## Important HTML Elements
These affect how you show up in search results

### Title Tag
```
<head>
  <title>Page Title</title>
</head>
```
- Best between 50–60 characters
- Important keywords near the beginning
- Well-written descriptions influence click-through rates (CTR)

### Meta Description Tag
```
<head>
  <meta name="description" content="This is an example." />
</head>
```
- Best around 160 characters
- Each description should be unique
- Well-written descriptions influence click-through rates (CTR)

### Image
```
<img src="/img/keyword.jpg" alt="description of image" width="100" height="100">'
```
- Providing image height and width improves page speed

### Hyperlinks

<table>
<thead>
<tr>
<th>Type</th>
<th>Best Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text Link</td>
<td>Use &quot;nofollow&quot; for paid links and distrusted content</td>
</tr>
<tr>
<td></td>
<td>Use &quot;sponsored&quot; for sponsored or compensated links</td>
</tr>
<tr>
<td>NoFollowed Link</td>
<td>Use &quot;ugc&quot; for links within user-generated content</td>
</tr>
<tr>
<td></td>
<td>For image links, the alt attribute serves as the anchor text</td>
</tr>
</tbody>
</table>

### Common Duplicate Homepage URLs
- Preferred URL = https://example.com/
- Place the following in <head> section to indicate preferred URL:
```
<link href="https://example.com/" rel="canonical" />
```

## HTTP Status Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>OK/Success</td>
</tr>
<tr>
<td>301</td>
<td>Permanent redirect</td>
</tr>
<tr>
<td>302</td>
<td>Temporary redirect</td>
</tr>
<tr>
<td>404</td>
<td>Not found</td>
</tr>
<tr>
<td>410</td>
<td>Gone (permanently removed)</td>
</tr>
<tr>
<td>500</td>
<td>Server error</td>
</tr>
<tr>
<td>503</td>
<td>Unavailable (retry later)</td>
</tr>
</tbody>
</table>

## Webmaster Tools

- **Google Search Console**
  search.google.com/search-console/about
- **Bing Webmaster Tools**
  bing.com/toolbox/webmaster
- **Yandex**
  webmaster.yandex.com

## Canonicalization

<table>
<thead>
<tr>
<th>Common Duplicate Homepage URLs</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="https://www.example.com">https://www.example.com</a></td>
</tr>
<tr>
<td><a href="https://example.com">https://example.com</a></td>
</tr>
<tr>
<td><a href="https://www.example.com/index.html">https://www.example.com/index.html</a></td>
</tr>
<tr>
<td><a href="https://example.com/index.html">https://example.com/index.html</a></td>
</tr>
<tr>
<td><a href="https://example.com.html?sessid=123">https://example.com.html?sessid=123</a></td>
</tr>
</tbody>
</table>

## Best Practices

### "URLs" next page
### URLs

**Common URL Elements**

```plaintext
https://store.example.com/category/keyword?id=123#top
```

|---|-------------|--------------|----------------|---------------------|

- Choose shorter, human-readable URLs with descriptive keywords
- Exclude dynamic parameters when possible (see "Canonicalization" and "Pagination")
- When possible, place content on the same subdomain to preserve authority

**Recommended:** https://example.com/blog

**Less ideal:** https://blog.example.com

### Robots Exclusion Standard

<table>
<thead>
<tr>
<th><strong>Robots.txt</strong></th>
<th><strong>Location:</strong></th>
<th><a href="https://example.com/robots.txt">https://example.com/robots.txt</a></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>User-agent:</strong></td>
<td>googlebot</td>
<td>Disallow: /example.html</td>
</tr>
<tr>
<td><strong>Sitemap:</strong></td>
<td></td>
<td><a href="https://example.com/sitemap.xml">https://example.com/sitemap.xml</a></td>
</tr>
</tbody>
</table>

More information at [mz.cm/robotstxt](https://mz.cm/robotstxt)

<table>
<thead>
<tr>
<th><strong>X-Robots-Tag</strong></th>
<th><strong>Location:</strong></th>
<th>Sent in the HTTP headers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>X-Robots-Tag:</strong></td>
<td>noindex</td>
<td></td>
</tr>
</tbody>
</table>

More information at [mz.cm/x-robots](https://mz.cm/x-robots)

<table>
<thead>
<tr>
<th><strong>Meta Robots</strong></th>
<th><strong>Location:</strong></th>
<th>In the HTML <code>&lt;head&gt;</code></th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;meta name=&quot;robots&quot; content=&quot;[PARAMETER]&quot; /&gt;</code></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

More information at [mz.cm/x-robots](https://mz.cm/x-robots)

### Important User Agents

**For Robots.txt, Robots Meta Tags, and X-Robots-Tag:**

- Googlebot (can be used as default for most Google crawlers)
- Googlebot-News
- Googlebot-Image
- AdsBot-Google
- Mediapartners-Google (Mobile Adsense) or Mediapartners
- Googlebot-Video
- Bingbot
- Yandexbot
- Baiduspider
- FacebookExternalHit
- Applebot
- Slurp
- Twitterbot
- Rogerbot
- Dotbot
- Wildcard for all robots: *

### Important Parameters

- Noindex (do not index)
- Nofollow (do not follow links)
- Noarchive (do not show cache)
- ...or combine (noindex, nofollow)

If the robots `<META>` tag is not defined, the default is "INDEX, FOLLOW"

Don't block noindex URLs in robots.txt. They need to be crawled to be respected.
Sitemap Syntax

XML Sitemap Example:
RSS and text sitemaps are also options

```xml
<?xml version="1.0" encoding="UTF-8"?>
<urlset xmlns="http://www.sitemaps.org/schemas/sitemap/0.9">
  <url>
    <loc>http://www.example.com/foo.html</loc>
    <lastmod>2019-06-04</lastmod>
  </url>
</urlset>
```

Sitemap Index File

```xml
<?xml version="1.0" encoding="UTF-8"?>
<sitemapindex xmlns="http://www.sitemaps.org/schemas/sitemap/0.9">
  <sitemap>
    <loc>https://example.com/sitemap1.xml.gz</loc>
    <lastmod>2019-01-01T18:23:17+00:00</lastmod>
  </sitemap>
  <sitemap>
    <loc>https://example.com/sitemap2.xml.gz</loc>
    <lastmod>2019-01-01</lastmod>
  </sitemap>
</sitemapindex>
```

Default Location:
https://example.com/sitemap.xml

• Parent tag for each sitemap
• `loc`: location of the sitemap
• `lastmod`: the last modified date

• A sitemap cannot contain over 50,000 URLs. Large websites should use multiple sitemaps listed under a single sitemap index file.

Other Common Sitemap Types:
• Images
• Video
• News

Don’t forget to submit your sitemap to Google via Google Search Console.

Important Social Metadata

Sample Meta Tag Template: “Article”
Place this data between the `<head>` tags of your website.

```html
<!-- Required Open Graph data -->
<meta property="og:title" content="Developer’s Cheat Sheet to SEO" />
<meta property="og:type" content="article" />
<meta property="og:image" content="https://example.com/image.jpg" />
<meta property="og:url" content="https://example.com" />
<!-- Optional Open Graph data -->
<meta property="og:description" content="Description here." />
<meta property="og:site_name" content="Your Site Name, i.e. Moz" />
<meta property="og:image:width" content="1080" />
<meta property="og:image:height" content="675" />
<meta property="fb:app_id" content="Your FB_APP_ID" />
<!-- Find additional markup on https://ogp.me -->
```

Sample Meta Tag Template: “Summary”

```html
<meta name="twitter:card" content="summary">
<meta name="twitter:site" content="@Moz">
<meta name="twitter:title" content="Title of content (max 70 characters)">
<meta name="twitter:description" content="Description of content">
<meta name="twitter:image" content="https://example.com/unique-image.jpg">
```

Mobile

There are 3 ways to implement a mobile website:

• Responsive web design (adjusts for screen size)
• Dynamic serving (serves different content based on a user's device)
• Separate URLs (different URLs that serve mobile-optimized content). Not advised.

Check to see if your site is mobile-friendly:
mz.cm/mobile-friendly

Best Practices

• Your mobile version should display the same content as your desktop site
• Page title tags & meta descriptions should remain the same
• Use the meta name="viewport" tag in the head of your page to tell the browser how to adjust the content.
  For example: `<meta name="viewport" content="width=device-width, initial-scale=1.0">`

  Increase speed by optimizing the critical rendering path, using HTTPS & HTTP/2, eliminating render-blocking resources, removing unused CSS, and deferring offscreen images.

  More information at mz.cm/mobile-seo

Default to Open Graph

Platforms that support Open Graph protocol include Facebook, Twitter, LinkedIn, and Pinterest.

Optimal Image Sizing

Twitter:
• Minimum 144x144 px
• No larger than 4096x4096 px or 5MB

Facebook:
• Minimum 600x600 px
• Try to use images that are at least 1080 px in width

More information at mz.cm/social-meta
Rich Snippets and Structured Data
Enhance search results and help search engines understand your content.

Common Vocabularies: schema.org

Popular Formats: JSON-LD, RDFa, Microdata

Breadcrumbs

< script type="application/ld+json">
{
"@context": "http://schema.org",
"@type": "BreadcrumbList",
"itemListElement": [
---Repeat markup for additional list items-->
"@type": "ListItem",
"position": 1,
"item": {
"@id": "http://example.com/dinner",
"name": "Dinner"
},
---Additional list items here--->
]}
</script>

Reviews ★★★★★ Rating: 3.5 - 401 reviews - Price range: $11-30

< script type="application/ld+json">
{
"@context": "http://schema.org/",
"@type": "Review",
"reviewBody": "The restaurant has great ambiance.",
"itemReviewed": {
"@type": "Restaurant",
"name": "Fine Dining Establishment"
},
"reviewRating": {
"@type": "Rating",
"ratingValue": 5,
"worstRating": 1,
"bestRating": 5,
"reviewAspect": "Ambiance"
}
}
</script>

Review stars won't show up in search results.

Common Structured Data Types:
- Local business
- FAQ page
- Person
- How to
- Product
- Article
- Recipes
- QA page

More information at moz.cm/rich-snippets

Security

When using target="_blank" to open a link in a new tab, make sure you're implementing rel="noopener" or rel="noreferrer" to avoid exposing your website to a surface attack.

SSL certificates are table stakes today. Your website must have one.

Lighthouse (moz.cm/lighthouse) helps to identify these vulnerabilities (and more) in the audit.
### Targeting Multiple Languages
Help search engines understand your location/language targets.

#### URL Structures for Country & Language Targeting

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>ccTLDs (Country-Level Only)</td>
<td>example.de</td>
</tr>
<tr>
<td>Subdirectories with gTLDs</td>
<td>example.com/de/</td>
</tr>
<tr>
<td>Subdomains with gTLDs</td>
<td>de.example.com/</td>
</tr>
</tbody>
</table>

#### rel="alternate" hreflang="x"
Annotate alternate language & region versions of content

#### HTML version in <head>
Each version must identify all versions, including itself

```html
<link rel="alternate" hreflang="x-default" href="http://example.com/" /> (Specifies Default)
<link rel="alternate" hreflang="en" href="http://example.com/en/" /> (Specifies Language; English)
<link rel="alternate" hreflang="en-GB" href="http://example.com/en-gb/" /> (Specifies Language + Region)
```

#### Sitemap Version

```xml
<?xml version="1.0" encoding="UTF-8"?>
<urlset xmlns="http://www.sitemaps.org/schemas/sitemap/0.9"
        xmlns:xhtml="http://www.w3.org/1999/xhtml">
  <url>
    <loc>http://example.com/english/</loc>
    <xhtml:link rel="alternate" hreflang="de" href="http://example.com/deutsch/"/>
    <xhtml:link rel="alternate" hreflang="en" href="http://example.com/english/"/>
  </url>
  <url>
    <loc>http://example.com/deutsch/</loc>
    <xhtml:link rel="alternate" hreflang="en" href="http://example.com/english/"/>
  </url>
  <url>
    <loc>http://example.com/english/</loc>
    <xhtml:link rel="alternate" hreflang="en" href="http://example.com/english/"/>
    <xhtml:link rel="alternate" hreflang="de" href="http://www.example.com/deutsch/"/>
  </url>
</urlset>
```

### Popular Languages

<table>
<thead>
<tr>
<th>Code</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>en</td>
<td>English</td>
</tr>
<tr>
<td>es</td>
<td>Spanish</td>
</tr>
<tr>
<td>zh</td>
<td>Chinese</td>
</tr>
<tr>
<td>hi</td>
<td>Hindi</td>
</tr>
<tr>
<td>ja</td>
<td>Japanese</td>
</tr>
</tbody>
</table>

More language codes can be found at [mz.cm/langcodes](https://mz.cm/langcodes)

### Popular Regions

<table>
<thead>
<tr>
<th>Code</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>GB</td>
<td>Great Britain</td>
</tr>
<tr>
<td>CN</td>
<td>China</td>
</tr>
<tr>
<td>IN</td>
<td>India</td>
</tr>
<tr>
<td>JP</td>
<td>Japan</td>
</tr>
</tbody>
</table>

More region codes can be found at [mz.cm/regcodes](https://mz.cm/regcodes)
### Performance

#### Page Speed

**Page Speed Tips:**
- Compress and minify your code
- Reduce page redirects
- Remove render-blocking JavaScript
- Use treeshaking
- Leverage browser caching
- Use a CDN
- Leverage preconnect, prefetch and preload
- Analyze your critical rendering path performance for additional opportunities in Chrome Dev Tools.

**Test your Page Speed with:**
- Lighthouse: [developers.google.com/web/tools/lighthouse](https://developers.google.com/web/tools/lighthouse)
- PageSpeed Insights: [developers.google.com/speed/pagespeed/insights](https://developers.google.com/speed/pagespeed/insights)
- GTmetrix: [gtmetrix.com](https://gtmetrix.com)
- WebPageTest: [webpagetest.org](https://webpagetest.org)

#### Image Optimization

**Image Optimization Tips:**
- Compress your images & experiment with quality settings
- Remove unnecessary image metadata
- Explore lazy loading
- Leverage SRCSET for different screen sizes
- Ensure that your images have alt text
- Invest in automated tools that can help ensure your image assets will always be optimized (example: moz.cm/imageopt)

### Modern JavaScript Sites

**JavaScript Tips:**
- Keep JavaScript bundles small (especially for mobile devices). Small bundles improve speed, lower memory usage, and reduce CPU costs.
- Use server-side or pre-rendering to improve site speed, user experience, and crawler accessibility.
- Stuck with client-side rendering? Try pre-rendering to help Googlebot get a more immediate HTML snapshot of your page.
- Use Chrome Dev Tools’ “Performance” tab to test your runtime performance and network “throttling” to simulate different device capabilities.

Explore Chrome DevTools’ Timeline & JavaScript Profiler to analyze the impact of your JavaScript.

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Thanks for reading!