



Frontend guide

for service providers

Version 1.5



SignaturCruppen

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Changelog

Version 1.1 20-06-2022

• General update of the document.



Introduction

This document describes a 'best practice' example on initiating Nets eID Broker as redirects and pop-ups. It is intended as a 'getting started guide' and not the one and only way of implementing it on your platform.

It's possible to display the Nets eID Broker to the user with either a pop-up or redirecting the browser to Nets eID Broker. They are equally secure ways to authenticate the end-user. The user experience is quite different, and the decision is up to you.

The intended audiences are frontend developers and UX designers.

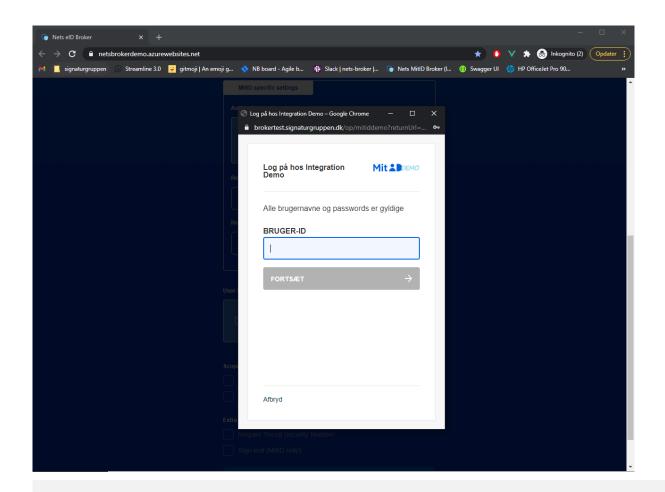




Pop-up UX assessment

- Your existing page branding is visible behind the pop-up when displayed on PC. When used on mobile devices (including iPad) the popup opens in a new tab.
- With the pop-up the user has an extra browser window which incidentally can be closed or set the focus to the parent page. It's recommended to handle those scenarios also to ensure a great user experience.
- Opening the pop-up with default size, might cause scrollbars if users with low vision resizes the text size.
- Some flows might require more space and are not suited for pop-ups.
- Not able to fully utilize Nets eID Broker custom branding and layout theming.



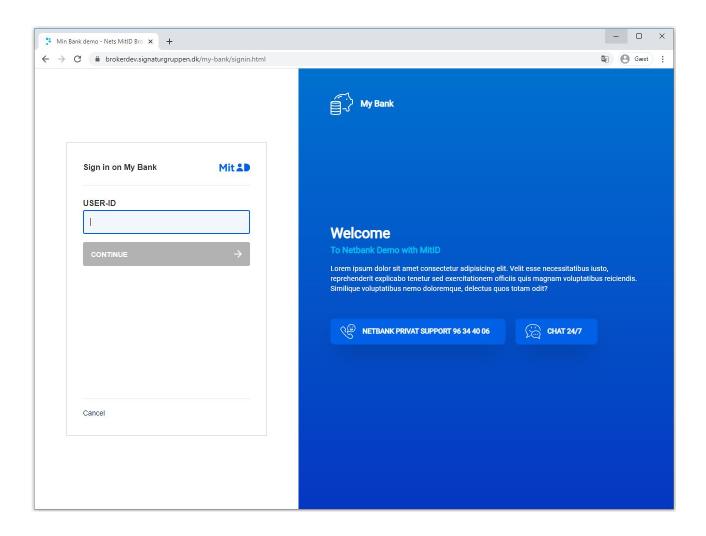




Redirect UX assessment

- It can be initialized automatically on a page load. This makes it possible to have an absolute URL on your domain i.e., mydomain.dk/login that redirects to Nets elD Brokers login. With the pop-up you need the onclick event, to ensure the pop-up is opened correct.
- Easier implementation with less JavaScript event handling.
- The entire screen is dedicated to the login experience and flow.
- Possible to setup custom branding, themes, and general layout via the Nets elD Broker administration







Comparing the NemID and the MitID user experience

To introduce the Nets eID Broker client user experience, we start by viewing the existing NemID solution.

The NemID JavaScript client is integrated with the Service Provider's page using an <iframe> element, which enables a web page to allocate a segment of its area to another page.

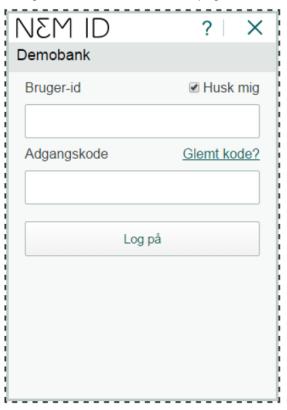


Figure 1 - The NemID JavaScript client in limited mode 320*460 with the recommended option of "Remember user-id". The dashed line indicates the extent of the iframe.

The Nets elD Broker client

The Nets eID Broker has a large margin of freedom to customize the user experience. NEB will tailor the experience to the needs of the customers to the largest extends in bilateral dialogue between the partners.

As an example, it is possible to have the Service Provider send in user ID and preferred logon device as part of the initialization and by this help to adapt the user experience to the SPs users and their knowledge of their user's possible means of identifying themselves.

The UI can be customized with colors, fonts, logos, help-text and other visual elements. The UI is responsive, and scales well on both small and large displays.

The image below illustrates the logon concept where the UI is shown as a pop-up over the service provider's web application:



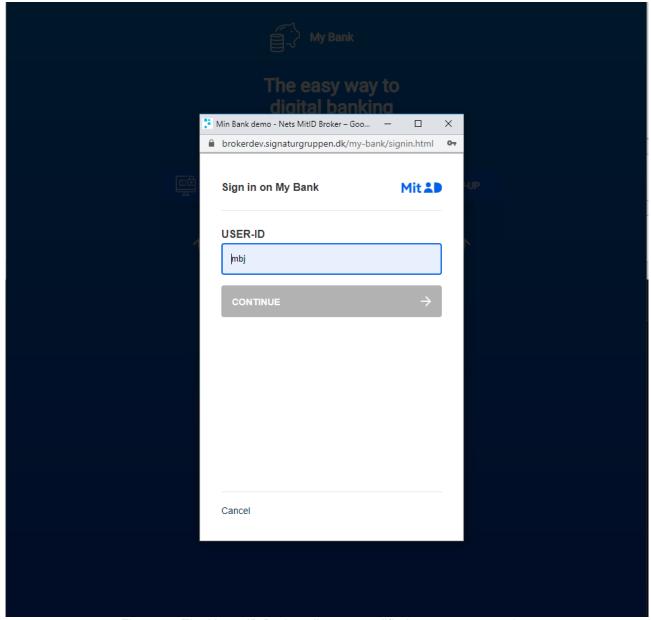


Figure 2 - The Nets eID Broker client exemplified as a pop-up overlay.

The Service Provider can customize the user experience through individual configuration and by setting parameters in the actual online authentication request.

Outside the MitID Secure Frame where will be high degree of flexibility on UI. Within the MitID Secure Frame the guidelines in MitID UX scheme will define the look and feel of MitID, but there will be some flexibility with reference text. Other elements of flexibility known from the NemID JS Client will be continued in the Nets elD Broker Client.





Figure 3: Reference texts of the Nets eID Broker client.

An example is given below of how a transaction signing might be experienced by the customer.

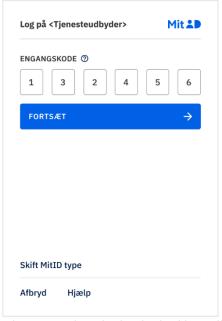


Figure 4: Example transaction signing in the Nets eID Broker client



Branding

We support a wide range of options to customize the branding and UX experience of Nets elD Broker. In our administration interface, it's possible to setup multiple UX profiles for your services. Each UX profile will be based upon a set of base layouts, where you can tailor it to your need. With the UX profiles we take care of CSS, responsive behavior, and accessibility.

We support customization of:

- Background (solid colors and gradients)
- Logo
- A selection of texts
- Links

Vanilla JavaScript pop-up handling

To create a pop-up, you need to implement some JavaScript functions. We have made our examples with pure vanilla JavaScript to accommodate most use cases. We encourage you to transform the code examples to your specific needs and technology stack.

Some users might have disabled JavaScript. So, you need a strategy on how to handle those users: either ask your users to enable it or make an noscript failover solution.

Initiating the pop-up

```
function popupwindow(url, title, w, h) {
  //adding the selector for the css backdrop
  document.body.classList.add("popup-active");
  //automatic centering of the pop-up.
  let y = window.outerHeight / 2 + window.screenY - h / 2;
  let x = window.outerWidth / 2 + window.screenX - w / 2;
  wref = window.open(
   url,
    title,
    "toolbar=no, location=no, directories=no, status=no, menubar=no, scrollbars=no, resizable=no,
 copyhistory=no, width=" +
      ", height=" +
      h +
      ", top=" +
     y +
", left=" +
  //ensuring focus of the new pop-up
  wref.focus();
```

channelmode=yes|no|1|0 Whether or not to display the window in theater mode.

Default is no.

IE only



directories=yes no 1 0	Obsolete. Whether or not to add directory buttons. Default is yes. IE only
fullscreen=yes no 1 0	Whether or not to display the browser in full-screen mode. Default is no. A window in full-screen mode must also be in theater mode. IE only
height=pixels	The height of the window. Min. value is 100
left=pixels	The left position of the window. Negative values not allowed
location=yes no 1 0	Whether or not to display the address field. Opera only
menubar=yes no 1 0	Whether or not to display the menu bar
resizable=yes no 1 0	Whether or not the window is resizable. IE only
scrollbars=yes no 1 0	Whether or not to display scroll bars. IE, Firefox & Opera only
status=yes no 1 0	Whether or not to add a status bar
titlebar=yes no 1 0	Whether or not to display the title bar. Ignored unless the calling application is an HTML Application or a trusted dialog box
toolbar=yes no 1 0	Whether or not to display the browser toolbar. IE and Firefox only
top=pixels	The top position of the window. Negative values not allowed



width=pixels The width of the window. Min. value is 100



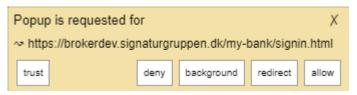
Pop-up blocker compliance

Most browsers block pop-ups if they are called outside of user-triggered event handlers like onclick. Therefor it's important to initiate the pop-up with onclick event. Some very aggressive pop-up blockers can still catch the pop-up.

We have tested this implementation with the following setups.

Windows 10	Chrome	Built-in pop-up blocker
Windows 10	Chrome	Popup blocker (strict), Chrome Extension*
Windows 10	Chrome	Popper blocker, Chrome Extension
Windows 10	Edge	Built-in pop-up blocker
Windows 10	Internet Explorer 11	Default settings
Windows 10	Firefox	Built-in pop-up blocker
Windows 10	Opera	Built-in pop-up blocker
Windows 10	Yandex	Built-in pop-up blocker
MacOS Catalina	Safari 13	Built-in pop-up blocker
MacOS Mojave	Safari 12.1	Built-in pop-up blocker
MacOS Mojave	Chrome	Built-in pop-up blocker
MacOS Mojave	Firefox	Built-in pop-up blocker
MacOS Mojave	Edge	Built-in pop-up blocker

^{*} with Chrome Extension, Popup blocker (strict), the user gets this dialog prompt.



Failover

We recommend making a failover strategy: Either inform the user that the pop-up couldn't be loaded properly or automatically switch to fullscreen redirect.

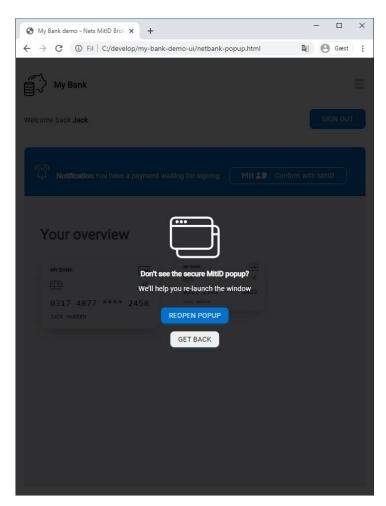
Example of failover handling

```
window.setTimeout(function () {
    if(!wref || wref.closed || typeof wref.closed=='undefined'){
        //Your popup is blocked. Do the failover action
    }
}, 1000);
```



Background behind the pop-up screen

To ensure the best user experience, we encourage you to make a pop-up backdrop on your webpage, that put focus to the pop-up. It could be an transparent color overlay or a graphical backdrop. It's also recommended to implement support-text behind the pop-up, if the user minimizes or closes the pop-up unintended.



Pop-up backdrop with support-text example

HTML example



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CSS example

```
.popup-dialog .popup-background {
   transition: 1s opacity; /* Makes animation on the fade down */
   opacity: 0;
  .popup-dialog .popup-content {
   display: none;
 /*The 'popup-active' class is added to a DOM element higher eg. <body>, when pop-up is open */
 .popup-active .popup-dialog {
   display: flex;
   align-items: center;
   justify-content: center;
   width: 100vw;
   height: 100vh; /* Ensures full hight of the viewport, even if the page is smaller than the
                      screen resolution*/
   position: absolute;
   left: 0;
   top: 0;
   z-index: 1000; /* Ensures breakout of depth. If you have higher Z-
                      indexes set, you need to raise this number*/
  .popup-active .popup-dialog .popup-content {
   display: flex;
   flex-direction: column;
   width: 452px; /* minimum width of MitID, to ensure the popover hides the content*/
   height: 640px;
   align-items: center;
   justify-content: center;
   color: white;
   z-index: 1100;
   text-align: center;
 }
  .popup-active .popup-dialog .popup-content h3 {
   color: white;
 .popup-active .popup-dialog .popup-content .btn-main {
   margin: 1rem;
 .popup-active .popup-dialog .popup-background {
   opacity: 0.8; /* Controls the opacity of the backdrop */
   background: black;
   width: 100%;
   height: 100%;
   position: absolute;
 }
```



Keeping the pop-up in focus

If the user clicks away from the pop-up on the underlaying page, we advise you to give the pop-up window focus back again.

Code example of how you can do that

Please note: The default setting in Firefox called dom.disable_window_flip, ignores the focus script.

Eventlistener

To keep a connection between the pop-up and the parent frame, you need to setup an eventlistener, that can manage the events emitted from the pop-up.

Please note: The events emitted from the Nets eID Broker is not yet defined. A complete list of events will be posted later.

Code example on eventlistener

```
window.addEventListener("message", receiveMessage, false);
function receiveMessage(event) {
  if (event.data === "CLOSE") {
    // closing the pop-up
    closeWindow();
  } else if (event.data === "REDIRECT") {
    // other actions
    window.location.replace("some-url.html");
  }
}
```

Pop-up on mobile devices

Pop-up on mobile devices have been an UX challenge in the past. But up to date devices, has proven to handle it better than in the pat. But not all devices may handle it in the same way. Most devices handle the pop-up as a new tab. We encourage you to do comprehensive testing of your implementation on real mobile devices.

On iPad the pop-up is also opened as a new tab, which either makes a lot of whitespace or room for branding.

We have tested this pop-up solution on the following devices:

Android:

Samsung Galaxy S10e	Android 10	Chrome
Samsung Galaxy S10	Android 9	Chrome Firefox Samsung Base Browser UC Browser

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Samsung Galaxy S9	Android 8	Chrome Firefox Samsung Base Browser UC Browser
Google Pixel 2	Android 7.1	Chrome Firefox
Google Nexus 6	Android 6	Chrome Firefox
Google Nexus 6	Android 5	Chrome Firefox
Google Nexus 5	Android 4.4	Chrome Firefox

IOS:

iPhone 11	IOS 13	Chrome Safari
iPhone XS	IOS 12	Chrome Safari
iPhone 8 Plus	IOS 11	Chrome Safari
iPhone 6S plus	IOS 9	Chrome Safari
iPhone 6	IOS 8	Chrome Safari
iPad Pro 12.9	IOS 13	Chrome Safari

Pop-up minimum sizes

MitID UX Scheme requires an 26px margin around the MitID secureframe on desktop devices. For optimal display of the pop-up, we recommend the following sizes.

Туре	Width	Height
Transaction with client logo	878px	700px
Transaction without client logo	878px	640px
Signin with single IDP and without client logo	452px	640px
Signin with single IDP and with client logo	452px	700px
Signin with multiple IDPs and without client logo	452px	692px
Signin with multiple IDPs and with client logo	452px	754px



Theming

It's possible to tailor the look and feel of the Nets elD Broker to a great extent. In most cases it's possible to create a broker theme that's compliant with your company design guideline in the theme editor section of Nets elD Broker Admin tool.

The themes are based upon a model where the foundation is a predefined base layout combined with multiple variables defining the specific theme.

It's possible to have multiple themes for different purposes. By default, Nets elD broker uses a built-in default theme that has a neutral look and feel. When you start working with themes, you need to access the Nets elD Broker admin tool and go to the Theme menu item. If you don't have access to this menu item, then contact your local administrator.

Layout template

Every theme is based on a layout template, which define the structure of the page itself. It also handles the logic of the mobile responsiveness.

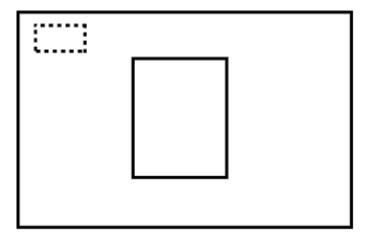
It's possible to switch between layout templates without losing your personalized configuration with ex. colors, fonts.

Some features may be limited to certain layout templates.

The four predefined layout templates are the following:

Basic

This is the default base layout. The IDP (ex. MitID) is aligned centered on the screen. There's no option for soft content on this theme, so some of the theming options will be disabled for this theme.

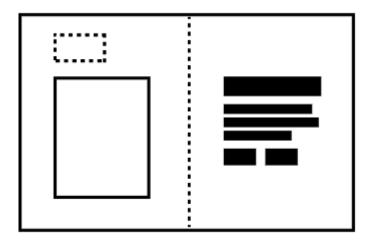


Split

In the base layout 'Split' the page is divided in two containers of equal width on larger devices. The IDP content and your company logo is visible on the left-hand column. Soft content is visible on the right-hand column. Both the IDP and the soft content is center aligned to the y-axis of the page. The client logo is fixed to the top left corner.

On mobile devices the soft content is not visible. If you would like the soft content to be visible, please see the option for mobile top bar.

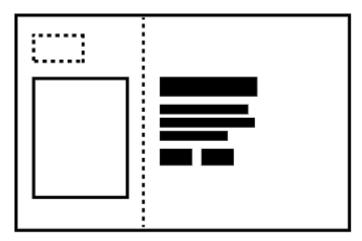




Fluid Split

This layout template has a lot of things in common with Split. The big difference is that the two column isn't split in equally sized columns. The left-hand column has a fixed size based on the IDP. The right-hand column will fill out the rest of the space.

On mobile devices the soft content is not visible. If you would like the soft content to be visible, please see the option for mobile top bar.



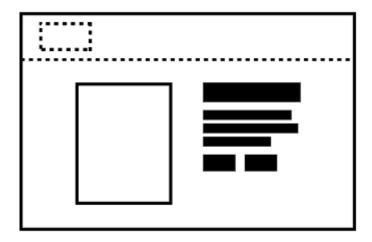
Top bar

This layout template has a fixed top bar which spans the whole with of the page. The height of the top bar is fixed. Below the top bar you will find both the IDP and your soft content. The IDP and soft content is centered on page.

On mobile devices the soft content is not visible. If you would like the soft content to be visible, please see the option for mobile top bar.

Please be aware: The layout template Top bar and the features Mobile top bar is two different things.





Colors

Nets eID broker support colors in many different formats: HEX, RGB and HSL.

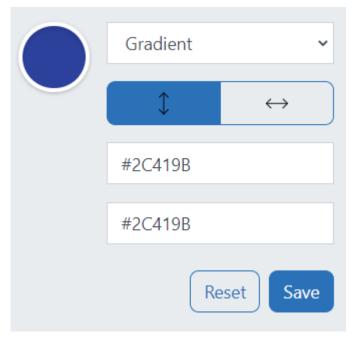
Please note that print colors like CMYK and Pantone is not supported on screen devices. If you don't have the needed color codes in the supported formats, you can try a tool like this https://codebeautify.org/pantone-to-rgb-converter or https://www.cmyk2rgb.com/.

You will find the color option in the "Colors" tab of your theme.

For background it's possible to use both solid colors and gradients. Gradients is a color that goes from one specific color to another. For texts only solid colors is supported.

When you type in colors in the Nets eID broker admin tool, you'll see a preview of the selected color on a small preview.

When defining gradients, you have the option to let the colors change from top to bottom or from left to right.



After each color definition please press "Save" to save it to the theme.

Fonts

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In the font tab it's possible to specify font related options to the soft content.

You can specify different fonts for heading and body text. All levels of headings will have the same font but can have different size and weight. There are three levels for headings in Nets eID Broker. Heading, Subheading and Small subheading. They represent an H1, H2 and H3 on HTML page level.

It's a good accessibility practice to have one heading(h1). The heading provides an important navigation point for users of assistive technologies, allowing them to easily find the main content of the page.

There are two web fonts available: Open Sans and IBM Plex Sans. IBM Plex Sans is the default font and the one used in MitID. Arial and Verdana are also available and rely on the installment of the user's machine. It's also possible to specify and custom font in the input field, which also require that the font is present on the user's machine. Therefor only use standard fonts.

Sizes can be defined in both px and rem/em. We encourage the use of rem for font size definitions because they scale very well for accessibility purposes.

A preview is displayed to the right of the font options. It doesn't reflect the actual soft content but a specimen that have all three headings and some body text.

Please note, this will not affect the IDP but only the soft content.

Logo

In the tab, logo, you can specify and URL to a hosted location of your logo.

The logo will be used in the size 150px * 37px. If the format is .jpg, .png or .gif, we recommend that the image shall be of this size for best quality. We recommend the use of .svg for logo.

By default, the logo is hidden in mobile screen sizes. This ensures that the IDP is displayed with as little overflow on the y-axis as possible. To override this, you can suppress this behavior in the mobile customization tab.

If you don't have the opportunity to host the logo file yourself, it's also possible to specify a data:image/svg resource in the logo input field. This tool can be used to encode the file into and data property https://yoksel.github.io/url-encoder/

SSN consent text

For SSN, Social Security Number, flows it possible to specify your own consent text. Danish, English and Greenlandic languages is supported. If a text is not specified Nets eID Broker will use the default text defined by the broker.

Please note, if you don't specify a text for a specific language the user will get the default text.

You find the options to specify custom SSN Texts in the tab: Text.

Spacing

In the tab: spacing, you will find two different spacing options. The first one is a left side indentation and the second is in context spacing for the soft content.

Indentation of text can be defined in three relative sizes. If defines the spacing in which the soft content is indented. This spacing is adaptive to the viewport size, so for smaller size the spacing will automatically be smaller. Therefor there's no option to enter an absolute value in pixel.

Spacing can be defined both px, em and rem. Rem is the default and recommended unit.

The small size is the default and can be extended to medium and large size.

Soft content sizing is defined in each datatype for the soft content.

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Link collection direction defines if buttons in a link collection should be oriented from left to right or top to bottom.

The preview doesn't reflect the actual soft content but is a specimen illustrating all the different types. Please verify the spacing on you own content.

Top spacing for first item and bottom spacing for last item is suppressed to ensure perfect center alignment.

Please note that spacing on the button element is set in the button tab.

Mobile customization

By default, the logo is hidden in mobile screen sizes. This ensures that the IDP is displayed with as little overflow on the y-axis as possible. To override this, you can toggle the 'show logo' feature to 'always' state.

Soft content isn't visible on mobile devices by default to avoid the risk of overflow. It's possible to enable a mobile top bar with a button for expanding the soft content. The background color of the top bar can be specified in either a solid color or a gradient. The background color of the expandable soft content area, is the secondary color defined in the color tab.

The design of the expand/collapse button in the top bar can be customized in the button tab under "Button In Top Bar".

Please note that the top bar is enabled with a responsive breakpoint, so it's the screen size that defines if the device is a mobile device. Some wide phones and tables in landscape mode will not active the mobile view, hence there's enough available space to show the content to the user.

IDP selector

When multiple IDPs is enabled, the user is prompted with an IDP selector, where the user can select the IDP we want to use. The design of the IDP selector is based on two steps: startup, where the user makes the initial selection and an optional mini menu, where the user can re-select the IDP. Both options are possible to customize to some extent.

Each button is represented with the IDP logo on a button. The background, and hover background, of the button is customizable. We recommend using colors that have a contrast ratio of a minimum of 4.5:1 to be compliant with WCAG2.1 AA.

By default, there's no outline border on the buttons. This can be enabled by setting a border thickness and color. When setting a border color, it's recommended to also define a border color on hover.

The mini menu is disabled by default but can be enabled if needed.

IDP logos on the mini menu doesn't have a background color, so it's important that the secondary content background is compliant with a contrast ratio of at least 4.5:1. It's possible to revert the colors of logos to a negative version, where they are white. It's recommended to use the default colors whenever possible.

The mini menu has an isolated group of styling options.

Buttons

Buttons consist of a complex set of styling options. There are three button types for soft content: primary, secondary and text link. All of them is available when defining soft content. Two system buttons for IDP and consent options. There are also options for styling the button for mobile top bar, if that is configured for the theme.

The primary system button is based on the MitID UX scheme and secondary system button is based on the NemID visual design.

Please note that the buttons don't affect the design of buttons inside MitID or NemID IDP.



Custom Themes

The theming options in Nets eID Broker is designed to cater for many different layout options. It's also possible to get a completely customized theme, created by the developers of Nets eID Broker. Contact us for more information about this option.

Export / Import themes

It's possible to export themes into a JSON file you can store on your machine or share with a colleague. The JSON file contains all the options chosen in the visual editor. The JSON file is ideal when moving themes between pre-production and production to minimize the risk of human errors.

The JSON file format has a built-in format version, to ensure that the file is compatible with the current state of Nets eID Broker. Old files might not be compatible with the latest version.

Assigning themes

Themes are assigned to services. By default, all services use the "Nets eID Broker standard theme". Go to the specific service and assign the theme you want to activate. It's possible to have multiple themes that's not active.

Soft content

Soft content is optional texts and links that supports the user's journey. It's recommended to have soft content on Split, Split Fluid and Top bar theme templates.

Soft content is bound to the theme, so multiple soft content is possible with multiple themes.

Three languages is supported, Danish, English and Greenlandic. All languages contain independent content structures.

The content is found under the menu item 'Texts'. If you don't have access to this menu item, please contact your local administrator.

Input types

Multiple content types are available:

Heading

Base headline, based on an html H1 element. We recommend starting the soft content with a heading for accessibility reasons.

Subheading

A smaller headline, based on an html H2 element.

Small subheading

An even smaller headline, based on an html h3 element.

Body text

Default paragraph text base on an html P element. Use this for the written content itself.



Link Collection

A group of links. This can contain a single link or multiple links. Links can have three different styles: Primary, Secondary and Text link. Each button visual appearance is defined in the "Button" tab.

We recommend specifying alt (alternative) text for each link if the link name isn't very specific. This ensures screen readers to be able to process the link optimal.

By default, the link opens in a new window. This can be suppressed by the "Open in the same window" toggle switch.

Please note, by default the links is placed besides each other. If you want them to be placed below each other, you have the setting in the "Spacing" tab.

Preview

Preview functionality is building a preview with the theme options. This doesn't replace the need for proper testing in a browser.

Export / Import soft content

It's possible to export soft content structures into a JSON file you can store on your machine or share with a colleague. The JSON file contains all the content in all languages. The JSON file is ideal when moving themes between pre-production and production to minimize the risk of human errors.

The JSON file format has a built-in format version, to ensure that the file is compatible with the current state of Nets eID Broker. Old files might not be compatible with the latest version.

User Interface elements

Accessibility

If the button or link for opening the Nets eID Broker is anything else than an <a> or <button> element, you should add role="link" tabindex="0" to the DOM element, to make it accessible for keyboard navigation and screen readers according to the WCAG 3.0 standard.

We advise you to put helping text on functions that opens in a new window. You can use either of these two ways:

```
<!-- option 1 aria-label -->
<button aria-label="MitID sign in. Opens in a new window">Sign in</button>
<!-- option 2 visually hidden text -->
<button>Sign in <span class="visually-hidden">Opens in a new window</span></button>
<!-- visually-hidden class containing visibility:hidden in css -->
```



MitID Button

DEFAULT / PREFERRED: 4PX



MINIMUM CORNERS RADIUS: 0PX



MAXIMUM CORNERS RADIUS: ROUNDED



If you want to use the MitID logo in a button as a Call-to-Action button (CTA buttons), then it must follow these specifications. The options for text on the MitID Button can be seen below. The options use the same action verbs as the action texts in the MitID box, but the text differs and does not include the name of the Service Provider. The action verbs and text on the MitID button must be one of the options shown below

Danish	English	Greenlandic
Log ind med MitID	Log on with MitID	-
Godkend med MitID	Approve with MitID	-
Bekræft med MitID	Confirm with MitID	-
Accepter med MitID	Accept with MitID	-
Underskriv med MitID	Underskriv med MitID	-