

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)
    </script>

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

dist/runtime~main.[chunkhash].js

```
/******/ ((() => { // webpackBootstrap
/******/   "use strict";
/******/   var __webpack_modules__ = ({});
/* webpack runtime code */

/******/ *****/
/******/   // The module cache
/******/   var __webpack_module_cache__ = {};
/******/
/******/   // The require function
/******/   function __webpack_require__(moduleId) {
/******/     // Check if module is in cache
/******/     var cachedModule = __webpack_module_cache__[moduleId];
/******/     if (cachedModule !== undefined) {
/******/       return cachedModule.exports;
/******/     }
/******/     // Create a new module (and put it into the cache)
/******/     var module = __webpack_module_cache__[moduleId] = {
/******/       // no module.id needed
/******/       // no module.loaded needed
/******/       exports: {}
/******/     };
/******/
/******/     // Execute the module function
/******/     __webpack_modules__[moduleId](module, module.exports, __webpack_require__);
/******/
/******/     // Return the exports of the module
/******/     return module.exports;
/******/   }
/******/ }
```

```

/*****/
/*****/ // expose the modules object (__webpack_modules__)
/*****/ __webpack_require__.m = __webpack_modules__;
/*****/

/*****/ /* webpack/runtime/chunk loaded */
/*****/ (() => {
/*****/   var deferred = [];
/*****/   __webpack_require__.O = (result, chunkIds, fn, priority) => {
/*****/     if(chunkIds) {
/*****/       priority = priority || 0;
/*****/       for(var i = deferred.length; i > 0 && deferred[i - 1][2] > priority
/*****/         deferred[i] = [chunkIds, fn, priority];
/*****/       return;
/*****/     }
/*****/     var notFulfilled = Infinity;
/*****/     for (var i = 0; i < deferred.length; i++) {
/*****/       var [chunkIds, fn, priority] = deferred[i];
/*****/       var fulfilled = true;
/*****/       for (var j = 0; j < chunkIds.length; j++) {
/*****/         if ((priority & 1 === 0 || notFulfilled >= priority) && Object.
/*****/           chunkIds.splice(j--, 1);
/*****/         } else {
/*****/           fulfilled = false;
/*****/           if(priority < notFulfilled) notFulfilled = priority;
/*****/         }
/*****/       }
/*****/       if(fulfilled) {
/*****/         deferred.splice(i--, 1)
/*****/         var r = fn();
/*****/         if (r !== undefined) result = r;
/*****/       }
/*****/     }
/*****/     return result;
/*****/   };
/*****/ })();

/*****/ /* webpack/runtime/create fake namespace object */
/*****/ (() => {
/*****/   var getProto = Object.getPrototypeOf ? (obj) => (Object.getPrototypeOf(obj))
/*****/   var leafPrototypes;
/*****/   // create a fake namespace object
/*****/   // mode 0: value is a module id, require it
/*****/   // mode 1: value is a module id, require it
/*****/   // mode 2: merge all properties of value into the ns
/*****/   // mode 4: return value when already ns object
/*****/   // mode 16: return value when it's Promise-like

```

```

/*****/      // mode & 8/1: behave like require
/*****/      __webpack_require___.t = function(value, mode) {
/*****/          if(mode & 1) value = this(value);
/*****/          if(mode & 8) return value;
/*****/          if(typeof value === 'object' && value) {
/*****/              if((mode & 4) && value.__esModule) return value;
/*****/              if((mode & 16) && typeof value.then === 'function') return value;
/*****/          }
/*****/          var ns = Object.create(null);
/*****/          __webpack_require___.r(ns);
/*****/          var def = {};
/*****/          leafPrototypes = leafPrototypes || [null, getProto({}), getProto([]), g
/*****/          for(var current = mode & 2 && value; typeof current == 'object' && !~le
/*****/              Object.getOwnPropertyNames(current).forEach((key) => (def[key] = ()
/*****/          }
/*****/          def['default'] = () => (value);
/*****/          __webpack_require___.d(ns, def);
/*****/          return ns;
/*****/      };
/*****/  })();
/*****/
/*****/      /* webpack/runtime/define property getters */
/*****/      (() => {
/*****/          // define getter functions for harmony exports
/*****/          __webpack_require___.d = (exports, definition) => {
/*****/              for(var key in definition) {
/*****/                  if(__webpack_require___.o(definition, key) && !__webpack_require___.o
/*****/                      Object.defineProperty(exports, key, { enumerable: true, get: de
/*****/              }
/*****/          }
/*****/      };
/*****/  })();
/*****/
/*****/      /* webpack/runtime/ensure chunk */
/*****/      (() => {
/*****/          __webpack_require___.f = {};
/*****/          // This file contains only the entry chunk.
/*****/          // The chunk loading function for additional chunks
/*****/          __webpack_require___.e = (chunkId) => {
/*****/              return Promise.all(Object.keys(__webpack_require___.f).reduce((promises,
/*****/                  __webpack_require___.f[key](chunkId, promises);
/*****/              return promises;
/*****/          }, []));
/*****/      };
/*****/  })();
/*****/

```

```

/*****/ /* webpack/runtime/get javascript chunk filename */
/*****/ (() => {
/*****/ // This function allow to reference async chunks
/*****/ __webpack_require__.u = (chunkId) => {
/*****/ // return url for filenames based on template
/*****/ return "" + chunkId + ".[chunkhash].js";
/*****/ };
/*****/ })();
/*****/
/*****/ /* webpack/runtime/hasOwnProperty shorthand */
/*****/ (() => {
/*****/ __webpack_require__.o = (obj, prop) => (Object.prototype.hasOwnProperty.call
/*****/ })(obj, prop);
/*****/
/*****/ /* webpack/runtime/load script */
/*****/ (() => {
/*****/ var inProgress = {};
/*****/ // data-webpack is not used as build has no uniqueName
/*****/ // loadScript function to load a script via script tag
/*****/ __webpack_require__.l = (url, done, key, chunkId) => {
/*****/ if(inProgress[url]) { inProgress[url].push(done); return; }
/*****/ var script, needAttach;
/*****/ if(key !== undefined) {
/*****/     var scripts = document.getElementsByTagName("script");
/*****/     for(var i = 0; i < scripts.length; i++) {
/*****/         var s = scripts[i];
/*****/         if(s.getAttribute("src") == url) { script = s; break; }
/*****/     }
/*****/ }
/*****/ if(!script) {
/*****/     needAttach = true;
/*****/     script = document.createElement('script');
/*****/
/*****/     script.charset = 'utf-8';
/*****/     script.timeout = 120;
/*****/     if (__webpack_require__.nc) {
/*****/         script.setAttribute("nonce", __webpack_require__.nc);
/*****/     }
/*****/
/*****/     script.src = url;
/*****/ }
/*****/ inProgress[url] = [done];
/*****/ var onScriptComplete = (prev, event) => {
/*****/     // avoid mem leaks in IE.
/*****/     script.onerror = script.onload = null;
/*****/     clearTimeout(timeout);

```



```

// some module
__webpack_require__.e(/*! import() */ 2).then(__webpack_require__.t.bind(__webpack_require_
__webpack_require__.e(/*! import() */ 3).then(__webpack_require__.t.bind(__webpack_require_

/***/ })
],
/*****/ __webpack_require__ => { // webpackRuntimeModules
/*****/ var __webpack_exec__ = (moduleId) => (__webpack_require__(__webpack_require__.s = 
/*****/ 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] [r
  > ./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
```