

Wild Side Wrap Up

Web Development

In this episode of The Wild Side of STEAM, we met Mohammed, a web developer at the Smithsonian's National Zoo. We discussed how he uses coding in his career to edit the Zoo's webpage and helps save species.

ACTIVITY 1: Watch the Wild Side of STEAM webinar, featuring web development. If you missed the live event, the video recording is available on <https://nationalzoo.si.edu/education/wild-side-steam>.

ACTIVITY 2: Open the sample code.

- Visit <http://plnkr.co/edit/EiqxKfOwJIOgbHFi?preview> to access the sample code Mohammed or "Mo" showed in the webinar.
- Take a few minutes to look at the structure of this page. The files are in the left column, the code is in the middle column, and the webpage preview is in the right column. In the files column, click index.html. This is the file you will work with.
- Refer to page 4 for an explanation of the lines of code you see.

The screenshot shows a web development interface with three main panels. On the left is a file explorer for a project named "Red Panda Info Card", showing files like "script.js", "style.css", and "index.html". The middle panel displays the HTML code for "index.html", which includes a doctype, head section with links to "lib/style.css" and "lib/script.js", a body section with a header containing "Red Panda", an image of a red panda, and a main section with a blockquote about red pandas and a heading "Fun Facts". The right panel shows a preview of the webpage, displaying the title "Red Panda", the image, and the text from the blockquote. The text in the preview is: "Red pandas, like giant pandas, are bamboo eaters native to Asia's high forests. Despite these similarities and their shared name, the two species are not closely related. Red pandas are much smaller than giant pandas and are the only living member of their taxonomic family." Below the preview, the text "FUN FACTS" is visible.

ACTIVITY 3: Create your own animal page by making changes to the code.



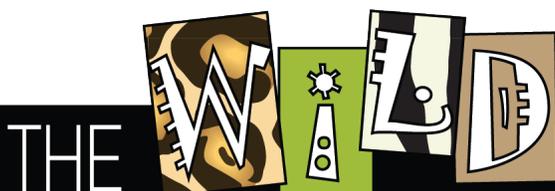
- Click the “Fork” button in the top left-hand corner. This will copy the current page and allow you to change and share your own copy.
 - Note: You can still make changes to the sample code without hitting “Fork,” but it will not let you share as your own copy. It will also not change the source code for other users.
 - Click “Save” often in your own copy to save your work.
- Try simple changes to the code, like adding, removing, or changing the black text between tags. *When you change the text in the code, what happens to your preview?*
- Try copying and pasting lines of code.
 - Example 1: In the code, add a new paragraph by copying the lines or code between the opening paragraph tag `<p>` and closing paragraph tag `</p>`.
 - Example 2: Add another bulleted item by adding another list opening tag `` plus some text and a list closing tag ``. Make sure it’s within your whole unordered list on the page, like this:
 - `` unordered list (bulleted list) opening tag
 - `` list item with opening and closing tags ``
 - `` another item with opening and closing tags ``
 - `` unordered list (bulleted list) closing tag
 - *Each time you make changes, what happens to your preview?*
- Save your final version. Copy the link address and send it to a friend or teacher to see how you did.

OPTIONAL EXTENTIONS:

- Make changes to the style of the page.
 - Open the style.css file in the left-hand column under Project and lib (library).
 - Change the blue and green text between the brackets `{ }` and see how it changes the preview.
 - Example 1: The header 1 (page title) is currently styled with a font size of 45 pixels (45px). What happens if you change that to 20px? 90px?

```
13  ▾ header h1 {
14  |   font-size: 45px;
```
 - Example 2: The blockquote currently has a light gray background (background: lightgray). What happens when you change it to red or yellow? Click the “lightgray” text and pick any color!

```
20  ▾ blockquote {
21  |   background: lightgray;
```
- Observe a page on the Zoo’s website (example <https://nationalzoo.si.edu/news/restoring-americas-prairie>) and consider the following questions:
 - *What elements of the page make it engaging for guests?*
 - *What about the page makes you want to continue looking?*
 - *What might you add to the page? Why?*



BACKGROUND INFORMATION

Tags are the structure for coding. They work like a sandwich, where the filling (text) goes in between two halves of bread (tags). There are many different types of tags and you can tell tags apart because they are within brackets <>. Tags have an opening <tag> and closing </tag>. The closing tag includes a backslash.

Tags used in this exercise are:

<code><html></html></code>	Html web file
<code><head></head></code>	Header of the page
<code><body></body></code>	Body of the page
<code><header></header></code>	Header within the page's body
<code><main></main></code>	Main content within the page's body
<code><h1></h1></code>	Heading 1
<code><h2></h2></code>	Heading 2; you can also continue to h3, h4, etc.
<code><p></p></code>	Paragraph
<code><blockquote></blockquote></code>	Stylized or emphasized text on the page, like a quote
<code></code>	Unordered (bulleted) list. A numbered list is an ordered list <code></code> .
<code></code>	A list item within a list type. These sit within a <code></code> or <code></code> .

The following page explains the code you see on the activity webpage, created by Mohammed, Web Developer at the Smithsonian's National Zoo: <http://plnkr.co/edit/EiqxKf0wJIOgbHFi?preview>.

This tells us the document type is html. You can leave this tag alone.

```
<!doctype html>
```

All html files start with an html open tag.

```
<html>
```

Head is a header. The header is not visible on the page. It is only visible in the code. It includes tags with document information or links to other files like css or JavaScript that say how to style the page. You can leave this part alone.

```
<head>  
  <link rel="stylesheet" href="lib/style.css">  
  <script src="lib/script.js"></script>  
</head>
```

The body is the main content. Content in this section is visible on the webpage.

```
<body>
```

Within the body, there is a header with the title of the page. H1 is a heading level 1, which is usually the largest and most important heading on the page.

```
<header><h1>Red Panda</h1></header>
```

There may also be images. Image tags include the image source (src), which tells the computer where the image is located. The blue link in the quotes is the image file location.

```
</img>
```

The body also has a main section after the header. Here, <main> is an open tag for the main section.

```
<main>
```

```
<blockquote>Red pandas, like giant pandas, are bamboo eaters native to Asia's high forests... </blockquote>
```

```
<h2>Fun Facts</h2>
```

```
<ul>
```

```
<li>Red pandas share the giant panda's pseudo...</li>
```

```
<li>In very cold temperatures, red pandas...</li>
```

```
<li>Red pandas are the only living member of the...</li>
```

```
</ul>
```

```
<h2>Conservation</h2>
```

```
<p>Red pandas are endangered and are legally protected in India, Bhutan, China, Nepal and Myanmar...</p>
```

```
<p>Researchers believe that the total population of red pandas has declined by 40 percent over the past two decades...</p>
```

```
</main>
```

```
</body>
```

```
</html>
```

Note that every tag has an open and close, with tags sitting between other tags. For example, list items sit within a type of list .

All tags need to close. At the end, we finally close the main section, the entire body, and the html.

