
(()=>{var e={303:0};i.f.j=(r,t)=>{var o=i.O(e,r)?e[r]:void
0;if(0!==o)if(o)t.push(o[2]);else if(303!=r){var n=new Promise(((t,n)=>o=e[r]=
[t,n]));t.push(o[2]=n);var a=i.p+i.u(r),l=new Error;i.l(a,(t=>{if(i.O(e,r)&&(0!==
(o=e[r])&&(e[r]=void 0),o)){var n=t&&
("load"===t.type?"missing":t.type),a=t&&t.target&&t.target.src;l.message="Loading
chunk "+r+" failed.\n("+n+":
"+a+")",l.name="ChunkLoadError",l.type=n,l.request=a,o[1](l)}),"chunk-"+r,r)}else
e[r]=0},i.O.j=r=>0===e[r];var r=(r,t)=>{var o,n,
[a,l,u]=t,f=0;if(a.some((r=>0!==e[r]))){for(o in l)i.O(l,o)&&(i.m[o]=l[o]);if(u)var
s=u(i)}for(r&&r(t);f<a.length;f++)n=a[f],i.O(e,n)&&e[n]&&e[n][0](),e[a[f]]=0;return
i.O(s)},t=self.webpackChunk=self.webpackChunk||
[];t.forEach(r.bind(null,0)),t.push=r.bind(null,t.push.bind(t))}()})();
</script>

<script src="dist/main.[chunkhash].js"></script>
</body>
</html>

```

dist/runtime~main.[chunkhash].js

```

/*****/ (() => { // webpackBootstrap
/*****/      "use strict";
/*****/      var __webpack_modules__ = ({});

```

► /* webpack runtime code */

```

/*****/
/*****/
/*****/ }) ()
;

```

dist/main.[chunkhash].js

```

(self["webpackChunk"] = self["webpackChunk"] || []).push([[0], [
/* 0 */
/*!*****!\
  !*** ./example.js ***!
  \*****/
/*! unknown exports (runtime-defined) */
/*! runtime requirements: __webpack_require__.e, __webpack_require__.t,
__webpack_require__.s */
****/ ((__unused_webpack_module, __unused_webpack_exports, __webpack_require__) => {

// some module
__webpack_require__.e(/*! import() */
2).then(__webpack_require__.t.bind(__webpack_require__, /*! ./async1 */ 1, 23));
__webpack_require__.e(/*! import() */
3).then(__webpack_require__.t.bind(__webpack_require__, /*! ./async2 */ 2, 23));

****/ })
],
/*****/ __webpack_require__ => { // webpackRuntimeModules
/*****/ var __webpack_exec__ = (moduleId) =>
( __webpack_require__(__webpack_require__.s = moduleId))
/*****/ var __webpack_exports__ = (__webpack_exec__(0));
/*****/ }
]);

```

Info

Unoptimized

```

asset runtime~main.[chunkhash].js 12.2 KiB [emitted] (name: runtime-main)
asset main.[chunkhash].js 873 bytes [emitted] (name: main)
asset 2.[chunkhash].js 285 bytes [emitted]

```

```

asset 3.[chunkhash].js 279 bytes [emitted]
Entrypoint main 13 KiB = runtime~main.[chunkhash].js 12.2 KiB main.[chunkhash].js 873
bytes
chunk (runtime: runtime~main) main.[chunkhash].js (main) 55 bytes [initial] [rendered]
  > ./example main
  ./example.js 55 bytes [built] [code generated]
    [used exports unknown]
  entry ./example main
chunk (runtime: runtime~main) runtime~main.[chunkhash].js (runtime~main) 7.6 KiB
[entry] [rendered]
  > ./example main
  runtime modules 7.6 KiB 10 modules
chunk (runtime: runtime~main) 2.[chunkhash].js 28 bytes [rendered]
  > ./async1 ./example.js 2:0-18
  ./async1.js 28 bytes [built] [code generated]
    [used exports unknown]
  import() ./async1 ./example.js 2:0-18
chunk (runtime: runtime~main) 3.[chunkhash].js 28 bytes [rendered]
  > ./async2 ./example.js 3:0-18
  ./async2.js 28 bytes [built] [code generated]
    [used exports unknown]
  import() ./async2 ./example.js 3:0-18
webpack 5.51.1 compiled successfully

```

Production mode

```

asset runtime~main.[chunkhash].js 2.73 KiB [emitted] [minimized] (name: runtime~main)
asset main.[chunkhash].js 157 bytes [emitted] [minimized] (name: main)
asset 114.[chunkhash].js 69 bytes [emitted] [minimized]
asset 172.[chunkhash].js 69 bytes [emitted] [minimized]
Entrypoint main 2.89 KiB = runtime~main.[chunkhash].js 2.73 KiB main.[chunkhash].js
157 bytes
chunk (runtime: runtime~main) 114.[chunkhash].js 28 bytes [rendered]
  > ./async1 ./example.js 2:0-18
  ./async1.js 28 bytes [built] [code generated]
    [used exports unknown]
  import() ./async1 ./example.js 2:0-18
chunk (runtime: runtime~main) 172.[chunkhash].js 28 bytes [rendered]
  > ./async2 ./example.js 3:0-18
  ./async2.js 28 bytes [built] [code generated]
    [used exports unknown]
  import() ./async2 ./example.js 3:0-18
chunk (runtime: runtime~main) main.[chunkhash].js (main) 55 bytes [initial] [rendered]
  > ./example main
  ./example.js 55 bytes [built] [code generated]
    [no exports used]
  entry ./example main
chunk (runtime: runtime~main) runtime~main.[chunkhash].js (runtime~main) 7.6 KiB
[entry] [rendered]
  > ./example main

```

```
runtime modules 7.6 KiB 10 modules
webpack 5.51.1 compiled successfully
```