Lazy Loading

Enhancing User Experience and Page Speed

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What is Lazy Loading?

- **Definition**: A strategy to delay loading of non-critical resources at page load time.
- **Purpose**: Improves page load times and reduces initial load size.
- **How it works:** Images/iframes load as they're about to enter the viewport.

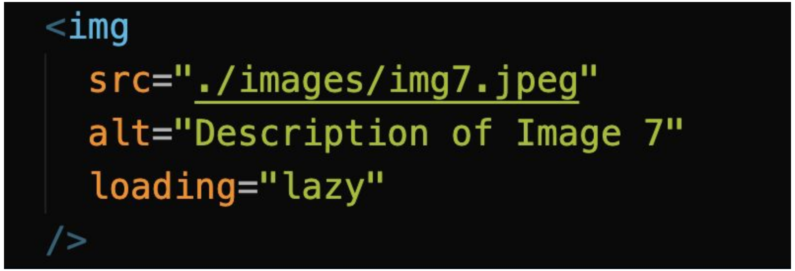
Demo: Unsplash website

Benefits of Lazy Loading

- **Faster Page Load Times**
- **Reduced Resource Consumption**
- **Enhanced User Experience**
- **SEO Improvements**

Demo Overview: loading="lazy” attribute in HTML

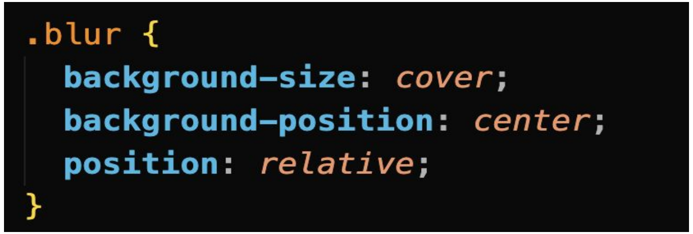
- **<img src=”...” loading=”eager”/>** - Default. Loads an image immediately
- **<img src=”...” loading=”lazy”/>** - Defer loading of images until some conditions are met



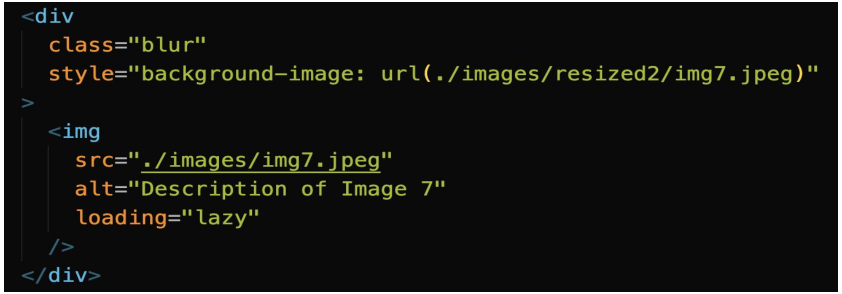
```
<img
  src="./images/img7.jpeg"
  alt="Description of Image 7"
  loading="lazy"
/>
```

Using CSS for Placeholder Image

- Encapsulate your <img> element within a <div> element.
- Assign a low-quality background image to the <div> element.
- Style the <div> element to ensure a proper fit within its container.



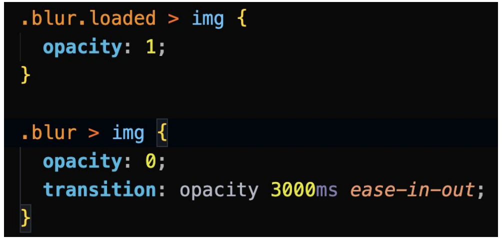
```css
.blur {
  background-size: cover;
  background-position: center;
  position: relative;
}
```



```html
<div
  class="blur"
  style="background-image: url(./images/resized2/img7.jpeg)"
>
  <img
    src="./images/img7.jpeg"
    alt="Description of Image 7"
    loading="lazy"
  />
</div>
```

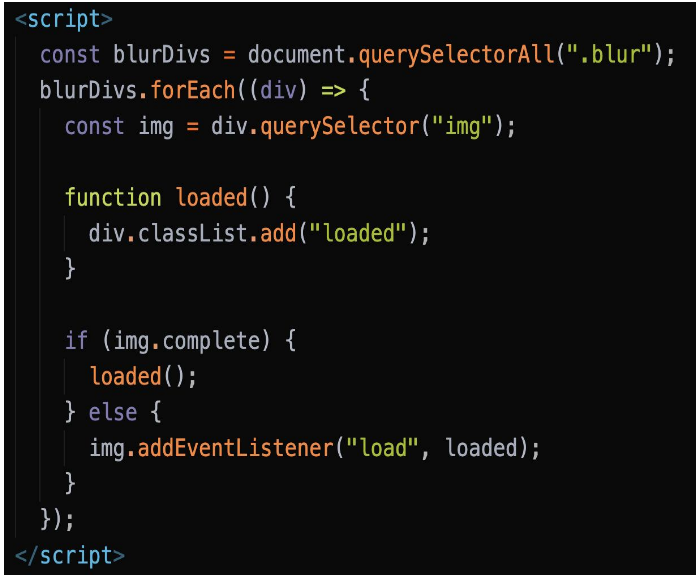
Using JS for Smooth Transition

- Select Blur Divs: Use querySelectorAll to find divs with the "blur" class
- Trigger Load Transition: Check if images are loaded; if so, add "loaded" class for transitions. If not loaded, add a load event listener to apply the class.
- CSS for Smooth Fade-in: Set initial image opacity to 0 in CSS and change to 1 once loaded.



```css
.blur.loaded > img {
  opacity: 1;
}

.blur > img {
  opacity: 0;
  transition: opacity 3000ms ease-in-out;
}
```



```html
<script>
  const blurDivs = document.querySelectorAll(".blur");
  blurDivs.forEach((div) => {
    const img = div.querySelector("img");

    function loaded() {
      div.classList.add("loaded");
    }

    if (img.complete) {
      loaded();
    } else {
      img.addEventListener("load", loaded);
    }
  });
</script>
```

Thank You

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