LOADING

Make your users happy while they wait

Daniel Huha

BI
LOG

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No one likes to wait

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BILOG

SENSIBLE SOFTWARE ARCHITECTURE

We ♥ APEX

Consulting and software development

Migrating Forms > APEX, APEX training, custom development

Our APEX solutions:

Akira - HR software

Product Studio - Portfolio and product life cycle management

Phoenitian - Comprehensive insurance business processes management

www.bilog.hr

Worked as a sysadmin, then as a school teacher

2011. I start working as an Oracle developer in BiLog d.o.o., main focus is APEX

Software consultant, developer, trainer, team lead

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@thehuha

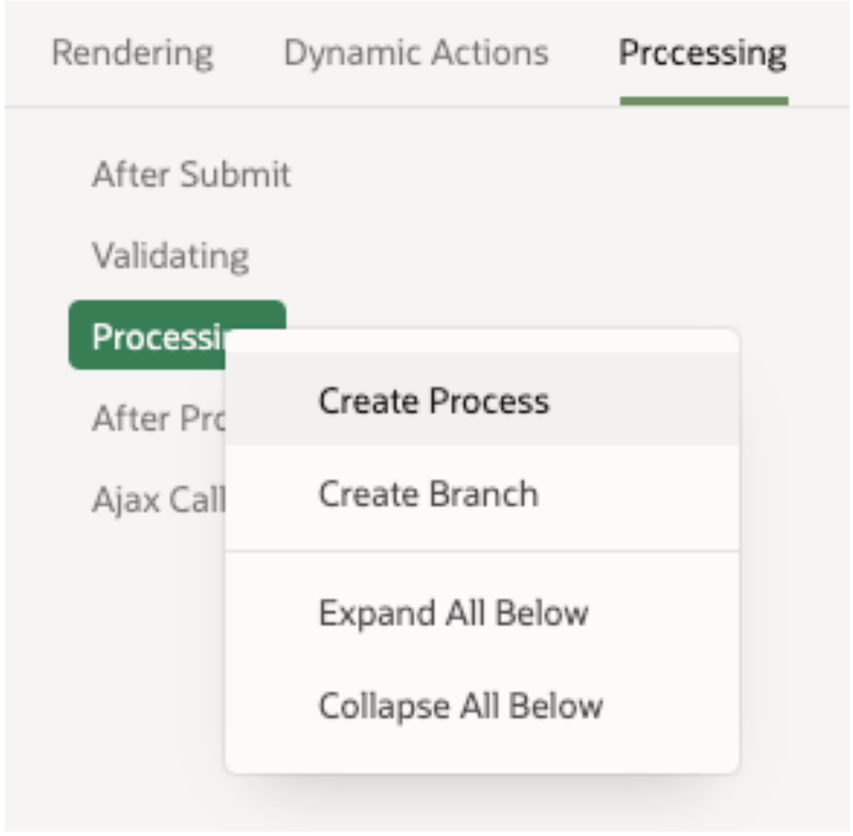
github.com/thehuha

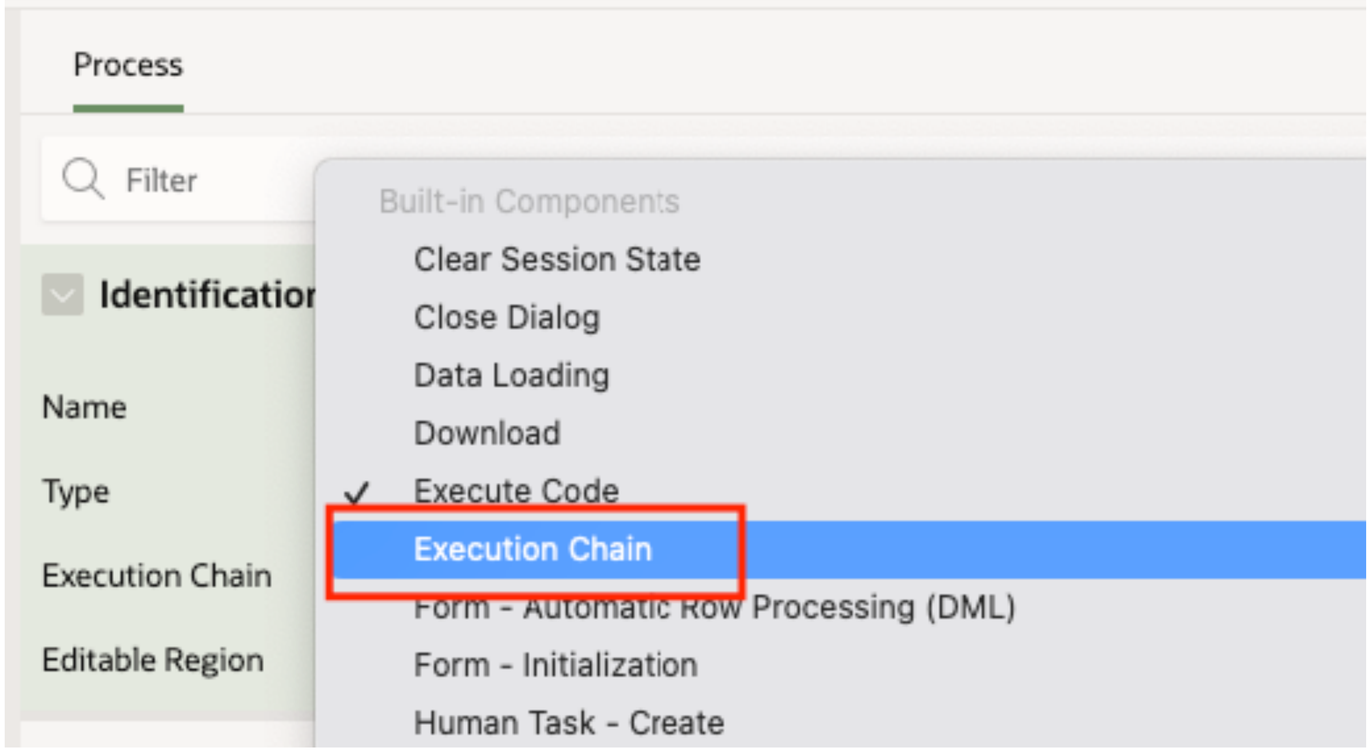
No one likes to wait

Long-running process = unresponsive APEX page = bad user experience

Process Execution Chain

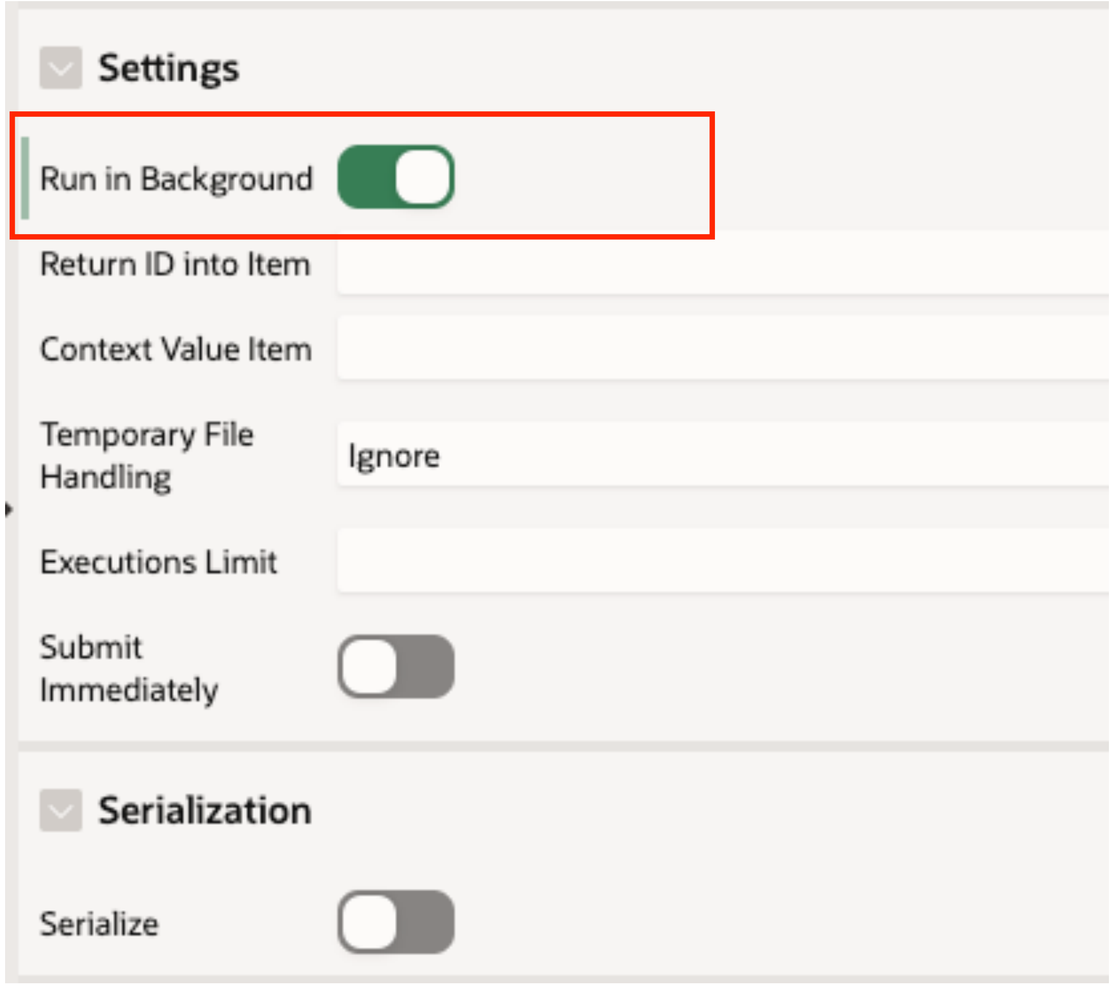
Process Type: Execution Chain





Process Execution Chain

Run in Background!

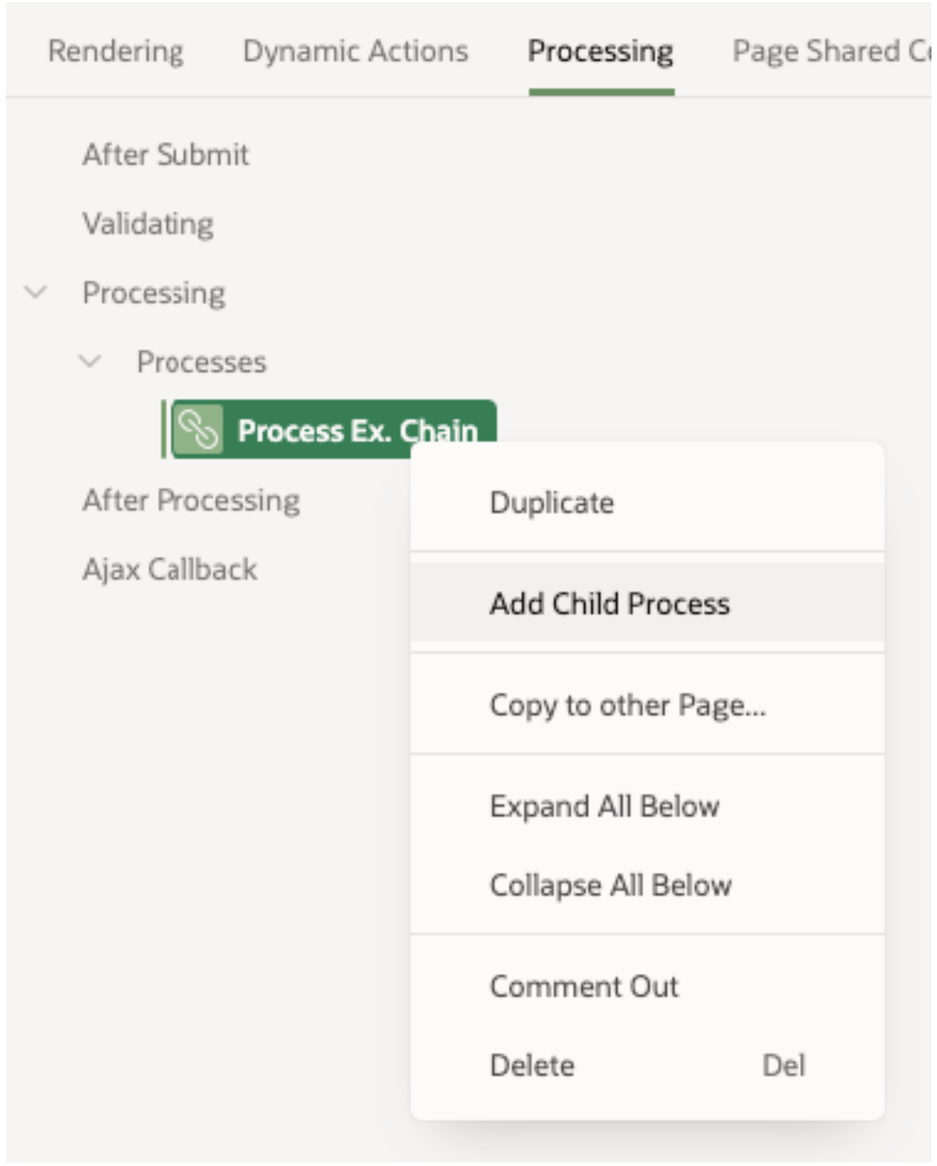


Process Execution Chain

https://blog.cloudnueva.com/apex-background-page-processing-the-definitive-gude

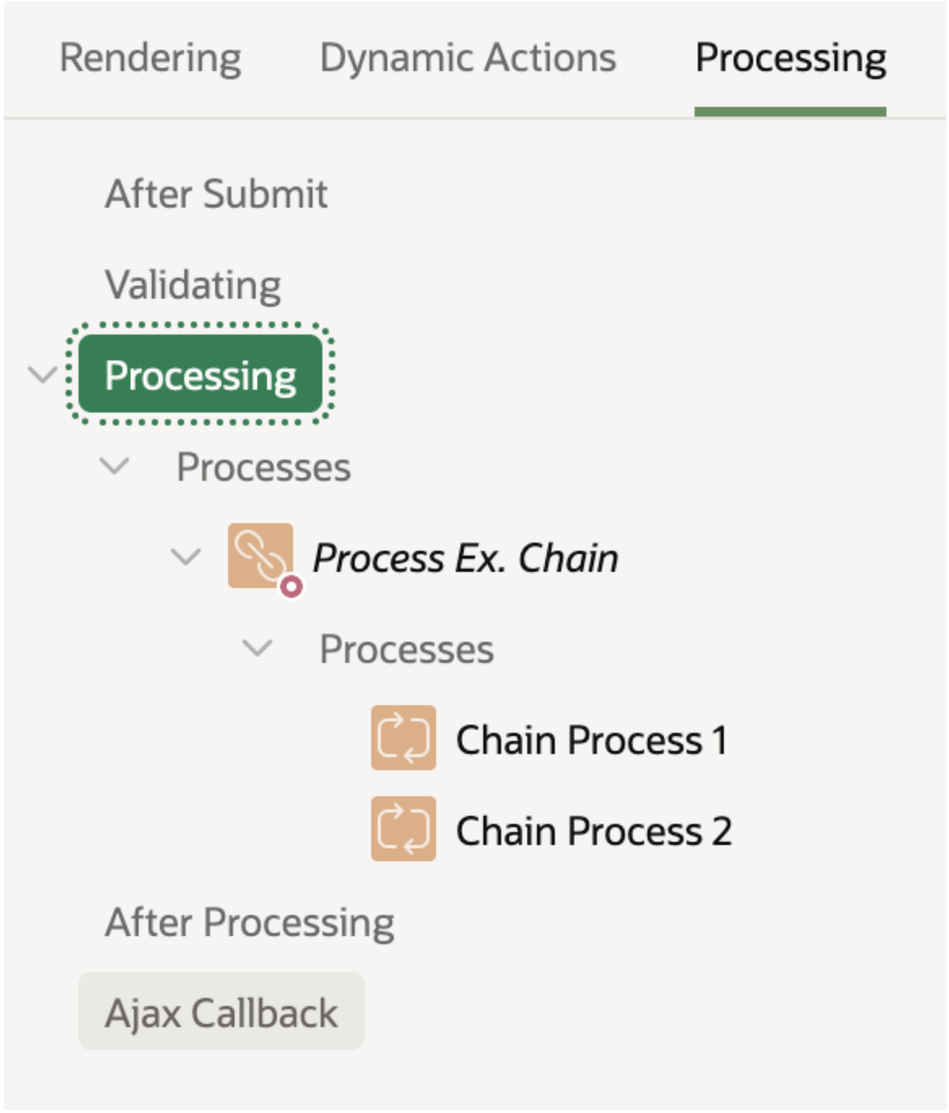
Process Execution Chain

Container for one or more processes



Process Execution Chain

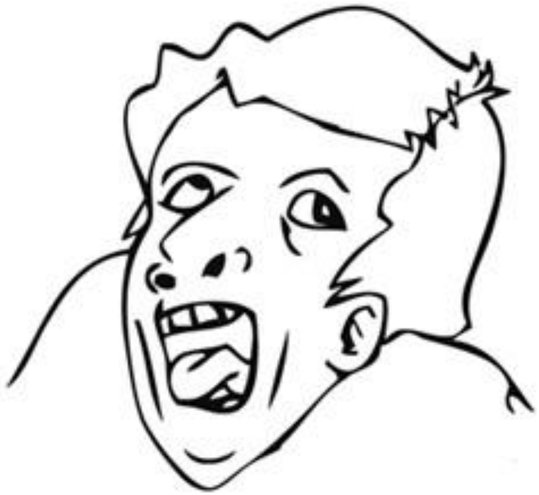
Container for one or more processes



Process Execution Chain

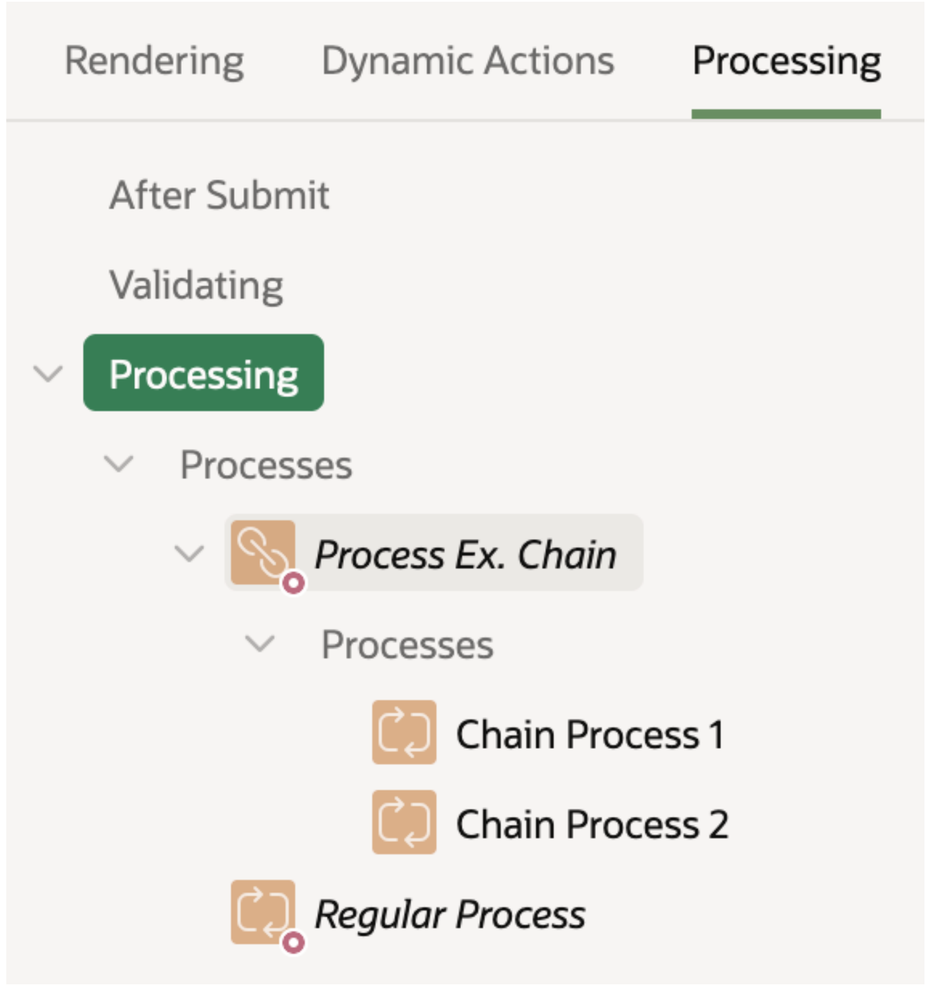
Demo code:

```
dbms_session.sleep(10);
```



Demo 1

Execution Chain vs. Regular processing



Process Execution Chain

API package:

APEX_BACKGROUND_PROCESS

View:

APEX_APPL_PAGE_BG_PROC_STATUS

Process Execution Chain

How can it be monitored?

```
select EXECUTION_ID,
       STATUS,
       STATUS_CODE,
       STATUS_MESSAGE,
       nvl(SOFAR, 0) sofar,
       nvl(TOTALWORK, 0) totalwork,
       nvl((sofar / totalwork * 100), 0) prog_pct,
       null as progress
  from APEX_APPL_PAGE_BG_PROC_STATUS
```

```
apex_background_process.set_progress(
  p_totalwork => 10,
  p_sofar => 0
);
apex_background_process.set_status('Processing started');


for i in 1 .. 10 loop
  apex_background_process.set_progress(
    p_totalwork => 10,
    p_sofar => i
  );
  apex_background_process.set_status('Currently processing chunk '||i);
  dbms_session.sleep(4);
end loop;
```

Process Execution Chain

Tabular data - OK, but it could be improved

Visual representation - Richer and more distinguishable content, user friendly

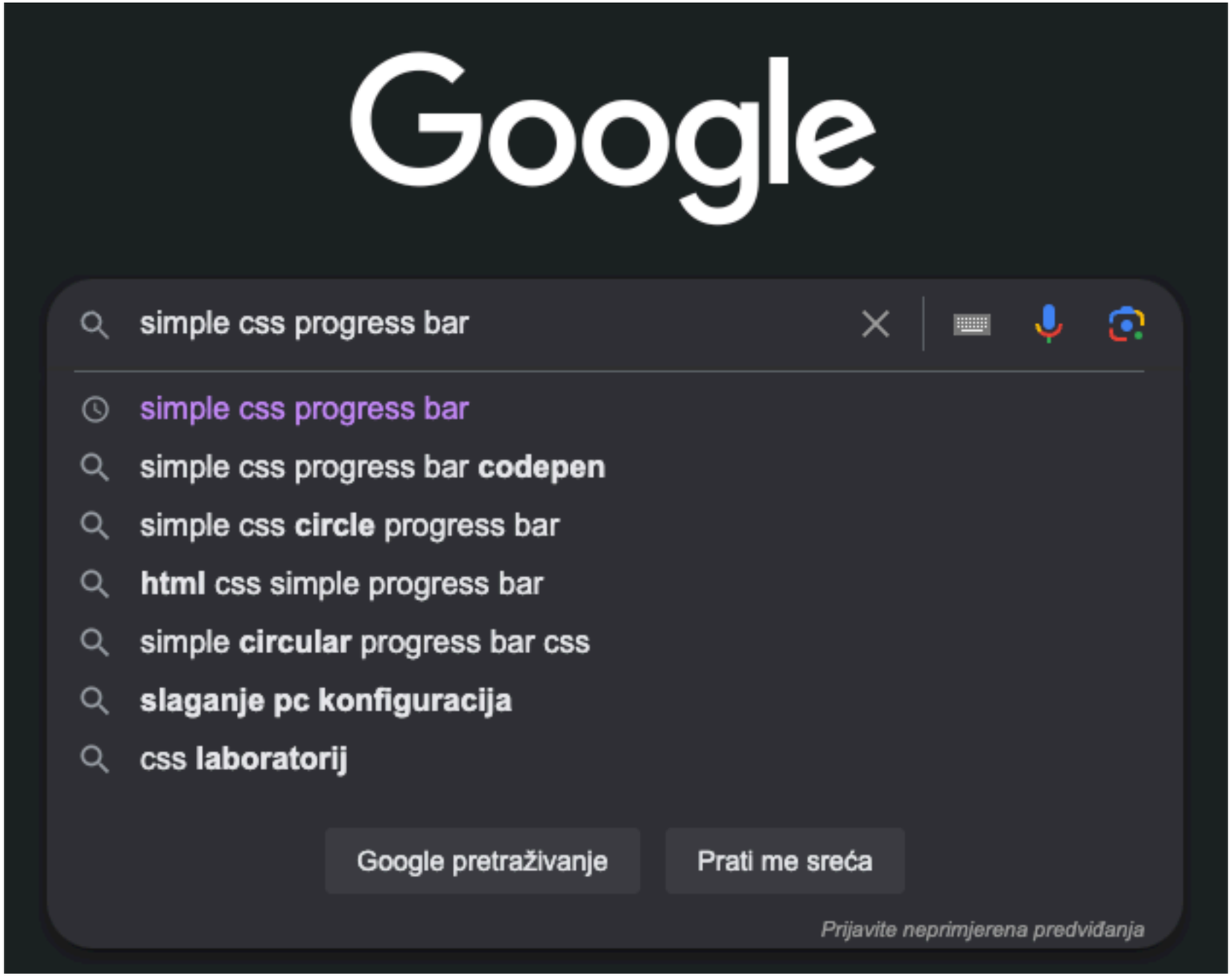
HTML Expression

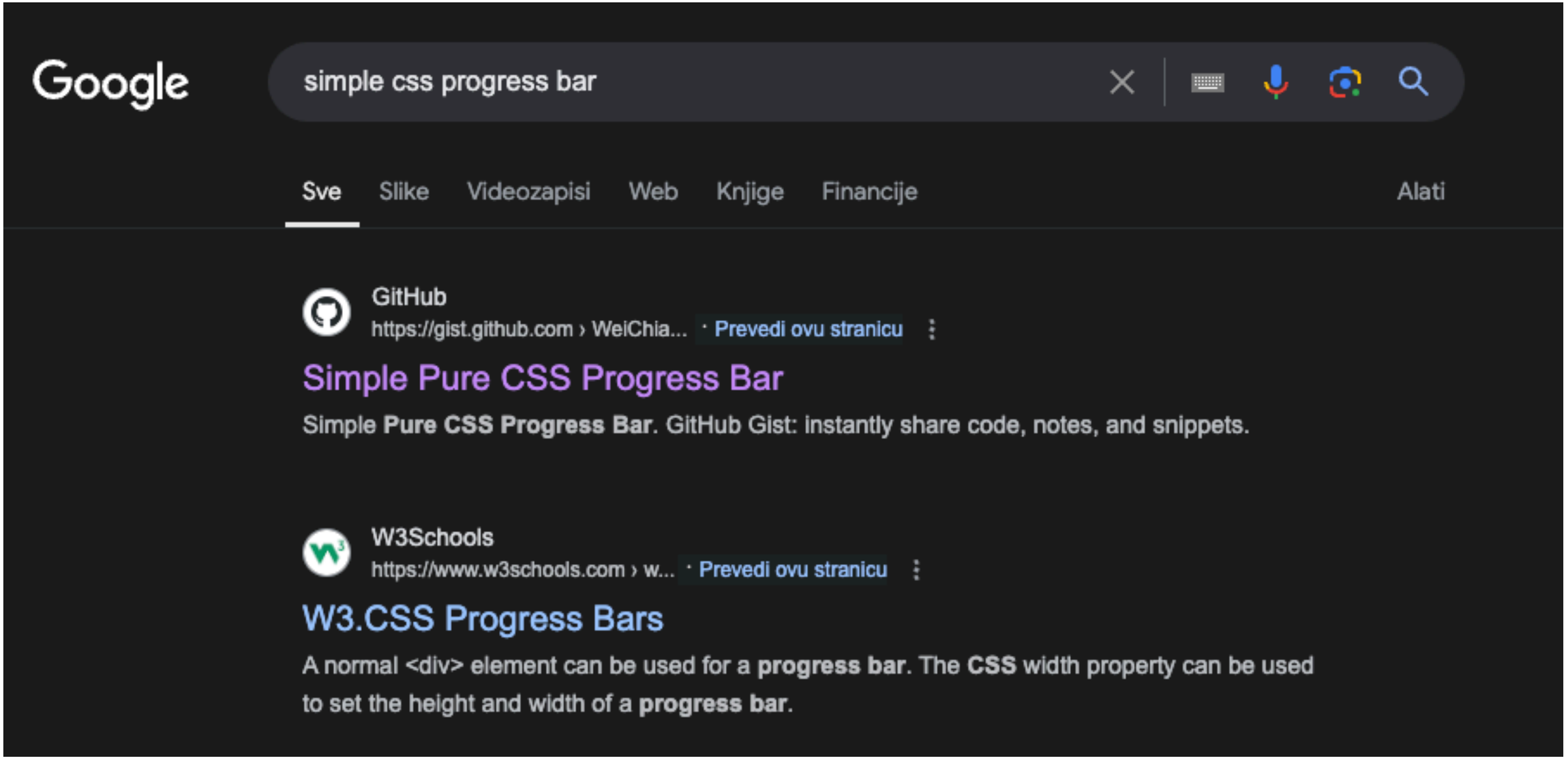
Report column level HTML formatting

Content substitution using e.g. #COLUMN_NAME#

Demo 2

HTML Expression to add a very simple Progress Bar


Google
simple css progress bar
simple css progress bar
simple css progress bar codepen
simple css circle progress bar
html css simple progress bar
simple circular progress bar css
slaganje pc konfiguracija
css laboratorij
Google pretraživanje
Prati me sreća
Prijavite neprimjerena predviđanja


Google
simple css progress bar
Sve
Slike
Videozapisi
Web
Knjige
Financije
Alati
GitHub
https://gist.github.com › WeiChia... · Prevedi ovu stranicu
Simple Pure CSS Progress Bar
Simple Pure CSS Progress Bar. GitHub Gist: instantly share code, notes, and snippets.
W3Schools
https://www.w3schools.com › w... · Prevedi ovu stranicu
W3.CSS Progress Bars
A normal element can be used for a progress bar. The CSS width property can be used to set the height and width of a progress bar.

Simple Pure CSS Progress Bar

progress.html

Raw

```
<!DOCTYPE html>
<html lang="pt-BR">
        <head>
                <meta chatset="UTF-8" />
                <title>CSS Progress Bar</title>

                <style>
                        .wrapper {
                                width: 500px;
                        }

                        .progress-bar {
                                width: 100%;
                                background-color: #e0e0e0;
                                padding: 3px;
                                border-radius: 3px;
                                box-shadow: inset 0 1px 3px rgba(0, 0, 0, .2);
                        }

                        .progress-bar-fill {
                                display: block;
                                height: 22px;
                                background-color: #659cef;
                                border-radius: 3px;

                                transition: width 500ms ease-in-out;
                        }
                </style>

        </head>
        <body>
                <div class="wrapper">
                        <div class="progress-bar">
                                <span class="progress-bar-fill" style="width: 70%;"></span>
                        </div>
                </div>
        </body>
</html>
```

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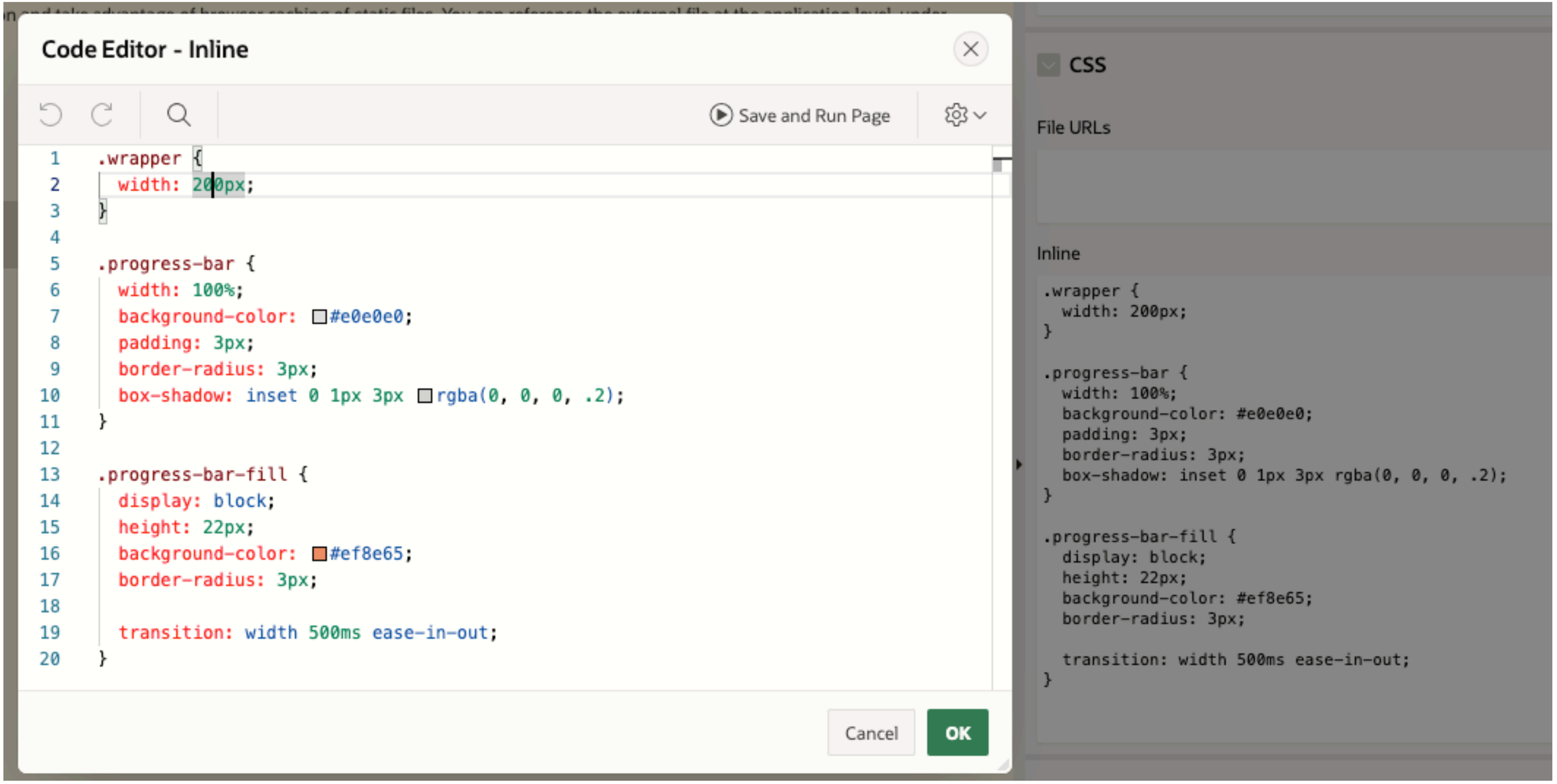
Code Editor - Inline
Save and Run Page
1 .wrapper {
2 width: 200px;
3 }
4
5 .progress-bar {
6 width: 100%;
7 background-color: #e0e0e0;
8 padding: 3px;
9 border-radius: 3px;
10 box-shadow: inset 0 1px 3px rgba(0, 0, 0, .2);
11 }
12
13 .progress-bar-fill {
14 display: block;
15 height: 22px;
16 background-color: #ef8e65;
17 border-radius: 3px;
18
19 transition: width 500ms ease-in-out;
20 }
Cancel
OK
CSS
File URLs
Inline
.wrapper {
width: 200px;
}
.progress-bar {
width: 100%;
background-color: #e0e0e0;
padding: 3px;
border-radius: 3px;
box-shadow: inset 0 1px 3px rgba(0, 0, 0, .2);
}
.progress-bar-fill {
display: block;
height: 22px;
background-color: #ef8e65;
border-radius: 3px;
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}

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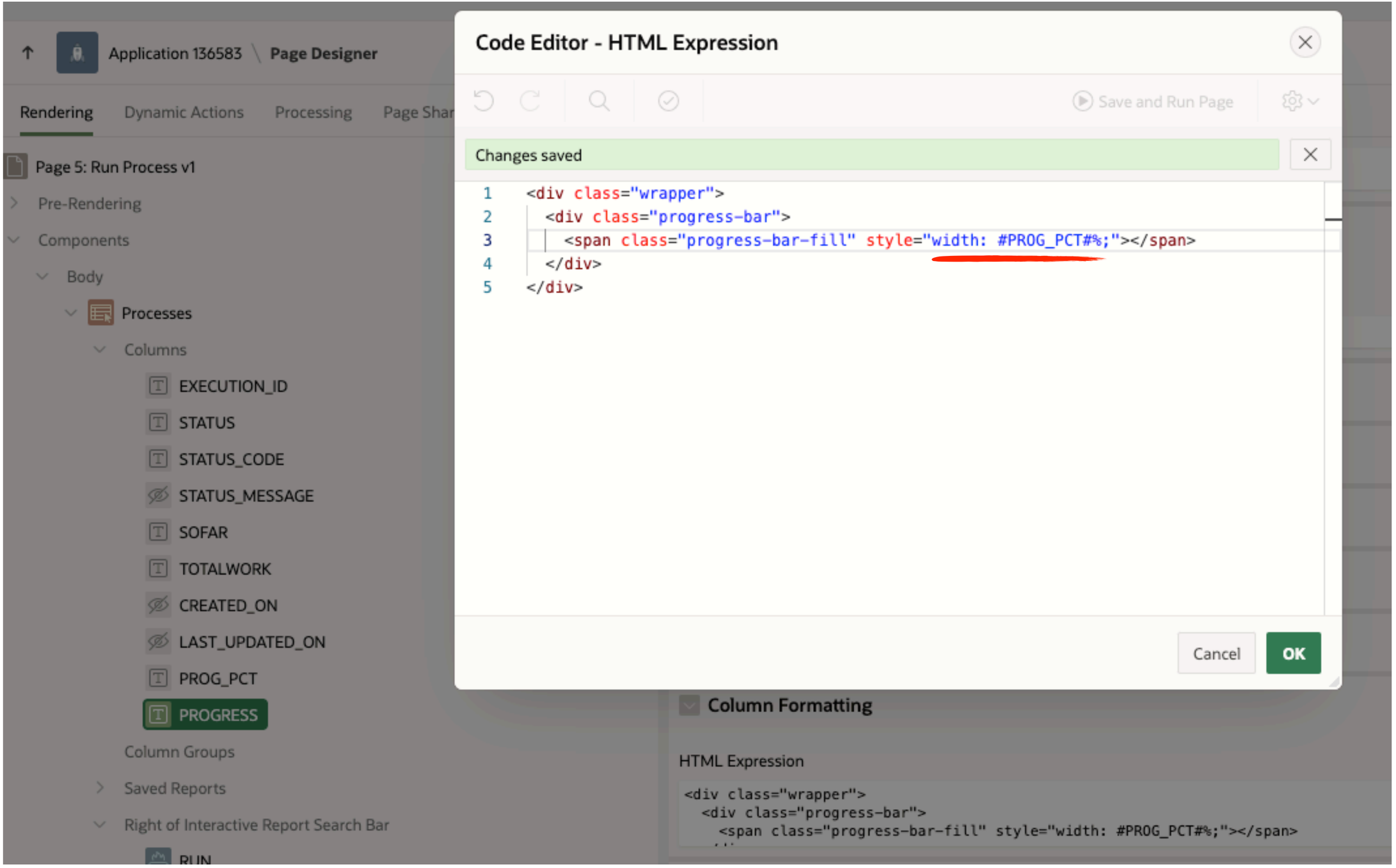
                                width: 500px;
                        }

                        .progress-bar {
                                width: 100%;
                                background-color: #e0e0e0;
                                padding: 3px;
                                border-radius: 3px;
                                box-shadow: inset 0 1px 3px rgba(0, 0, 0, .2);
                        }

                        .progress-bar-fill {
                                display: block;
                                height: 22px;
                                background-color: #659cef;
                                border-radius: 3px;

                                transition: width 500ms ease-in-out;
                        }
                </style>

        </head>
        <body>
                <div class="wrapper">
                        <div class="progress-bar">
                                <span class="progress-bar-fill" style="width: 70%;"></span>
                        </div>
                </div>
        </body>
</html>
```


Application 136583
Page Designer
Rendering
Dynamic Actions
Processing
Page Shar
Page 5: Run Process v1
Pre-Rendering
Components
Body
Processes
Columns
EXECUTION_ID
STATUS
STATUS_CODE
STATUS_MESSAGE
SOFAR
TOTALWORK
CREATED_ON
LAST_UPDATED_ON
PROG_PCT
PROGRESS
Column Groups
Saved Reports
Right of Interactive Report Search Bar
RUN
Code Editor - HTML Expression
Save and Run Page
Changes saved
1
2
3
4
5
Cancel
OK
Column Formatting
HTML Expression

Demo 2

HTML Expression

OK, but not very reusable

What next? >>> Template Components

Template Components

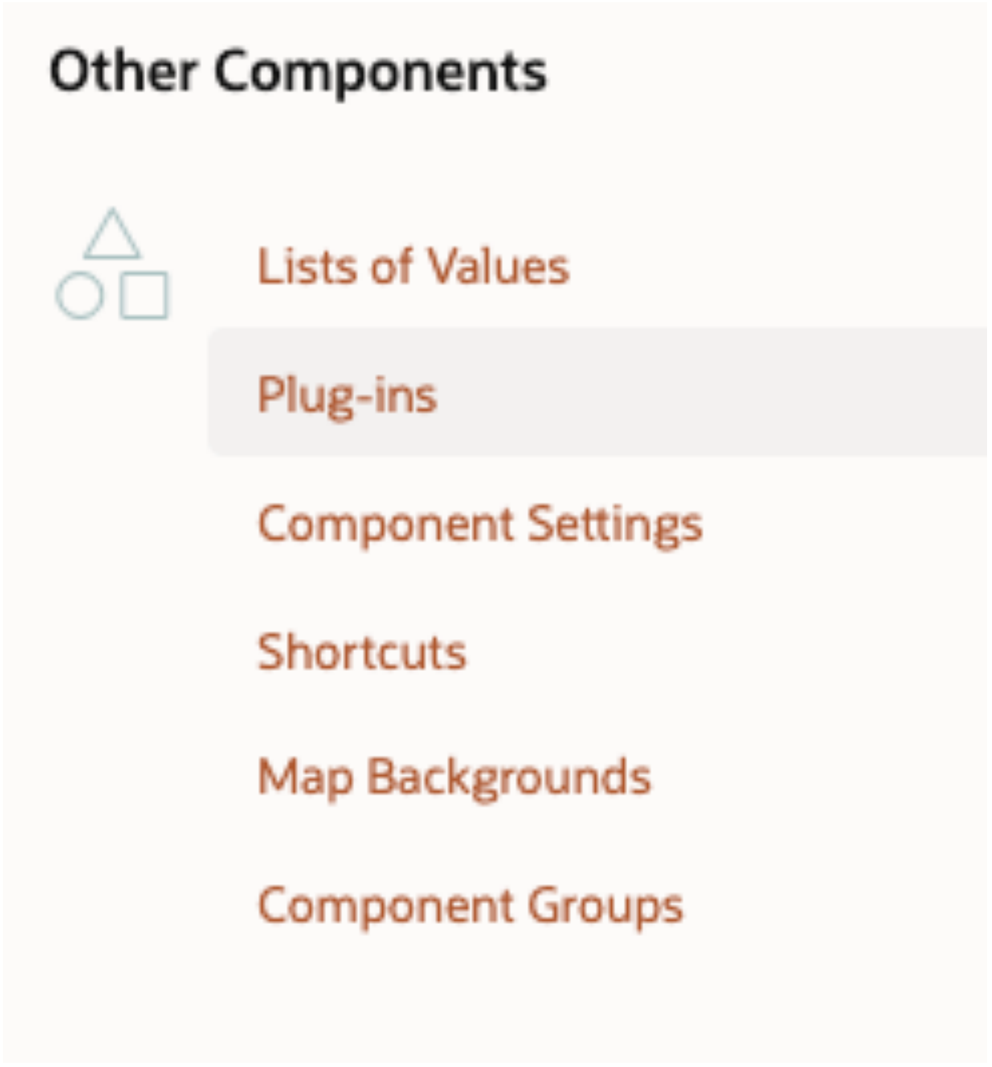
Plug-in "Light"

Define once, use indefinitely

Focus on using declarative APEX functionalities

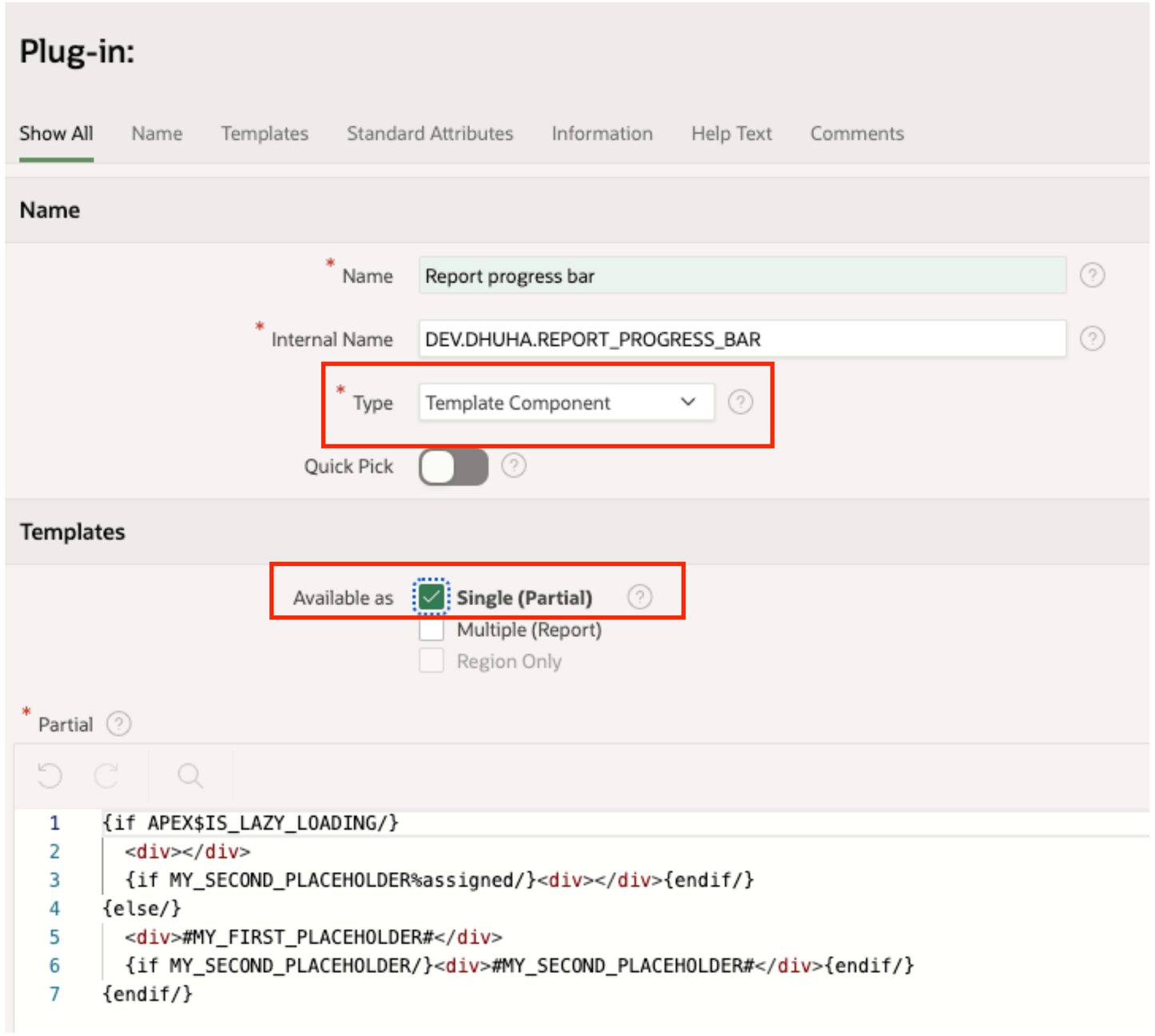
Demo 3

Reusable Progress Bar


Other Components
Lists of Values
Plug-ins
Component Settings
Shortcuts
Map Backgrounds
Component Groups

Create

> Type: Template Component



HTML Template:

Partial

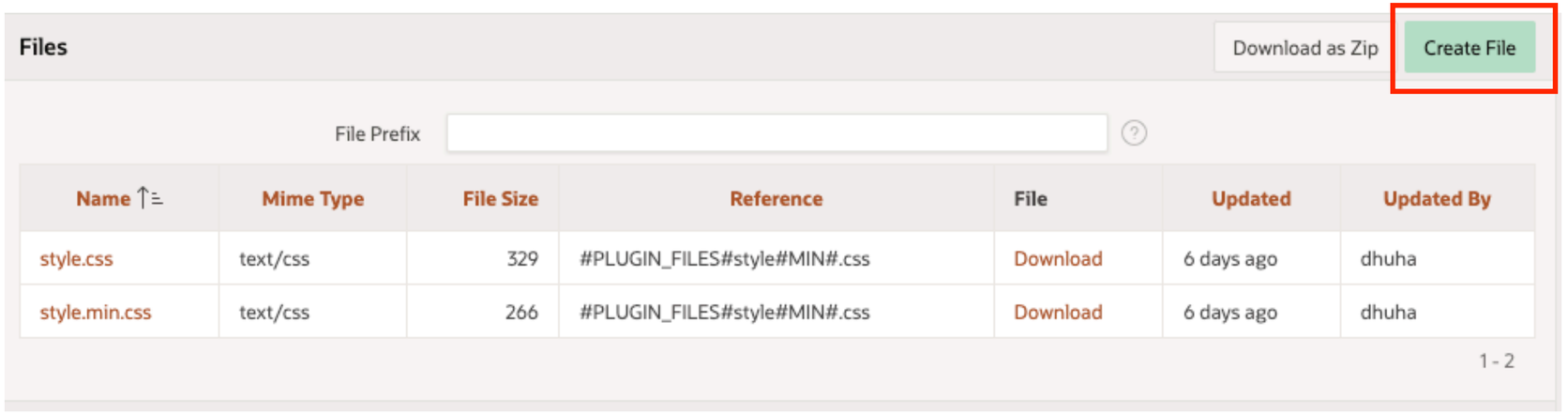
```
1   {if APEX$IS_LAZY_LOADING/}
2     <div></div>
3     {if MY_SECOND_PLACEHOLDER%assigned/}<div></div>{endif/}
4   {else/}
5   <div class="wrapper">
6         <div class="progress-bar">
7           <span class="progress-bar-fill" style="width: #PROG_PCT#%;"></span>
8         </div>
9       </div>
10  {endif/}
```

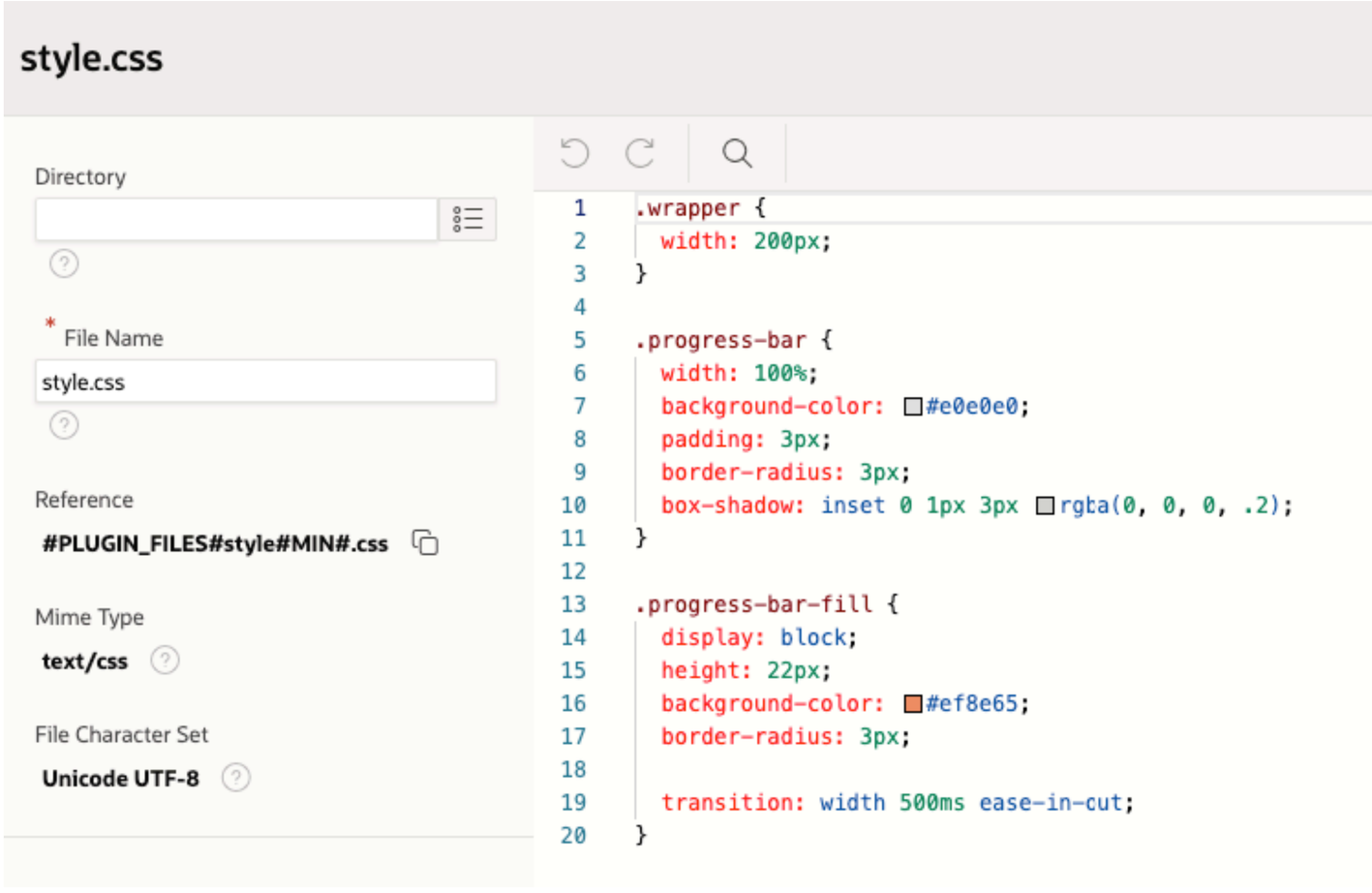
Custom Attributes

Synchronize from Templates | Add Attribute

Label	Static ID	Scope	Attribute Group	Sequence	Attribute	Type	Required	Default Value	Depending on
Progress Pct.	PROG_PCT	Component		10	1	Session State Value	No		

CSS:


Files
Download as Zip
Create File
File Prefix
Name
Mime Type
File Size
Reference
File
Updated
Updated By
style.css
text/css
329
#PLUGIN_FILES#style#MIN#.css
Download
6 days ago
dhuha
style.min.css
text/css
266
#PLUGIN_FILES#style#MIN#.css
Download
6 days ago
dhuha
1 - 2


style.css
Directory
File Name
style.css
Reference
#PLUGIN_FILES#style#MIN#.css
Mime Type
text/css
File Character Set
Unicode UTF-8
.wrapper {
width: 200px;
}
.progress-bar {
width: 100%;
background-color: #e0e0e0;
padding: 3px;
border-radius: 3px;
box-shadow: inset 0 1px 3px rgba(0, 0, 0, .2);
}
.progress-bar-fill {
display: block;
height: 22px;
background-color: #ef8e65;
border-radius: 3px;
transition: width 500ms ease-in-out;
}

CSS reference:

Files

File Prefix

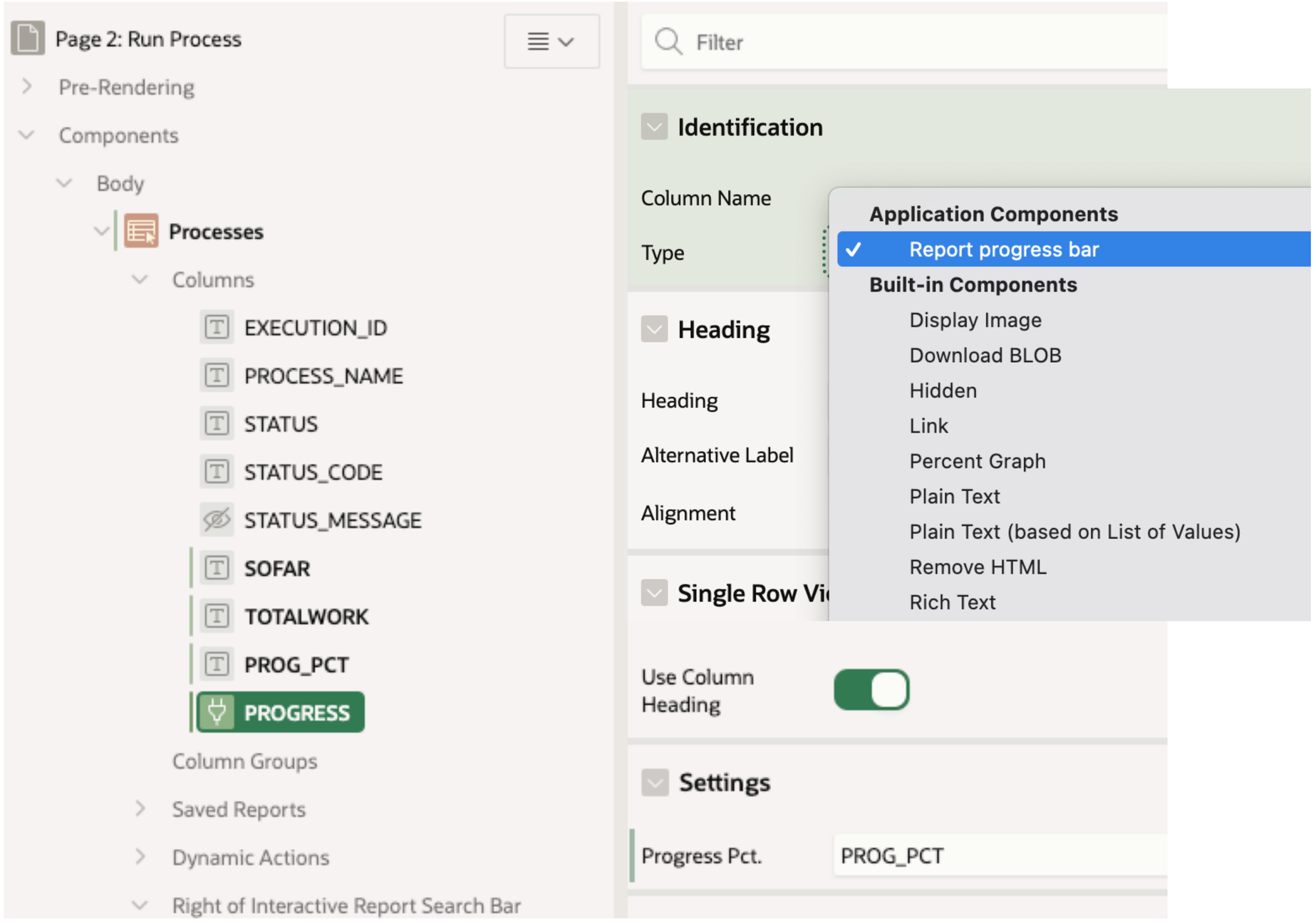
Name	Mime Type	File Size	Reference
style.css	text/css	329	#PLUGIN_FILES#style#MIN#.css
style.min.css	text/css	266	#PLUGIN_FILES#style#MIN#.css

File URLs to Load

Cascading Style Sheet

```
#PLUGIN_FILES#style#MIN#.css
```

IR column:


Page 2: Run Process
Pre-Rendering
Components
Body
Processes
Columns
EXECUTION_ID
PROCESS_NAME
STATUS
STATUS_CODE
STATUS_MESSAGE
SOFAR
TOTALWORK
PROG_PCT
PROGRESS
Column Groups
Saved Reports
Dynamic Actions
Right of Interactive Report Search Bar
Filter
Identification
Column Name
Type
Application Components
Report progress bar
Built-in Components
Display Image
Download BLOB
Hidden
Link
Percent Graph
Plain Text
Plain Text (based on List of Values)
Remove HTML
Rich Text
Heading
Heading
Alternative Label
Alignment
Use Column Heading
Settings
Progress Pct.
PROG_PCT

Demo 3

Reusable Progress Bar in action

Bonus Demo - Automatic refresh

Region Static ID:

```
rgnProcess
```

JS:

```
//set
var gRepInterval =
  setInterval(function () {
    apex.region("rgnProcess").refresh();
  }, 4000);

//clear
clearInterval(gRepInterval);
```

Download

https://github.com/thehuha/aaapeks-2025

Demo

https://apex.oracle.com/pls/apex/r/dhdevapx/aaapeks25/login

Q&A

Thank you!