# General guidelines for HTML email creation

Created by Jurcisin, Matus (contracted), last modified on Jun 06, 2024

These guidelines bellow are designed to help you with the creation and using best practices in creation of HTML emails. Please read all 10 points and keep in mind that you are also free to use provided examples for better understanding and implementation. These examples are created to illustrate key concepts across layout, styling, responsiveness and accessibility.

## 1. Basic HTML Structure

Begin your HTML email creation by establishing a solid foundation with a simple HTML structure using <html>, <head>, and <body> tags.

The <html> tag encapsulates the entire HTML document, providing a structural base for the content.
In <head>` tag, you can include essential meta information such as:

- character encoding: `<meta charset="utf-8">`
- viewport settings for responsivness: `<meta name="viewport" content="width=device-width, initial-scale=1.0" />`
- tag to ensure latest rendering mode in IE: `<meta http-equiv="X-UA-Compatible" content="IE=edge">`
- tag that prevents Apple devices from reformatting email content: `<meta name="x-apple-disable-message-reformatting">`
- assets from external source: `<link href="https://fonts.googleapis.com/css2?family=Inter:wght@400;700&display=swap" rel="stylesheet">`
- <style> tag to include general styling for whole email

The `<body>` tag contains the actual content of your email, including text, images, links, and other elements.

## 2. CSS Styling

When styling elements within HTML emails please use internal CSS, primarily due to the limited support for external stylesheets across various email clients.

By applying styles inline directly to HTML elements using the `style` attribute you ensure that your styling instructions are clear and applied consistently across all email clients.

```
<td style="background-color:#f34303e; padding:0px 20px; font-size:18px;" width="100%" align="center">
```

This approach is crucial for controlling elements such as fonts, colors, backgrounds, margins, and padding within your email templates. Additionally, inline CSS allows you better specificity in targeting elements, reducing the chances of style conflicts if you are using styling also within <style> element.

Keep in mind that if you are using <style> element in the <head> tag, this approach is not fully supported by all browsers.

If you need to use padding in your design, you should place <style> element with padding only in <td> tags to keep it clear and compatible with all email clients.

## 3. Tables for Layout

Importance of table elements such as <table>, <thead>, <tbody>, <tfoot>, <tr>, <th>, <td>, for layout structure in HTML emails is crucial due to the varying CSS support among different email clients. By using table elements in structure of your email layout, you ensure greater compatibility across a wide range of email clients, including those with older rendering engines. Please avoid using <div> tags and CSS flexbox

When dealing with more complex email layouts it is necessary to use nested tables. Nested tables involve placing one table within another, allowing structured designs while maintaining compatibility.

Bellow you can see example of simple table with inline CSS styling.

```
<table width="100%" cellspacing="0" cellpadding="0" border="0" bgcolor="#ffffff" align="center">
  <tr>
    <td colspan="2" style="background-color:#f34303e; padding:0px 20px;" width="100%" align="center">
      <span style="font-size:27px;"><br>
        <strong>Heading of part in email?</strong>
      </span>
    </td>
  </tr>
  <tr>
    <td style="padding: 20px 20px 0px 40px;" width="35%" valign="middle" align="center">
      <img src="https://image.e.iqos.com/lib/fe3f15707564067575107 1/m/9/eba40bf4-2ff6-437e-a24a-e309054625d4.png"
        alt="icon_1" style="height: auto; width: 70px;" height="auto" width="70">
    </td>
    <td style="padding: 20px 20px 0px 10px; max-width:480px " width="65%" align="left">
      <strong>Text in first row.</strong>
    </td>
  </tr>
  <tr>
    <td style="padding: 20px 20px 0px 40px;" width="35%" valign="middle" align="center">
      <img src="https://image.e.iqos.com/lib/fe3f15707564067575107 1/m/9/a0d9ec61-1b3d-42d2-80f5-37373a4a8906.png"
        alt="icon_2" style="height: auto; width: 70px;" height="auto" width="70">
    </td>
    <td style="padding: 20px 20px 0px 10px; max-width:480px; " width="65%" align="left">
      <strong>Text in second row.</strong>
    </td>
  </tr>
</table>
```

## 4. Responsive Design

One and only effective way to implement responsive design in HTML emails is through the use of media queries:

```
@media screen and (max-width: 480px) {
          td {
            background-color: #ffffff;
          }

          ...
    }
```

Media queries enable you to apply specific styles based on the device's screen size, allowing for targeted adjustments in layout, font sizes, and overall presentation. Please keep in mind that media queries are supported only by few email clients. List of them is in link bellow.

https://help.litmus.com/article/206-email-clients-that-support-media-queries

## 5. Links and Buttons

Keep in mind that some best practices for CTA creations like border-radius are not possible to display in Outlook clients, for this case we are using conditions for Outlook and Vector Markup Language (VML) for CTA creation.

In example bellow you can see HTML button with hover effect (market requirement for specific email client), and with condition for Outlook clients to display button correctly:

```
<style>
   %%[ set @text ="Víc o IQOS CARE PLUS"
   set @link ="https://www.iqos.com/cz/cs/care-plus.html"
   set @alias ="cta_iqos_care"
   set @text_color ="#ffffff"
   set @background_color ="#34303e"
   set @border_color ="#34303e"
   set @text_color_after ="#ffffff"
```

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```
  ]%%
  .hover-button:hover {
    color: %%=v(@text_color_after)=%% !important;
    background-color: %%=v(@background_color_after)=%% !important;
    border-color: %%=v(@border_color_after)=%% !important
  }
</style>

<table style="background-color:#ffffff; padding-bottom:30px;" width="100%" cellspacing="0" cellpadding="0" border="0"
  bgcolor="#FFFFFF" align="center">
  <tr>
    <td cellspacing="0" cellpadding="0" border="0" width="100%" align="center">
      <!--[if !mso]>-->
      <a class="hover-button" style="background-color: %%=v(@background_color)=%%;
                          color: %%=v(@text_color)=%%;
                          border-radius: 50px;
                          padding: 10px 30px;
                          font-size: 15px;
                          text-decoration: none;
                          display: inline-block;
                          transition: .3s all;
                          letter-spacing: 1px;
                          border: 2px solid %%=v(@border_color)=%%" href="%%=RedirectTo(@link)=%%"
        bgcolor="%%=v(@background_color)=%%" alias="%%=v(@alias)=%%">%%=v(@text)=%%</a>
      <!--<![endif]-->
      <!--[if mso]>
        <v:roundrect xmlns:v="urn:schemas-microsoft-com:vml" xmlns:w="urn:schemas-microsoft-com:office:word" href="%%=RedirectTo(@link)=%%" style="height:48px;v-text-anchor:middle;width:250px;" arcsize="100%" stroke="f" fillcolor="%%=v(@background_color)=%%">
          <w:anchorlock>
            <center style="color:%%=v(@text_color)=%%;font-family:sans-serif;font-size:15px;">
              %%=v(@text)=%%
            </center>
          </w:anchorlock>
        </v:roundrect>
      <![endif]-->
    </td>
  </tr>
</table>
```

If you'd like your CTA of or any clickable text in your HTML to stay the same colour even after clicking, put this code into your <a> tag:

```
<strong color="white" style="font-weight:normal; color:white!important;"> TEXT </strong>
```

It has to follow this order with the "!important" value used only on colour attribute to make sure it works correctly.

## 6. Fonts and Typography

Using web-safe fonts in your HTML emails causing consistent rendering across various email clients and devices. These fonts are widely supported and are less likely to encounter compatibility issues. Common web-safe fonts include Arial, Helvetica, Times New Roman, Georgia, Courier New, and Verdana.

Include fallback font options in your CSS declarations to ensure that if a web-safe font is not available, the email client can use an alternative font.

## 7. Background image

When we want to use a background image in the email, we have to prepare the email with VML code (Vector Markup Language) included, because Outlook is NOT able to display a background image in the email without it.

You can follow the example below:

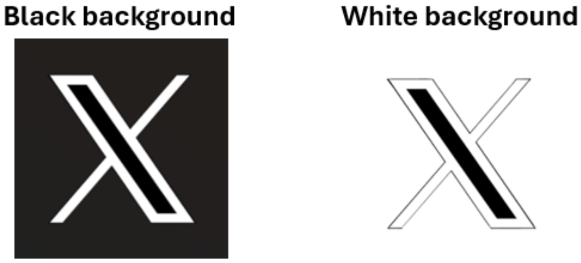
```
<td align="center" bgcolor="#000000" background="https://via.placeholder.com/640x400" width="640" height="400"
```

```
  <v:image xmlns:v="urn:schemas-microsoft-com:vml" fill="true" stroke="false" style=" border: 0;display: inline-block; width: 480pt; height:
300pt;" src="https://via.placeholder.com/640x400" />
<v:rect xmlns:v="urn:schemas-microsoft-com:vml" fill="true" stroke="false" style=" border: 0;display: inline-block;position: absolute; width: 480pt;
height:300pt;">
  <v:fill  opacity="0%" color="#000000"  />
  <v:textbox inset="0,0,0,0">
  <![endif]-->
  <div>
    <div style="font-size: 0;">
      <table role="presentation" width="640" style="width:640px;" cellpadding="0" cellspacing="0" border="0"
        align="center">
        <tr>
          <td height="400" align="center">CONTENT</td>
        </tr>
      </table>
    </div>
  </div>
  <!--[if gte mso 9]>
  </v:textbox>
  </v:fill>
  </v:rect>
  </v:image>
  <![endif]-->
</td>
```

## 8. Dark mode guide

As the dark mode functionality of email clients is pretty much the new feature that we don’t have many options how to prevent the email to be changed when displayed by different email clients with dark mode display settings, we are concentrating on bulletproof setup of the original email, more than on targeting the specific email clients with complicated code as each client is processing dark mode differently.

- **White and black logos and icons**
  When you are using white logos/icons on black background or black logos/icons on white background, due to the dark mode setup in different email clients, the logos might disappear (as the background color will be inverted automatically). Prevent this by creating a lining around your image file, that won’t be visible in normal mode, but only when background colour is inverted by the dark mode.



- **Signatures**
  When using a signature in your email, best solution to prevent the signature to disappear on dark mode is to include it in your email already with a background behind it, instead of PNG with transparent background.

Signature with black background
The Mid-Week Mix
Signature with white background
The Mid-Week Mix

- **Branded buttons**
  As some buttons require a specific colour to be used to follow the brand rules, it can create an issue in email clients that are performing a complete inversion of the colours used in the email (f.ex. purple logo will be inverted into yellow logo)

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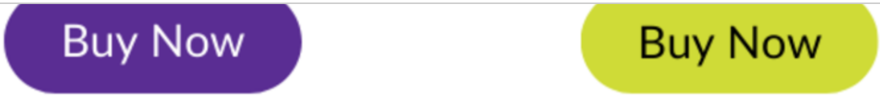


Best solution for this is to provide the button as the final image with text in it, instead of code the button in the HTML.
Keep in mind, that if the email is supposed to be sent in multiple languages, there will have to be provided multiple images of buttons with all of the required translations included.

- **Background images with text in front**
  When using a background image in the email with the text in front of it, inverting the colours of the text by email client can make the text unreadable and disappear in the background. As background images are not inverted by email clients, best approach for this case is to include the text in the final image.

  Keep in mind, that if the email is supposed to be sent in multiple languages, there will have to be provided multiple images with background and text included in all required translations.

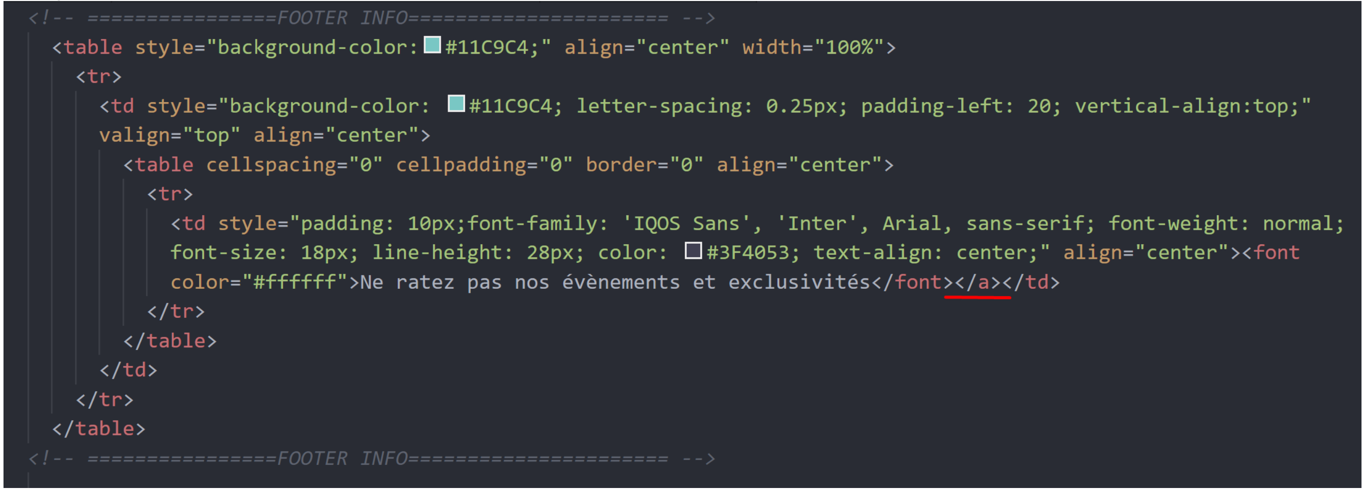
Source: https://www.emailonacid.com/blog/article/email-development/dark-mode-for-email/

## 9. Most common issues

- **Missing or mismatched tags.**

  Ensure that all HTML tags are properly opened and closed. Missing or mismatched tags can break the layout and make your email appear incorrectly in different email clients. Use a external code validator, or even a SFMC validator in Content Builder to catch these errors.

  *Example:*



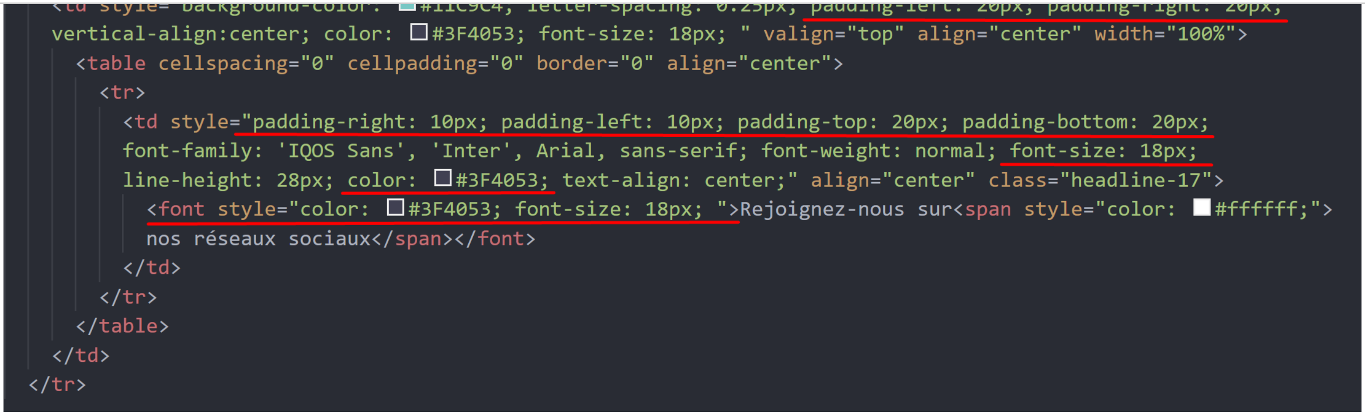
```
<!-- ================FOOTER INFO====================== -->
  <table style="background-color:#11C9C4;" align="center" width="100%">
    <tr>
      <td style="background-color: #11C9C4; letter-spacing: 0.25px; padding-left: 20; vertical-align:top;"
      valign="top" align="center">
        <table cellspacing="0" cellpadding="0" border="0" align="center">
          <tr>
            <td style="padding: 10px;font-family: 'IQOS Sans', 'Inter', Arial, sans-serif; font-weight: normal;
            font-size: 18px; line-height: 28px; color: #3F4053; text-align: center;" align="center"><font
            color="#ffffff">Ne ratez pas nos évènements et exclusivités</font></a></td>
          </tr>
        </table>
      </td>
    </tr>
  </table>
<!-- ================FOOTER INFO====================== -->
```

  *In Example above you can see that there is missing <a> open tag, or the closing </a> tag is unnecessary, this is causing broken layout in several email clients.*

- **Lot of inline styles.**

  While inline styles are necessary for consistent rendering across different email clients, overusing them can make your HTML messy and difficult to maintain. Try to find a balance and use those inline styles which you really need.

  *Example:*



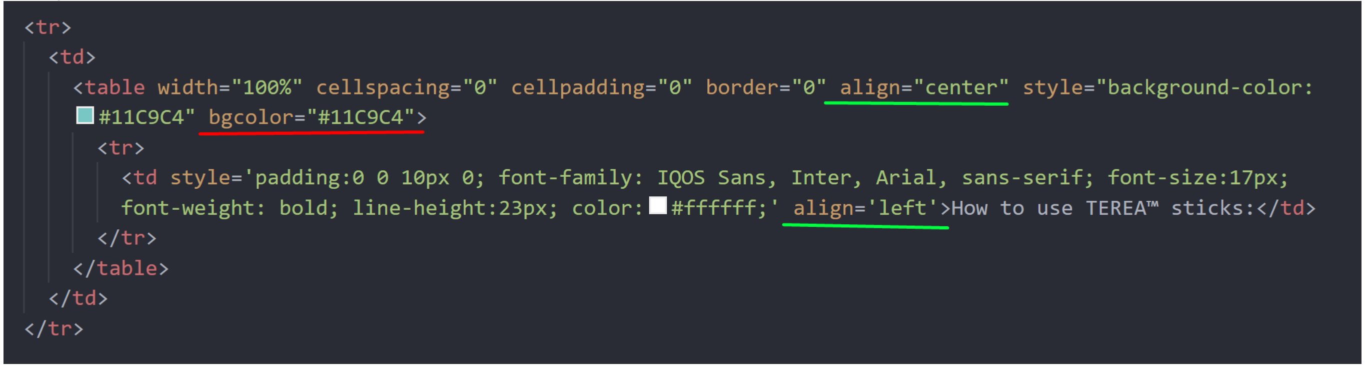
```
  <td style="background-color: 🟦#11C9C4; letter-spacing: 0.25px; padding-left: 20px; padding-right: 20px;
  vertical-align:center; color: □#3F4053; font-size: 18px; " valign="top" align="center" width="100%">
    <table cellspacing="0" cellpadding="0" border="0" align="center">
      <tr>
        <td style="padding-right: 10px; padding-left: 10px; padding-top: 20px; padding-bottom: 20px;
        font-family: 'IQOS Sans', 'Inter', Arial, sans-serif; font-weight: normal; font-size: 18px;
        line-height: 28px; color: □#3F4053; text-align: center;" align="center" class="headline-17">
          <font style="color: □#3F4053; font-size: 18px; ">Rejoignez-nous sur<span style="color: ■#ffffff;">
          nos réseaux sociaux</span></font>
        </td>
      </tr>
    </table>
  </td>
</tr>
```

*In this example you can see highlighted unneeded CSS code which is repeating, and should be declared only once or merged into one CSS property like "padding: 20px 10px".*

- **Invalid or deprecated attributes.**

  Avoid using HTML attributes that are outdated or not supported by modern email clients. Regularly check the latest email client support documentation to ensure compatibility and replace deprecated attributes with current alternatives or delete them if they are not necessary.

  *Example:*



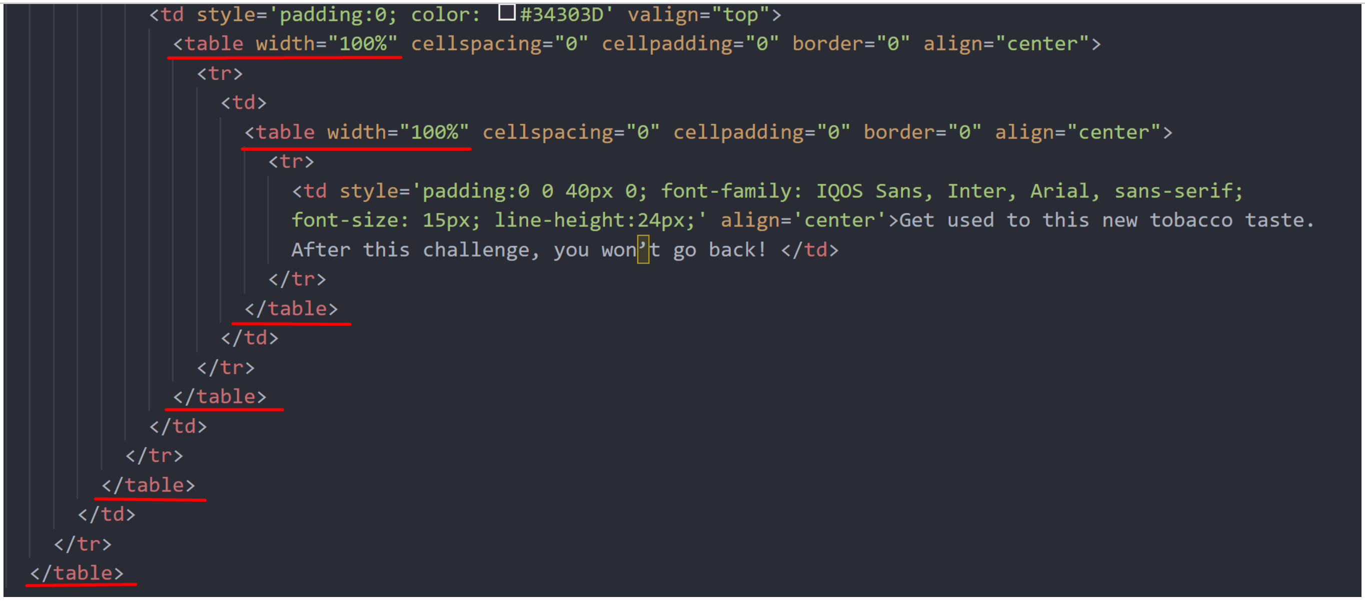
```
<tr>
  <td>
    <table width="100%" cellspacing="0" cellpadding="0" border="0" align="center" style="background-color:
    🟦#11C9C4" bgcolor="#11C9C4">
      <tr>
        <td style='padding:0 0 10px 0; font-family: IQOS Sans, Inter, Arial, sans-serif; font-size:17px;
        font-weight: bold; line-height:23px; color:■#ffffff;' align='left'>How to use TEREA™ sticks:</td>
      </tr>
    </table>
  </td>
</tr>
```

*In this example you can see bgcolor attribute which is not needed, because we have already background-color declared in style, which is supported by more email clients and it has higher priority.*
*Align attribute is in place in this case because text-align property in CSS is not fully supported by some email clients.*

- **Improper nesting of elements.**

  HTML elements must be properly nested according to the HTML specification. Incorrect nesting can cause display issues. For example, `<a>` tags should not contain block-level elements. Also make sure that if you are nesting table elements, there is no other more simple alternative how to have required layout. Always test your emails in multiple clients to catch issues.

  *Example:*



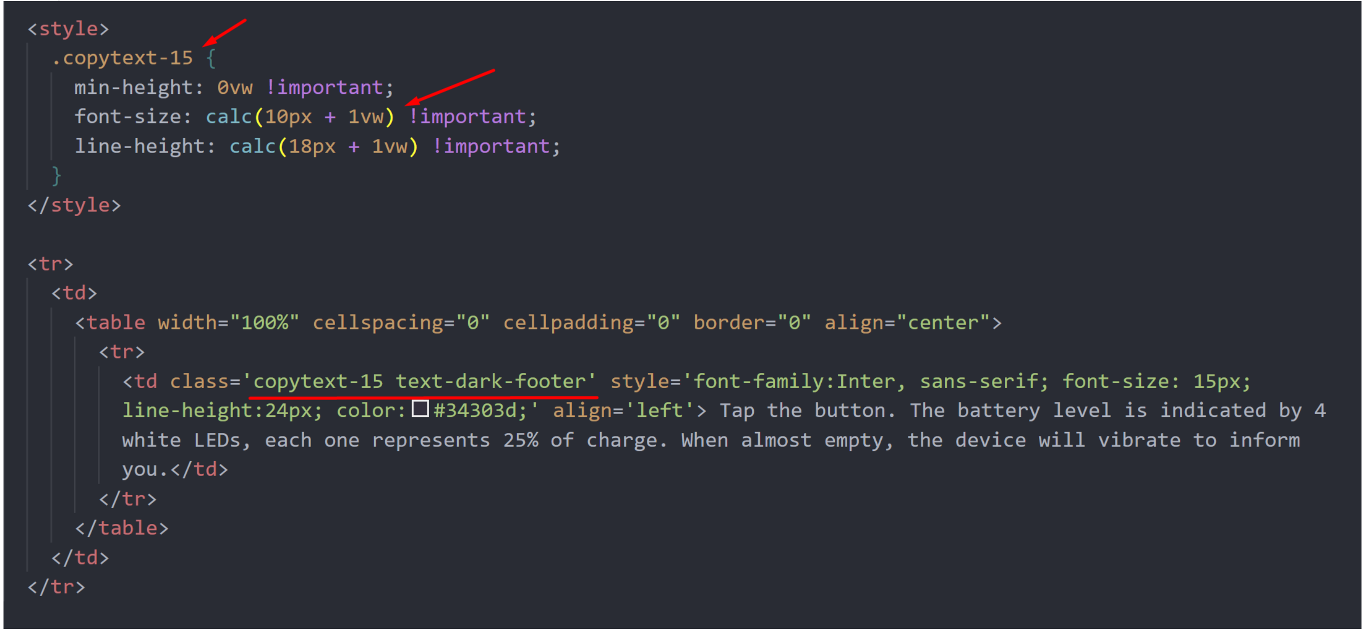
```
          <td style='padding:0; color: □#34303D' valign="top">
            <table width="100%" cellspacing="0" cellpadding="0" border="0" align="center">
              <tr>
                <td>
                  <table width="100%" cellspacing="0" cellpadding="0" border="0" align="center">
                    <tr>
                      <td style='padding:0 0 40px 0; font-family: IQOS Sans, Inter, Arial, sans-serif;
                      font-size: 15px; line-height:24px;' align='center'>Get used to this new tobacco taste.
                      After this challenge, you won’t go back! </td>
                    </tr>
                  </table>
                </td>
              </tr>
            </table>
          </td>
        </tr>
      </table>
    </td>
  </tr>
</table>
```

*In example above you can see that we have quite a lot repeating nested <table> tags which are not needed in this case, if we have same formatting for multiple <table>'s.*

- **Improper use of classes.**

  Ensure that classes are used consistently and correctly. Misusing classes can lead to styling issues and increased difficulty in maintaining email template. Make sure class names are descriptive and that they are needed to be in place. Try to use classes as less as possible and instead of them rely on inline styling, because not all browsers supports classes specified in <style> element, especially gmail apps and also gmail on browser.

  *Example:*



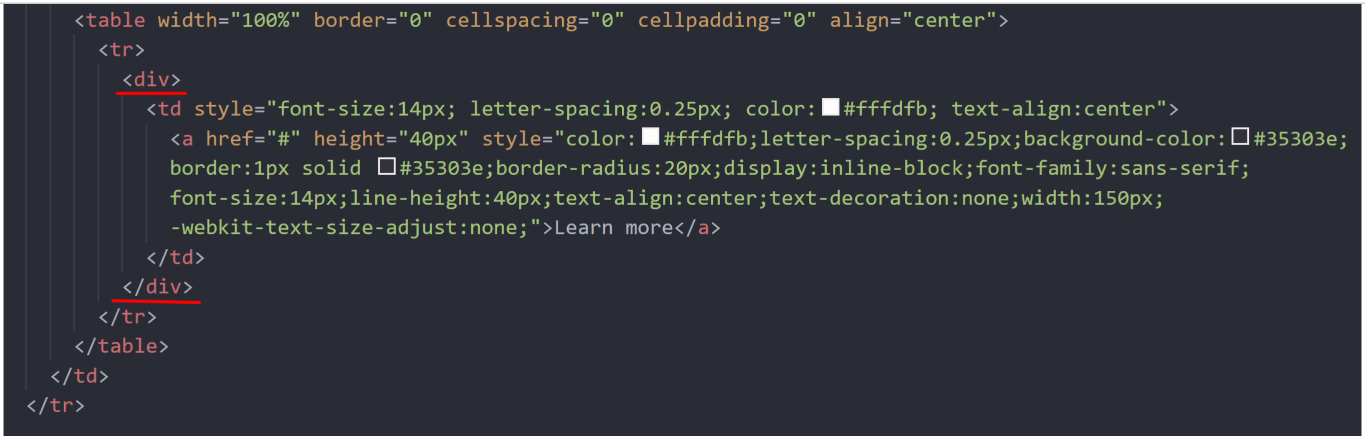
```
<style>
  .copytext-15 {
    min-height: 0vw !important;
    font-size: calc(10px + 1vw) !important;
    line-height: calc(18px + 1vw) !important;
  }
</style>

<tr>
  <td>
    <table width="100%" cellspacing="0" cellpadding="0" border="0" align="center">
      <tr>
        <td class='copytext-15 text-dark-footer' style='font-family:Inter, sans-serif; font-size: 15px;
        line-height:24px; color:□#34303d;' align='left'> Tap the button. The battery level is indicated by 4
        white LEDs, each one represents 25% of charge. When almost empty, the device will vibrate to inform
        you.</td>
      </tr>
    </table>
  </td>
</tr>
```

*In this example you can see that we have 2 classes for<td>, "copytext-15" class have font-size 10px which is not clearly named and we are using also calc() function which is poorly supported by email clients.*
*Second class "text-dark-footer" is not even mentioned in <style> element, so there is no need to have it in our <td>.*

- **Div tags in tables.**

  Avoid using `<div>` tags inside table elements. Many email clients do not handle this, leading to broken layouts. Instead, use table rows (<tr>) and table data cells (<td>) to structure content within tables.

  *Example:*



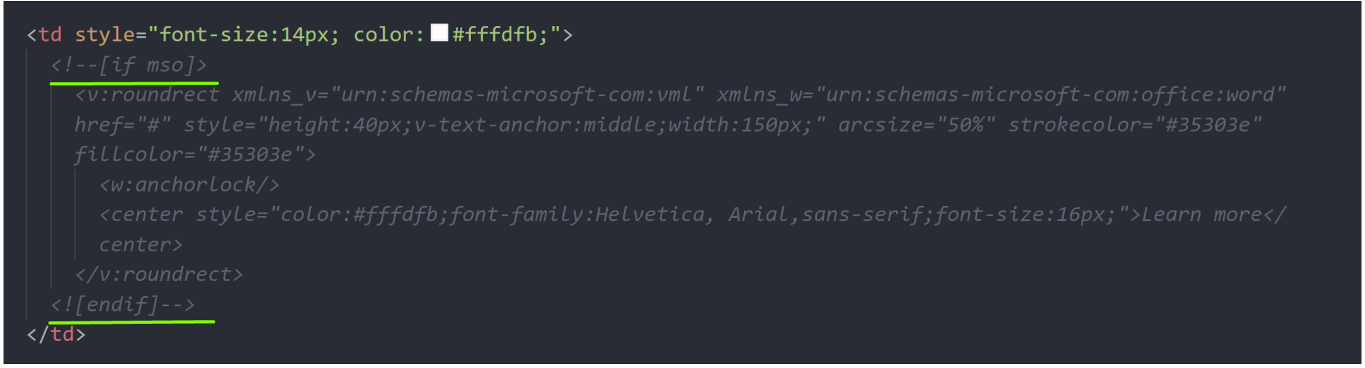
```
    <table width="100%" border="0" cellspacing="0" cellpadding="0" align="center">
      <tr>
        <div>
          <td style="font-size:14px; letter-spacing:0.25px; color:□#fffdfb; text-align:center">
            <a href="#" height="40px" style="color:□#fffdfb;letter-spacing:0.25px;background-color:□#35303e;
            border:1px solid □#35303e;border-radius:20px;display:inline-block;font-family:sans-serif;
            font-size:14px;line-height:40px;text-align:center;text-decoration:none;width:150px;
            -webkit-text-size-adjust:none;">Learn more</a>
          </td>
        </div>
      </tr>
    </table>
  </td>
</tr>
```

*In example above you can see that we have <td> element in <div> element, which can cause layout errors in most of email clients. We should avoid <div> tags in email templates and use them only if there is no chance to build required layout with <table>, <tr>, <td> tags.*

- **Improper use of Outlook tags**

  Outlook uses some unique tags and attributes like `v:`, `o:`, and `mso-`. These should be used correctly to ensure proper rendering in Outlook. Incorrect use can lead to unexpected formatting problems. Refer to Microsoft's documentation for guidance.

  *Example:*



```
<td style="font-size:14px; color:□#fffdfb;">
  <!--[if mso]>
    <v:roundrect xmlns_v="urn:schemas-microsoft-com:vml" xmlns_w="urn:schemas-microsoft-com:office:word"
    href="#" style="height:40px;v-text-anchor:middle;width:150px;" arcsize="50%" strokecolor="#35303e"
    fillcolor="#35303e">
      <w:anchorlock/>
      <center style="color:#fffdfb;font-family:Helvetica, Arial,sans-serif;font-size:16px;">Learn more</
      center>
    </v:roundrect>
  <![endif]-->
</td>
```

  *Here you can see proper use of MSO condition, more info about conditional CSS code you can find on this page: https://www.emailonacid.com/blog/article/email-development/conditional-css-code/*

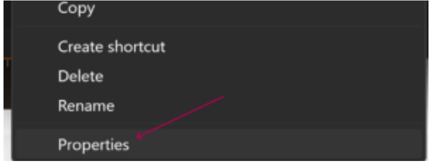
- **Odd number of pixels in height**

  When using odd number of pixels in any height parameter (1, 3, 5, 7, 9), Outlook can struggle to render the element correctly and will cut a piece of an image or create a white line in the email. This applies to all of these attributes:

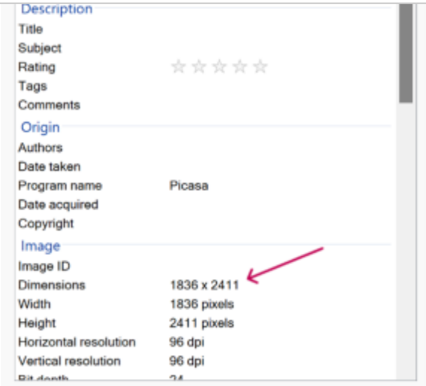
  - *Font-size*
    style="font-size: ~~25px~~ 26px"
  - *Line-height*
    style="line-height: ~~29px~~ 30px"
  - *Height*
    style="height: ~~255px~~ 256px" height="~~255~~ 256"
  - *Height of the image asset used in the email*
    ~~2201 x 789 px~~ -> 2200 x 788 px

    <u>Check the dimensions of your image</u>

    - In your computer, open a folder where you store the image, right-click on it and look for "Properties

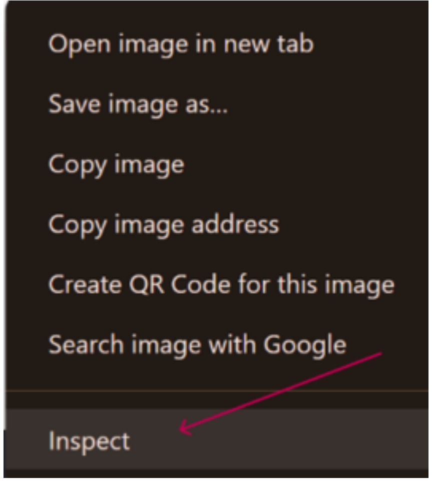


      Open the "Details" tab and see the "Dimensions" at the bottom of the window:

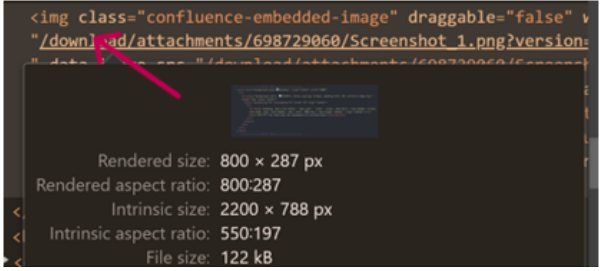


Description
Title
Subject
Rating ☆☆☆☆☆
Tags
Comments
Origin
Authors
Date taken
Program name Picasa
Date acquired
Copyright
Image
Image ID
Dimensions 1836 x 2411
Width 1836 pixels
Height 2411 pixels
Horizontal resolution 96 dpi
Vertical resolution 96 dpi

- In case you have already uploaded your image into Marketing Cloud or you are storing it in some cloud storage platform (Microsoft SharePoint, Microsoft OneDrive, Dropbox, etc.), right-click on it directly in your browser and select “Inspect”:



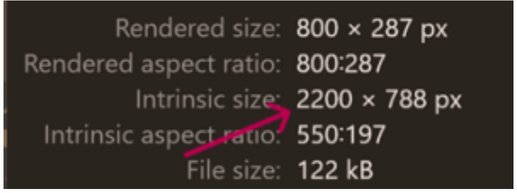
Hover over the “<img>” part of the code on the right side of your screen. The window with image dimensions should automatically appear under it:



```
<img class="confluence-embedded-image" draggable="false" w
"/download/attachments/698729060/Screenshot_1.png?version=
```

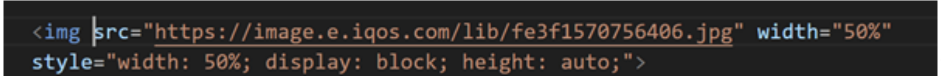
Rendered size: 800 × 287 px
Rendered aspect ratio: 800:287
Intrinsic size: 2200 × 788 px
Intrinsic aspect ratio: 550:197
File size: 122 kB

Look for “Intrinsic size” information about your image:



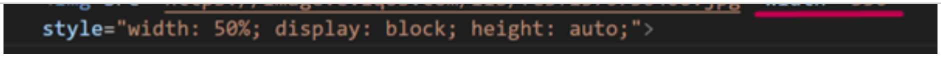
Rendered size: 800 × 287 px
Rendered aspect ratio: 800:287
Intrinsic size: 2200 × 788 px
Intrinsic aspect ratio: 550:197
File size: 122 kB

- **Using percentage as a height or the width of the image**



```
<img src="https://image.e.iqos.com/lib/fe3f1570756406.jpg" width="50%"
style="width: 50%; display: block; height: auto;">
```

In case you want your image size to be automatically adjusted to the screen (f.ex. to always have the width 50% of the screen with the text next to it), Outlooks will have issues to display it correctly, as they are not able to process the percentage information. See the example bellow: This code will be rendered in the Outlook as a huge image excessing the borders of the whole email. For Outlook, it’s always best to have static values in width and height (or setting up height:auto with static width). You can secure this by writing a separated width information for Outlook and separated



```
style="width: 50%; display: block; height: auto;">
```

As a result of this, the width of the image will be always dynamic and always 50% of the nesting element on all email clients, except on Outlooks, where width will always be 350 DPI.

- **Keeping an empty <a> tag in the code**

  If the element had the redirection included in the code before and you would like to remove it, keep in mind to remove to whole <a> element from the code, instead of only removing the redirection link from “href” attribute, as you can see in the example below:

  <a href="" width="298" alias=”CTA_1” target=”_blank” style="color:#000000;outline:none;border:none;margin:auto;display:block"> Text </a>

  This will result in the element still being clickable but will be redirected into error page.

  If you don’t want to have a redirection on some element, you need to delete the whole <a> tag from the code, leaving only the element inside (text, image, etc.).

  In case you have any styling in the <a> tag included, f.ex. font size, line-height, alignment, colour etc , you can replace the “a” with “span” tag, and then remove the “href” and other attributes connected to <a> (alias, target, type).

  <span width="298" style="color:#000000;outline:none;border:none;margin:auto;display:block"> Text </span>

- **Empty space in the URL**

  Keep in mind, to not leave an empty space in the beginning, end or anywhere withing the link in the “href” attribute of the <a> tag, as Outlook might have issues to open it and will redirect on error page:

  <a href=” https://www.example.com”> **->** <a href=”https://www.example.com”>

- **Incorrect syntax of the attributes and stiles in the elements**

  Make sure to follow a proper syntax of your code, as the correct rendering of the email is dependent on the correct HTML and CSS coding.

  *Example:*

  <td style='padding:0 25px 0 0;' align='center' vertical-align:middle>

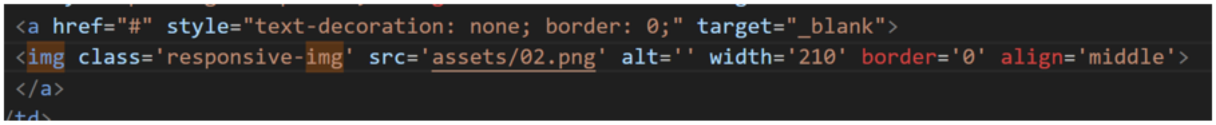
  “vertical-align:middle” styling will not be processed, because it is not included in the “style” attribute. Correct syntax for this case should be:

  <td style='padding:0 25px 0 0; vertical-align:middle' align='center'>

- **Using ‘ in the code instead of “**

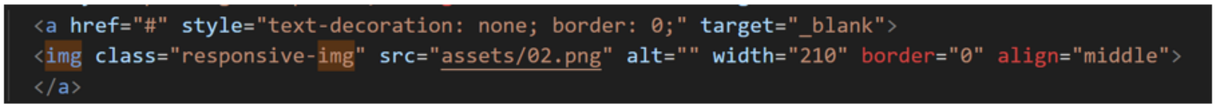
  Although HTML is able to process ‘ (apostrophe) in the code instead of “ (double-quote marks) when setting up attributes of different elements, to follow the overall used standards and better readability of the code, we recommend to use quote marks everywhere in the HTML code.

  *Example:*



```
<a href="#" style="text-decoration: none; border: 0;" target="_blank">
<img class='responsive-img' src='assets/02.png' alt='' width='210' border='0' align='middle'>
</a>
```

  *Standardized syntax:*



```
 <a href="#" style="text-decoration: none; border: 0;" target="_blank">
 <img class="responsive-img" src="assets/02.png" alt="" width="210" border="0" align="middle">
 </a>
```

## 10. Useful links

ontent

- https://www.litmus.com/blog/litmus-builder-essentials-best-practices-for-creating-html-email-templates-in-builder
- https://www.emailonacid.com/blog/article/email-development/email-development-best-practices-2/
- https://www.caniemail.com/

No labels