This example illustrates how common modules from deep ancestors of an entry point can be split into a separate common chunk

- `pageA` and `pageB` are dynamically required
- `pageC` and `pageA` both require the `reusableComponent`
- `pageB` dynamically requires `PageC`

You can see that webpack outputs five files/chunks:

- `output.js` is the entry chunk and contains
  - the module system
  - chunk loading logic
  - the entry point `example.js`
- `0.output.js` is an additional chunk
  - module `reusableComponent`
- `1.output.js` is an additional chunk
  - module `pageB`
- `2.output.js` is an additional chunk
  - module `pageA`
- `3.output.js` is an additional chunk
  - module `pageC`

example.js

```js
var main = function() {
    console.log("Main class");
    require.ensure([], () => {
        const page = require("./pageA");
        page();
    });
    require.ensure([], () => {
        const page = require("./pageB");
        page();
    });
};

main();
```

pageA.js

```js
var reusableComponent = require("./reusableComponent");

module.exports = function() {
    console.log("Page A");
    reusableComponent();
};
```

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pageB.js

```javascript
module.exports = function() {
    console.log("Page B");
    require.ensure([], ()=>{
        const page = require("./pageC");
        page();
    });
};
```

pageC.js

```javascript
var reusableComponent = require("./reusableComponent");

module.exports = function() {
    console.log("Page C");
    reusableComponent();
};
```

reusableComponent.js

```javascript
module.exports = function() {
    console.log("reusable Component");
};
```

webpack.config.js

```javascript
"use strict";
const path = require("path");

module.exports = {
    // mode: "development || "production",
    entry: {
        main: ["./example.js"]
    },
    optimization: {
        splitChunks: {
            minSize: 0 // This example is too small, in practice you can use the defaults
        },
        chunkIds: "deterministic" // To keep filename consistent between different modes (fo
    },
    output: {
        path: path.resolve(__dirname, "dist"),
        filename: "output.js"
```

```
    }
};
```

dist/output.js

```
/******/ (() => { // webpackBootstrap
/******/     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/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 + ".output.js";
/******/            };
/******/        })();
/******/
/******/        /* webpack/runtime/hasOwnProperty shorthand */
/******/        (() => {
/******/            __webpack_require__.o = (obj, prop) => (Object.prototype.hasOwnProperty.cal
/******/        })();
/******/
/******/        /* 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;
```

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```
/******/                    }
/******/                    inProgress[url] = [done];
/******/                    var onScriptComplete = (prev, event) => {
/******/                        // avoid mem leaks in IE.
/******/                        script.onerror = script.onload = null;
/******/                        clearTimeout(timeout);
/******/                        var doneFns = inProgress[url];
/******/                        delete inProgress[url];
/******/                        script.parentNode && script.parentNode.removeChild(script);
/******/                        doneFns && doneFns.forEach((fn) => (fn(event)));
/******/                        if(prev) return prev(event);
/******/                    }
/******/                    ;
/******/                    var timeout = setTimeout(onScriptComplete.bind(null, undefined, { type:
/******/                    script.onerror = onScriptComplete.bind(null, script.onerror);
/******/                    script.onload = onScriptComplete.bind(null, script.onload);
/******/                    needAttach && document.head.appendChild(script);
/******/                };
/******/        })();
/******/
/******/        /* webpack/runtime/publicPath */
/******/        (() => {
/******/                __webpack_require__.p = "dist/";
/******/        })();
/******/
/******/        /* webpack/runtime/jsonp chunk loading */
/******/        (() => {
/******/                // no baseURI
/******/
/******/                // object to store loaded and loading chunks
/******/                // undefined = chunk not loaded, null = chunk preloaded/prefetched
/******/                // [resolve, reject, Promise] = chunk loading, 0 = chunk loaded
/******/                var installedChunks = {
/******/                    179: 0
/******/                };
/******/
/******/                __webpack_require__.f.j = (chunkId, promises) => {
/******/                        // JSONP chunk loading for javascript
/******/                        var installedChunkData = __webpack_require__.o(installedChunks, chu
/******/                        if(installedChunkData !== 0) { // 0 means "already installed".
/******/
/******/                            // a Promise means "currently loading".
/******/                            if(installedChunkData) {
/******/                                promises.push(installedChunkData[2]);
/******/                            } else {
/******/                                if(true) { // all chunks have JS
```

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```
/******/                                // setup Promise in chunk cache
/******/                                var promise = new Promise((resolve, reject) => (install
/******/                                promises.push(installedChunkData[2] = promise);
/******/
/******/                                // start chunk loading
/******/                                var url = __webpack_require__.p + __webpack_require__.u
/******/                                // create error before stack unwound to get useful stac
/******/                                var error = new Error();
/******/                                var loadingEnded = (event) => {
/******/                                    if(__webpack_require__.o(installedChunks, chunkId))
/******/                                        installedChunkData = installedChunks[chunkId];
/******/                                        if(installedChunkData !== 0) installedChunks[ch
/******/                                        if(installedChunkData) {
/******/                                            var errorType = event && (event.type === 'l
/******/                                            var realSrc = event && event.target && even
/******/                                            error.message = 'Loading chunk ' + chunkId
/******/                                            error.name = 'ChunkLoadError';
/******/                                            error.type = errorType;
/******/                                            error.request = realSrc;
/******/                                            installedChunkData[1](error);
/******/                                        }
/******/                                    }
/******/                                };
/******/                                __webpack_require__.l(url, loadingEnded, "chunk-" + chu
/******/                            } else installedChunks[chunkId] = 0;
/******/                        }
/******/                    }
/******/                };
/******/
/******/          // no prefetching
/******/
/******/          // no preloaded
/******/
/******/          // no HMR
/******/
/******/          // no HMR manifest
/******/
/******/          // no on chunks loaded
/******/
/******/          // install a JSONP callback for chunk loading
/******/          var webpackJsonpCallback = (parentChunkLoadingFunction, data) => {
/******/              var [chunkIds, moreModules, runtime] = data;
/******/              // add "moreModules" to the modules object,
/******/              // then flag all "chunkIds" as loaded and fire callback
/******/              var moduleId, chunkId, i = 0;
/******/              if(chunkIds.some((id) => (installedChunks[id] !== 0))) {
```

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```
/******/                    for(moduleId in moreModules) {
/******/                        if(__webpack_require__.o(moreModules, moduleId)) {
/******/                            __webpack_require__.m[moduleId] = moreModules[moduleId];
/******/                        }
/******/                    }
/******/                    if(runtime) var result = runtime(__webpack_require__);
/******/                }
/******/                if(parentChunkLoadingFunction) parentChunkLoadingFunction(data);
/******/                for(;i < chunkIds.length; i++) {
/******/                    chunkId = chunkIds[i];
/******/                    if(__webpack_require__.o(installedChunks, chunkId) && installedChun
/******/                        installedChunks[chunkId][0]();
/******/                    }
/******/                    installedChunks[chunkIds[i]] = 0;
/******/                }
/******/
/******/            }
/******/
/******/            var chunkLoadingGlobal = self["webpackChunk"] = self["webpackChunk"] || [];
/******/            chunkLoadingGlobal.forEach(webpackJsonpCallback.bind(null, 0));
/******/            chunkLoadingGlobal.push = webpackJsonpCallback.bind(null, chunkLoadingGloba
/******/    })();
/******/
/******/************************************************************************/
var __webpack_exports__ = {};
/*!*********************!*\
  !*** ./example.js ***!
  \*********************/
/*! unknown exports (runtime-defined) */
/*! runtime requirements: __webpack_require__, __webpack_require__.e, __webpack_require__.*
var main = function() {
    console.log("Main class");
    Promise.all(/*! require.ensure */[__webpack_require__.e(421), __webpack_require__.e(366
        const page = __webpack_require__(/*! ./pageA */ 1);
        page();
    }).bind(null, __webpack_require__)).catch(__webpack_require__.oe);
    __webpack_require__.e(/*! require.ensure */ 588).then(((() => {
        const page = __webpack_require__(/*! ./pageB */ 3);
        page();
    }).bind(null, __webpack_require__)).catch(__webpack_require__.oe);
};

main();

/******/ })()
```

```
;
```

dist/366.output.js

```
(self["webpackChunk"] = self["webpackChunk"] || []).push([[366],[
/* 0 */,
/* 1 */
/*!*******************!*\
  !*** ./pageA.js ***!
  \*******************/
/*! unknown exports (runtime-defined) */
/*! runtime requirements: module, __webpack_require__ */
/*! CommonJS bailout: module.exports is used directly at 3:0-14 */
/***/ ((module, __unused_webpack_exports, __webpack_require__) => {

var reusableComponent = __webpack_require__(/*! ./reusableComponent */ 2);

module.exports = function() {
    console.log("Page A");
    reusableComponent();
};


/***/ })
]]);
```

dist/588.output.js

```
(self["webpackChunk"] = self["webpackChunk"] || []).push([[588],{

/***/ 3:
/*!*******************!*\
  !*** ./pageB.js ***!
  \*******************/
/*! unknown exports (runtime-defined) */
/*! runtime requirements: module, __webpack_require__, __webpack_require__.e, __webpack_req
/*! CommonJS bailout: module.exports is used directly at 1:0-14 */
/***/ ((module, __unused_webpack_exports, __webpack_require__) => {

module.exports = function() {
    console.log("Page B");
    Promise.all(/*! require.ensure */[__webpack_require__.e(421), __webpack_require__.e(145
        const page = __webpack_require__(/*! ./pageC */ 4);
        page();
```

```
    })).bind(null, __webpack_require__)).catch(__webpack_require__.oe);
};


/***/ })

}]);
```

dist/145.output.js

```
(self["webpackChunk"] = self["webpackChunk"] || []).push([[145],{

/***/ 4:
/*!*******************!*\
  !*** ./pageC.js ***!
  \*******************/
/*! unknown exports (runtime-defined) */
/*! runtime requirements: module, __webpack_require__ */
/*! CommonJS bailout: module.exports is used directly at 3:0-14 */
/***/ ((module, __unused_webpack_exports, __webpack_require__) => {

var reusableComponent = __webpack_require__(/*! ./reusableComponent */ 2);

module.exports = function() {
    console.log("Page C");
    reusableComponent();
};


/***/ })

}]);
```

dist/421.output.js

```
(self["webpackChunk"] = self["webpackChunk"] || []).push([[421],{

/***/ 2:
/*!*****************************!*\
  !*** ./reusableComponent.js ***!
  \*****************************/
/*! unknown exports (runtime-defined) */
/*! runtime requirements: module */
/*! CommonJS bailout: module.exports is used directly at 1:0-14 */
```

```
/***/ ((module) => {

module.exports = function() {
    console.log("reusable Component");
};


/***/ })

}]);
```

Info

Unoptimized

```
asset output.js 9.11 KiB [emitted] (name: main)
asset 588.output.js 736 bytes [emitted]
asset 366.output.js 558 bytes [emitted]
asset 145.output.js 552 bytes [emitted]
asset 421.output.js 434 bytes [emitted]
chunk (runtime: main) 145.output.js 136 bytes [rendered]
  > ./pageB.js 3:1-6:3
  ./pageC.js 136 bytes [built] [code generated]
    [used exports unknown]
    cjs require ./pageC ./pageB.js 4:15-33
    cjs self exports reference ./pageC.js 3:0-14
chunk (runtime: main) output.js (main) 220 bytes (javascript) 4.98 KiB (runtime) [entry] [re
  > ./example.js main
  runtime modules 4.98 KiB 6 modules
  ./example.js 220 bytes [built] [code generated]
    [used exports unknown]
    entry ./example.js main
chunk (runtime: main) 366.output.js 136 bytes [rendered]
  > ./example.js 3:1-6:3
  ./pageA.js 136 bytes [built] [code generated]
    [used exports unknown]
    cjs require ./pageA ./example.js 4:15-33
    cjs self exports reference ./pageA.js 3:0-14
chunk (runtime: main) 421.output.js 69 bytes [rendered] split chunk (cache group: default)
  > ./example.js 3:1-6:3
  > ./pageB.js 3:1-6:3
  ./reusableComponent.js 69 bytes [built] [code generated]
    [used exports unknown]
    cjs require ./reusableComponent ./pageA.js 1:24-54
    cjs require ./reusableComponent ./pageC.js 1:24-54
```

```
    cjs self exports reference ./reusableComponent.js 1:0-14
chunk (runtime: main) 588.output.js 133 bytes [rendered]
  > ./example.js 7:1-10:3
  ./pageB.js 133 bytes [built] [code generated]
    [used exports unknown]
    cjs require ./pageB ./example.js 8:15-33
    cjs self exports reference ./pageB.js 1:0-14
webpack 5.51.1 compiled successfully
```

Production mode

```
asset output.js 1.8 KiB [emitted] [minimized] (name: main)
asset 588.output.js 198 bytes [emitted] [minimized]
asset 145.output.js 134 bytes [emitted] [minimized]
asset 366.output.js 134 bytes [emitted] [minimized]
asset 421.output.js 123 bytes [emitted] [minimized]
chunk (runtime: main) 145.output.js 136 bytes [rendered]
  > ./pageB.js 3:1-6:3
  ./pageC.js 136 bytes [built] [code generated]
    [used exports unknown]
    cjs require ./pageC ./pageB.js 4:15-33
    cjs self exports reference ./pageC.js 3:0-14
chunk (runtime: main) output.js (main) 220 bytes (javascript) 4.98 KiB (runtime) [entry] [re
  > ./example.js main
  runtime modules 4.98 KiB 6 modules
  ./example.js 220 bytes [built] [code generated]
    [no exports used]
    entry ./example.js main
chunk (runtime: main) 366.output.js 136 bytes [rendered]
  > ./example.js 3:1-6:3
  ./pageA.js 136 bytes [built] [code generated]
    [used exports unknown]
    cjs require ./pageA ./example.js 4:15-33
    cjs self exports reference ./pageA.js 3:0-14
chunk (runtime: main) 421.output.js 69 bytes [rendered] split chunk (cache group: default)
  > ./example.js 3:1-6:3
  > ./pageB.js 3:1-6:3
  ./reusableComponent.js 69 bytes [built] [code generated]
    [used exports unknown]
    cjs require ./reusableComponent ./pageA.js 1:24-54
    cjs require ./reusableComponent ./pageC.js 1:24-54
    cjs self exports reference ./reusableComponent.js 1:0-14
chunk (runtime: main) 588.output.js 133 bytes [rendered]
  > ./example.js 7:1-10:3
  ./pageB.js 133 bytes [built] [code generated]
    [used exports unknown]
```

```
        cjs require ./pageB ./example.js 8:15-33
        cjs self exports reference ./pageB.js 1:0-14
webpack 5.51.1 compiled successfully
```