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# Personalizing Liferay Search with Search Experiences Blueprints

Workshop 25th May, 2023

# Workshop Agenda

- Introducing Search Blueprints
- How Blueprints work
- Blueprint and Element editor
- Exercise 1 – Personalized Search Page
- Exercise 2 – Featured Search Bar Suggestions
- Bonus Exercise – A Personal Dashboard using Search Widgets
- Developer options: Custom parameters
- Tips & “Best Practices”
- Q&A

“What’s Wrong with the Search?”

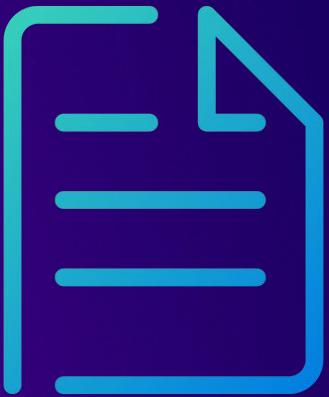




# What are Search Blueprints

A Quick Introduction

# What is a Search Blueprint?



## Where and How Can It Be Used?

# Search Page(s)



Liferay DXP

Home Search

news

SITE

- University of Blueprints (39)
- Liferay DXP (1)

TYPE

- Web Content Article (40)

CATEGORY

- Staff (12)
- Students (12)
- Braga (10)
- Coimbra (9)
- Lisbon (9)
- Porto (9)
- Featured (2)

USER

- test test (40)

LAST MODIFIED

40 Results for news

**Featured University News 1**  
Web Content Article - By Test Test On May 21, 2023 12:34 PM  
Good News Bulletin: Groundbreaking Invention Revolutionizes Transportation!...A brilliant new invention has emerged that promises to transform the...  
News Category: FEATURED

**Featured University News 2**  
Web Content Article - By Test Test On May 21, 2023 12:34 PM  
Good News Bulletin: Groundbreaking Invention Revolutionizes Transportation!...A brilliant new invention has emerged that promises to transform the...  
News Category: FEATURED

**Porto Campus Staff News 1: Groundbreaking Invention**  
Web Content Article - By Test Test On May 20, 2023 7:41 AM  
Good News Bulletin: Groundbreaking Invention Revolutionizes Transportation!...A brilliant new invention has emerged that promises to transform the...  
Campus: PORTO Target Group: STAFF

**Porto Campus Staff News 2: Groundbreaking Invention**  
Web Content Article - By Test Test On May 20, 2023 7:40 AM  
Good News Bulletin: Groundbreaking Invention Revolutionizes Transportation!...A brilliant new invention has emerged that promises to transform the.. Strongbox

# Search Bar Suggestions



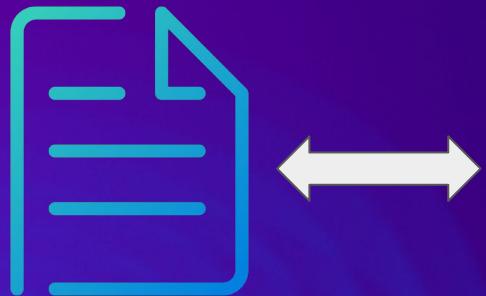
news 🔍

SUGGESTIONS

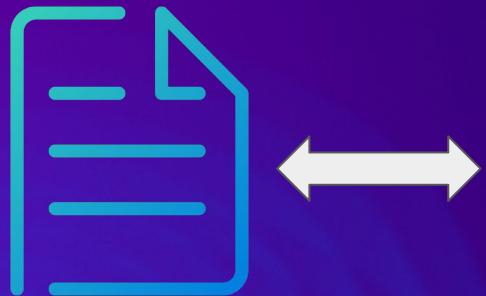
- Featured University News 1
- Featured University News 2
- Porto Campus Staff News 1:  
Groundbreaking Invention
- Porto Campus Staff News 2:  
Groundbreaking Invention
- Lisbon Campus Staff News 1:  
Groundbreaking Invention

[Show More](#)

# Custom Apps

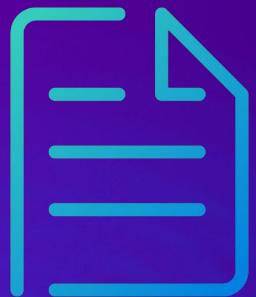


## Collection Provider (Coming Soon)



Collection Fragment

## Headless Search API (Coming Soon)



REST Call

# Any Searcher API Calls



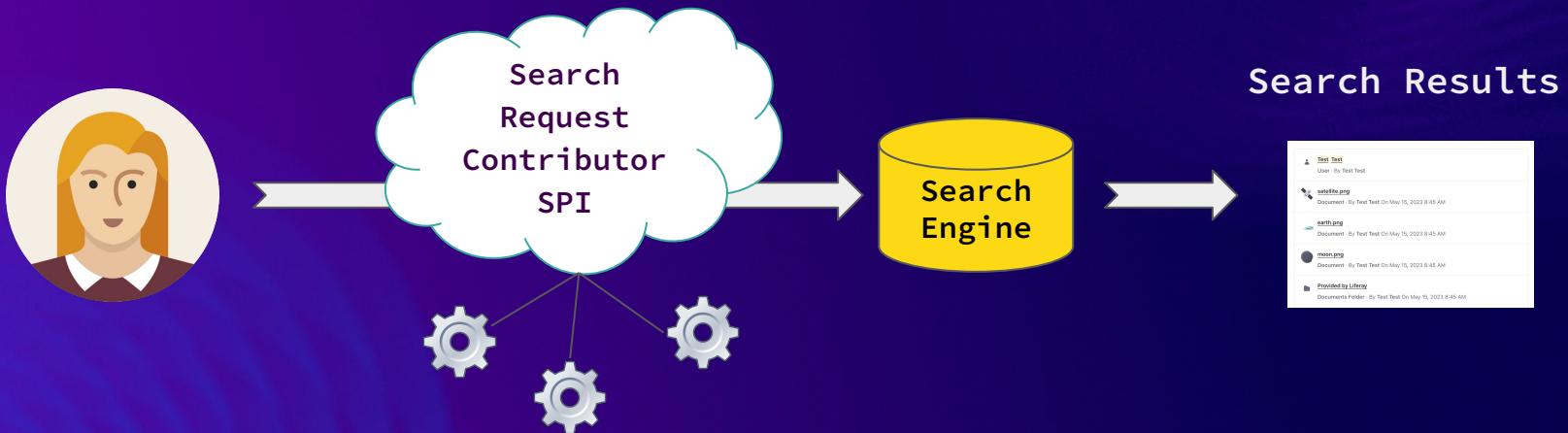
Searcher API Calls

# Blueprint Configurations

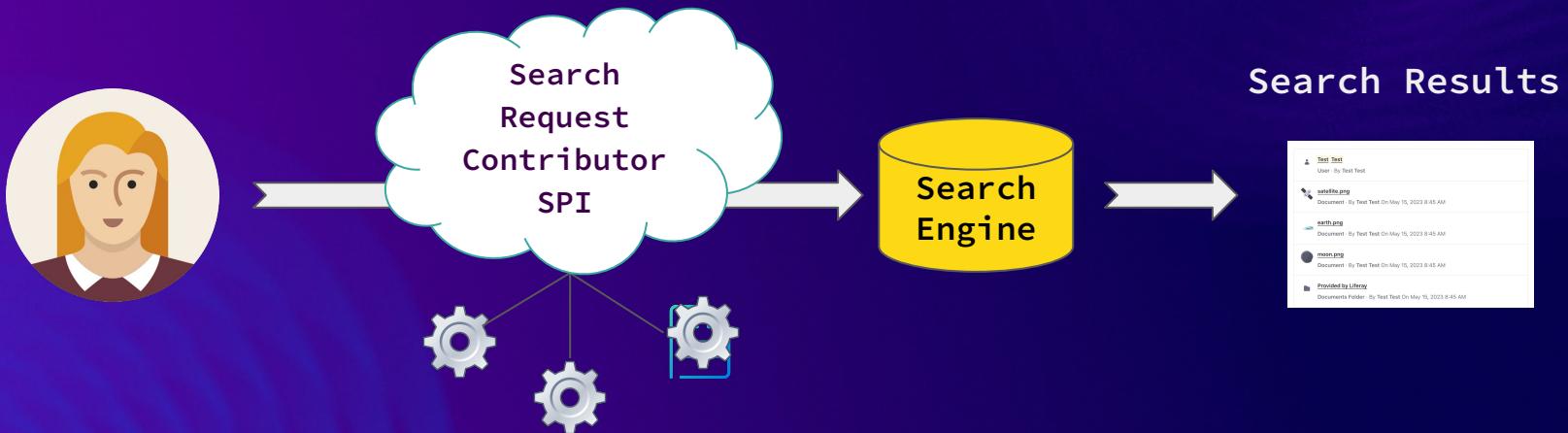
- **Search query**
  - Aggregations
  - Sorts
  - Highlight
  - Searchable asset types
  - Custom parameters
  - Advanced settings

The screenshot shows the 'Edit Blueprint' interface for a 'Demo' blueprint. The 'Configuration' tab is selected. Under 'Aggregation Configuration', there is a note about adding aggregations to the search request. Below it, the 'Highlight Configuration' section allows overriding the default search highlighter. The 'Query Settings' section includes 'SEARCHABLE TYPES' (set to 'Selected Types'), 'SEARCH FRAMEWORK INDEXER' (set to 'On'), and 'SEARCH FRAMEWORK QUERY CI' (set to 'Enable All'). The 'Query Elements' section contains a 'Boost Longer Contents' configuration with a boost of 30, a factor of 1.5, and a modifier of 'In'. On the right side, a sidebar lists various boost configurations: Boost Tags Match, Boost Tagged Contents, Boost Positivity, Boost Longer Contents, and Boost Freshness.

# What is it Technically?



# What is it Technically?



# A Search Request Contributor

## Can

- Modify / override the search request

## Cannot

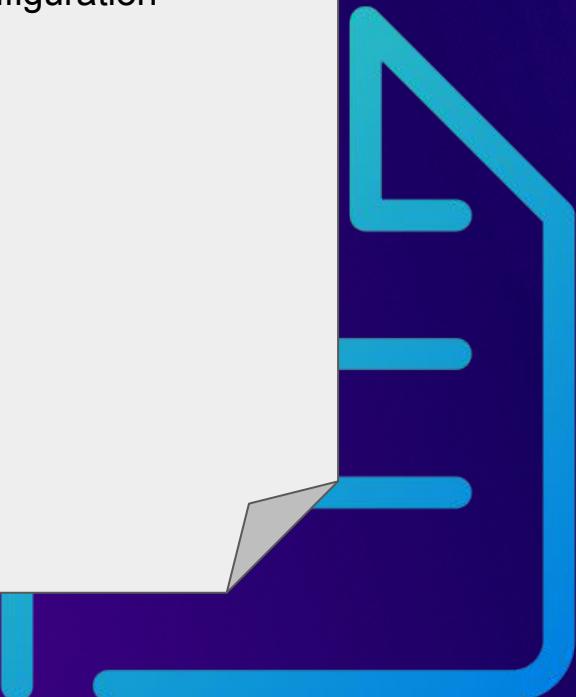
- Override other contributors
- Be used with legacy search APIs

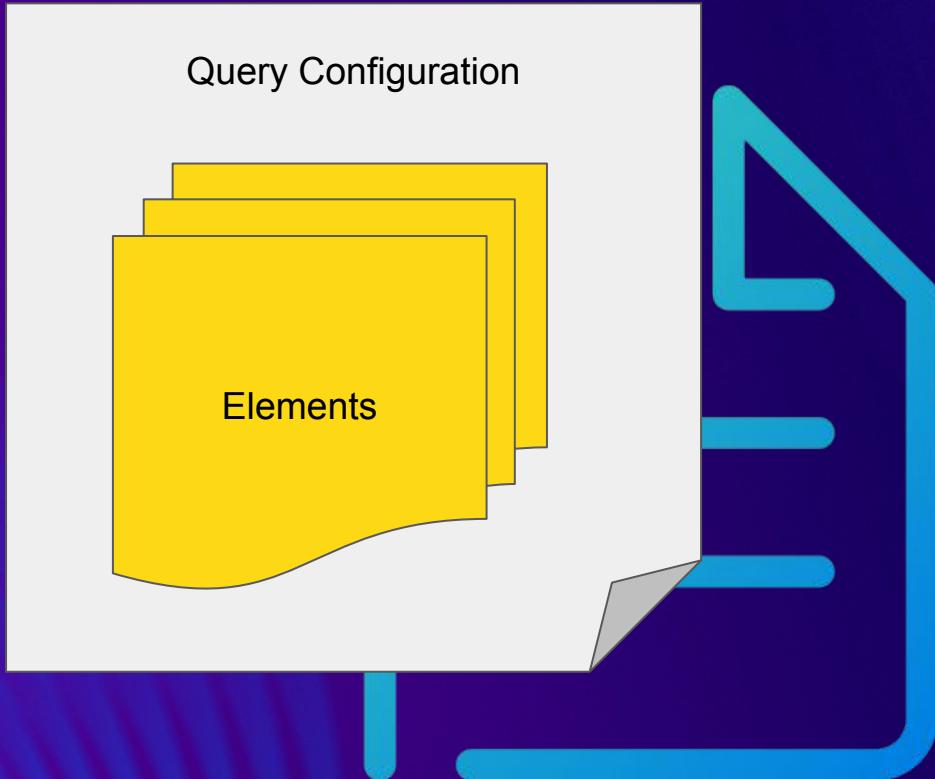


# What Makes Them Personalizable?



## Query Configuration





```
{  
    "description_i18n": {},  
    "elementDefinition": {},  
    "title_i18n": {}  
}
```

```
{  
    "description_i18n": {},  
    "elementDefinition": {  
        "category": "panel category",  
        "configuration": {  
            "queryConfiguration": {  
                "queryEntries": []  
            }  
        },  
        "icon": "some icon"  
    },  
    "title_i18n": {}  
}
```

```
{  
    "description_i18n": {},  
    "elementDefinition": {  
        "category": "panel category",  
        "configuration": {  
            "queryConfiguration": {  
                "queryEntries": [  
                    {  
                        "condition": {},  
                        "clauses": []  
                    }  
                ]  
            },  
            "icon": "some icon"  
        },  
        "title_i18n": {}  
    }  
}
```

```
{  
    "description_i18n": {},  
    "elementDefinition": {  
        "category": "panel category",  
        "configuration": {  
            "queryConfiguration": {  
                "queryEntries": [  
                    {  
                        "condition": {},  
                        "clauses": []  
                    }  
                ]  
            },  
            "icon": "some icon"  
        },  
        "title_i18n": {}  
    }  
}
```

# A Single Clause

```
{  
    "context": "query",  
    "occur": "filter",  
    "query": {  
        "terms": {  
            "assetCategoryIds": [  
                "44459, 50012"  
            ]  
        }  
    }  
}
```

# Template Variables

```
{  
    "context": "query",  
    "occur": "filter",  
    "query": {  
        "terms": {  
            "assetCategoryIds": [  
                ${user.asset_category_ids}  
            ]  
        }  
    }  
}
```

# Template Variables

## Predefined Variables

	Search	Predefined Variables	Predefined Variables
CONTEXT	Search	CONTEXT	Search
Company ID		IPSTACK	
Is Staging Group		City	
Language		Continent Code	
Language ID		Continent Name	
Layout Name Localized		Country Code	
Page Layout ID		Country Name	
Publication ID		Latitude	
Scope Group ID		Longitude	
		Region Code	
		Region Name	
		Zip	

Predefined Variables
Search
CONTEXT
IPSTACK
ML
TIME
Current Date
Current Day of Month
Current Day of Week
Current Day of Year
Current Hour
Current Year
Time of Day
Time Zone Name Localized

Predefined Variables
Search
CONTEXT
IPSTACK
ML
TIME
USER
Active Segment Entry IDs
Age
Asset Category IDs
Asset Tag Names
Birthday
Create Date
Current Site Role IDs
Email Domain
First Name
Full Name
Group IDs

```
{  
    "description_i18n": {},  
    "elementDefinition": {  
        "category": "panel category",  
        "configuration": {  
            "queryConfiguration": {  
                "queryEntries": [  
                    {  
                        "condition": {},  
                        "clauses": []  
                    }  
                ]  
            },  
            "icon": "some icon"  
        },  
        "title_i18n": {}  
    }  
}
```

# Conditions

Element JSON

X

Copy to Clipboard Download

```
15 "query": {
16   "bool": {
17     "must_not": [
18       {
19         "term": {
20           "assetCategoryIds": {
21             "value": ""
22           }
23         }
24       }
25     ]
26   }
27 }
28 }
29
30 "condition": {
31   "equals": {
32     "parameterName": "user.is_signed_in",
33     "value": false
34   }
35 }
36 }
```

# Conditions

- Make query entry ~ element conditional
- Can be chained

# The Cheatsheet

## contains

Checks whether the array value contains the given value or one of the given values.

### Examples:

```
"condition": {  
    "contains": {  
        "parameterName": "user.group_ids",  
        "value": [20119, 20020, 20125]  
    }  
}
```

```
"condition": {  
    "contains": {  
        "parameterName": "user.job_title",  
        "value": "boss"  
    }  
}
```

## equals

### Examples:

```
"condition": {  
    "equals": {  
        "parameterName": "user.is_signed_in",  
        "value": true  
    }  
}
```

```
"condition": {  
    "equals": {  
        "parameterName": "user.email_domain",  
        "value": "liferay.com"  
    }  
}
```



# Blueprint and Element Editor



# Exercise Scenario

University Website

# Resources

<https://github.com/peerkar/liferay-devcon/2023>

# Online Documentation

Learn

Analytics Cloud Commerce DXP Liferay Cloud Reference

Go Back Liferay Learn / DXP / Using Search / Liferay Enterprise Search / Search Experiences 

Liferay Enterprise Search

Search Blueprints Semantic Search

## Search Experiences

LES Subscription DXP 7.4 U5+; 7.3 U6+

The Liferay Enterprise Search Experiences app includes a suite of features granting fine-grained control over the end user's search experience.

### Search Blueprints

Search Blueprints is the first feature in the Search Experiences application. With it you can

- Make minor tweaks to Liferay's default search page behavior
- Override the search page behavior completely
- Configure context-aware search results based on attributes of the search user

### Semantic Search

Beta Feature

Semantic Search parses index content and users' natural language search phrases with a machine learning model, so that results better reflect the intent of their search.

### Getting Liferay Search Experiences

Liferay Search Experiences is available to Liferay DXP customers with a Liferay Enterprise Search subscription in Liferay DXP 7.3, and bundled with Liferay DXP in Liferay 7.4. Check the

Search Blueprints Semantic Search Getting Liferay Search Experiences Search Experiences REST API

# ‘University of Blueprints’ Website

- **Campuses**

- Porto
- Lisbon
- Braga
- Caimbra

- **Groups**

- Staff
- Students

# Site Teams for Staff and Students

The screenshot shows the Liferay DevCon interface. On the left, there is a dark sidebar with the following navigation items:

- University of Bluep... (with a refresh icon)
- X (close button)
- Home
- Page Tree
- Design >
- Site Builder >
- Content & Data >
- Categorization >
- Recycle Bin >
- People > (with a dropdown arrow)
- Memberships
- Teams (highlighted with a blue border)
- Segments

The main content area is titled "Teams". It features a header with a search bar labeled "Search for" and a "Filter and Order" dropdown. Below the header is a table with two rows:

Name	Description
<input type="checkbox"/> <u>Staff</u>	...
<input type="checkbox"/> <u>Students</u>	...

# User's Campus

Account Settings

MORE INFORMATION

Categorization

[Learn how to tailor categories to your needs.](#)

PUBLIC CATEGORIES

They can be displayed through pages, widgets, fragments, and searches.

Campus

Porto X (X) Select

News Category

Select

Target Group

Select

Topic

Select

# Campuses

The screenshot shows the Liferay DevCon interface for managing vocabularies. On the left, there's a sidebar with 'University of Blueprints' and 'VOCABULARIES'. Under 'VOCABULARIES', there are sections for 'Global' (Topic, Audience, Stage) and 'University of Blueprints' (Campus, News Category, Target Group). The 'Campus' section is currently selected and highlighted in blue. The main content area is titled 'Campus' and displays the following information:

- Asset Types:** All Asset Types
- Description:** University campus location
- A note: "The maximum number of categories per vocabulary is 150. [Learn how to tailor categories to your needs.](#)"

Below this is a search bar with a placeholder "Search for" and a magnifying glass icon. To the right of the search bar is a blue "+" button. A table follows, listing four categories:

Category	Description	Usages	Subcategories	Create Date	More
<input type="checkbox"/> Braga		10	0	1 Day Ago	⋮
<input type="checkbox"/> Porto		10	0	1 Day Ago	⋮
<input type="checkbox"/> Lisbon		9	0	1 Day Ago	⋮
<input type="checkbox"/> Coimbra		9	0	1 Day Ago	⋮

# Target Group

The screenshot shows the Liferay Target Group management interface. On the left, there's a sidebar with 'University of Blueprints' under 'VOCABULARIES'. It lists 'Global' categories: 'Topic' (with a lock icon), 'Audience' (with a lock and eye icon), and 'Stage' (with a lock and eye icon). Below that is another 'University of Blueprints' section with 'Campus' and 'News Category'. A 'Target Group' button is highlighted with a light blue background. The main content area is titled 'Target Group' and shows 'Asset Types: All Asset Types'. A note states: 'The maximum number of categories per vocabulary is 150. Learn how to tailor categories to your needs.' Below this is a search bar with a magnifying glass icon and a blue '+' button. A table lists two categories:

	Category	Description	Usages	Subcategories	Create Date	⋮
<input type="checkbox"/>	<u>Staff</u>		13	0	9 Hours Ago	⋮
<input type="checkbox"/>	<u>Students</u>		12	0	9 Hours Ago	⋮

# News Categories

The screenshot shows the Liferay DevCon interface for managing News Categories. On the left, there's a sidebar with 'University of Blueprints' and 'VOCABULARIES' sections, and a main content area with 'Global' and 'Campus' sections. The 'Campus' section has 'News Category' selected. The main content area is titled 'News Category' and shows a table of categories. The table has columns: Category, Description, Usages, Subcategories, and Create Date. One category is listed: 'Featured' (Category for featured articles), with 2 usages, 0 subcategories, and created 1 Day Ago.

Category	Description	Usages	Subcategories	Create Date
<input type="checkbox"/> <a href="#">Featured</a>	Category for featured articles.	2	0	1 Day Ago

# News Structure with Geolocation

The screenshot shows the 'Edit News' page in the Liferay DevCon application. The top navigation bar includes a back arrow, a save icon, and a user profile icon with a question mark. The main content area has a title 'News' and a subtitle 'en-US'. A warning message in an orange box states: 'There are content references to this structure. You may lose data if a field name is renamed or removed. You will need to reindex if your changes affect indexable fields or you changed a field's indexable setting.' Below this is a 'Content' section with a rich text editor toolbar and a large empty text area. Underneath is a 'Geolocation' section featuring a map with a blue location pin. To the right is a 'Builder' sidebar with tabs for 'Fields' and 'Fieldsets'. The 'Fields' tab is selected, displaying a list of field types: Text, Select from List, Single Selection, Multiple Selection, Grid, Date, Numeric, Boolean, and Image. Each item has a description and a small icon.

# Test Data

en-US

## Braga Campus Staff News 1: Groundbreaking Invention

Cancel Save as Draft Publish

Content

Styles B I U | Source

### Good News Bulletin: Groundbreaking Invention Revolutionizes Transportation!

💡 Innovation Alert! A brilliant new invention has emerged that promises to transform the way we travel, making transportation faster, safer, and more sustainable than ever before. Prepare to be amazed by the latest breakthrough in the world of technology!

#### 🚀 Introducing the QuantumDrive: The Future of Transportation 🚀

The inventors at QuantumTech have successfully developed a revolutionary transportation system called the "QuantumDrive." This groundbreaking invention combines advanced quantum physics and cutting-edge engineering to ~~update the possibility of travel~~.

#### Geolocation

Sé Catedral de Braga, Rua Dom Gonçalo Pereira, Forte, Sé, Braga (Maximinos, Sé e Cidade), Braga, 4700-032, Portugal

DISPLAY PAGE

FEATURED IMAGE

CATEGORIZATION

[Learn how to tailor categories to your needs.](#)

PUBLIC CATEGORIES

They can be displayed through pages, widgets, fragments, and searches.

Campus

Braga

News Category

Target Group

Staff

Topic

INTERNAL CATEGORIES

They are displayed inside the administration only.

Audience

# Test Data

The screenshot shows a Liferay DevCon interface for managing web content. The top navigation bar includes 'Web Content' and a user icon with a '7' notification. The main content area displays a list of news items:

- Featured University News 2 (Approved)
- Featured University News 1 (Approved)
- Braga Campus General News 1: Groundbreaking Invention Duplicate 2 (Approved)
- Porto Campus General News 3: Groundbreaking Invention (Approved)
- Porto Campus General News 2: Groundbreaking Invention (Approved)
- Porto Campus General News 1: Groundbreaking Invention (Approved)
- Lisbon Campus General News 3: Groundbreaking Invention (Approved)
- Lisbon Campus General News 2: Groundbreaking Invention (Approved)

Each item has a checkbox, a user icon, a title, a modification timestamp, and a 'Modified by' field.

# Imported Blueprints

Blueprints

Blueprints Elements

Search +

<input type="checkbox"/>	Title ↑↓	Description	ID	Author	Created ↑↓	Modified ↑↓	⋮
<input type="checkbox"/>	Exercise 2 - 'Featured' News	Search for items categorized with 'featured'. Show only for logged in users.	47957	Test Test	May 21, 2023, 10:04:04 PM	May 22, 2023, 10:53:06 AM	⋮
<input type="checkbox"/>	Exercise 1 - Personalized Search Results	Boost search results categorized for my target group and geotagged closer to my Location	46111	Test Test	May 19, 2023, 11:47:52 AM	May 22, 2023, 10:43:05 AM	⋮
<input type="checkbox"/>	Exercise 3 - My News	Search for news matching user's categories	46618	Test Test	May 20, 2023, 4:47:13 PM	May 22, 2023, 12:29:19 AM	⋮
<input type="checkbox"/>	Exercise 3 - My Documents	Search for documents owned by me	45152	Test Test	May 17, 2023, 1:57:56 PM	May 22, 2023, 12:26:25 AM	⋮
<input type="checkbox"/>	Exercise 3 - My Events	Search for my upcoming calendar events	45151	Test Test	May 17, 2023, 1:55:41 PM	May 22, 2023, 12:23:54 AM	⋮

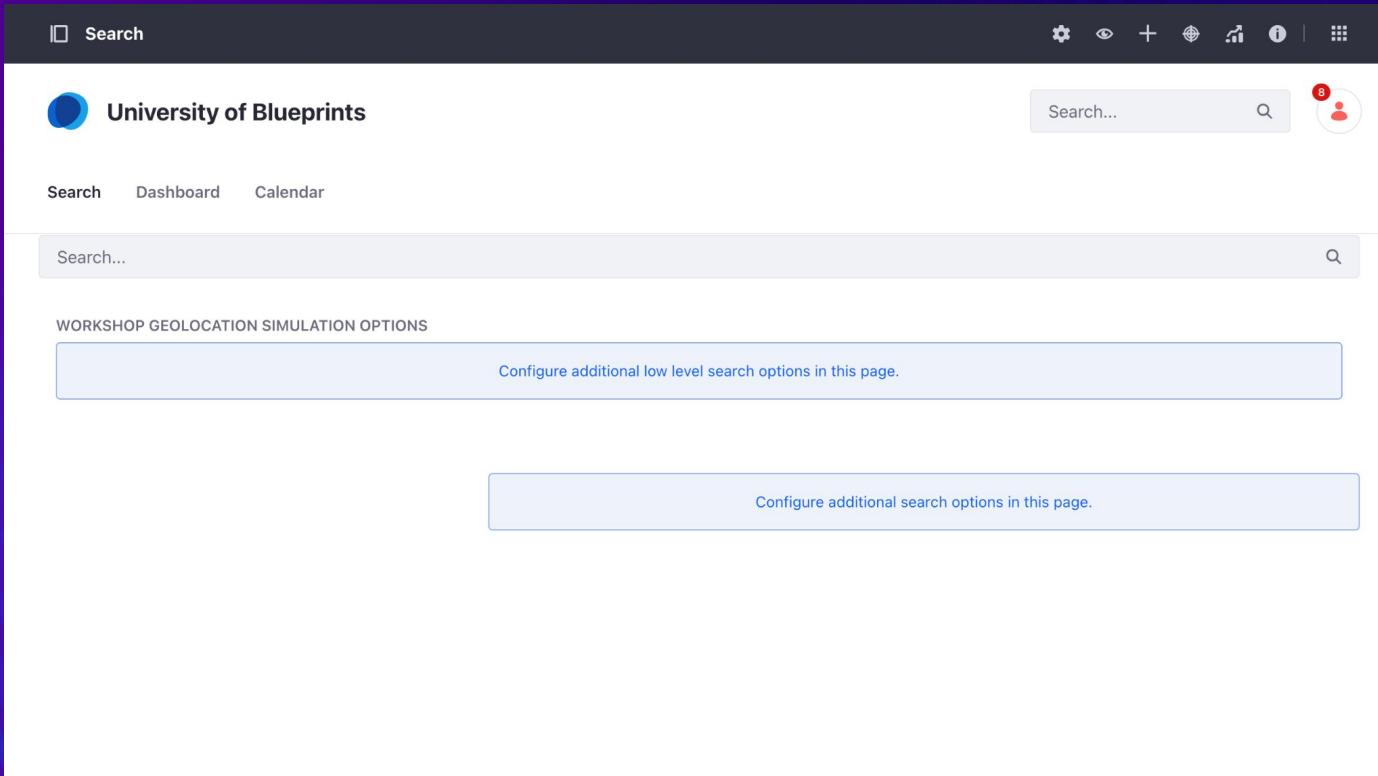
20 Items ⚡ Showing 1 to 5 of 5 entries. < 1 >

# Imported Elements

The screenshot shows the Liferay DevCon Blueprints interface. The top navigation bar has tabs for 'Blueprints' and 'Elements', with 'Elements' being the active tab. Below the tabs is a search bar with a magnifying glass icon and a blue '+' button. The main area is a table listing six imported elements:

<input type="checkbox"/>	Title ↑↓	Description	ID	Author	Created ↑↓	Modified ↑↓	⋮
<input type="checkbox"/>	Exercise 3 - My News	Search for items matching user's categories	201	Test Test	May 20, 2023, 4:49:59 PM	May 22, 2023, 12:32:42 AM	⋮
<input type="checkbox"/>	Exercise 3 - Limit Search to My Content	Limits search to my contents. If using federated search, requires a custom parameter search.experiences.user.id, used as a backup in case user ID is 0	302	Test Test	May 22, 2023, 12:19:12 AM	May 22, 2023, 12:23:17 AM	⋮
<input type="checkbox"/>	Exercise 1 - Boost by Proximity Using Web Content Structure Geolocation Field	Boosts by proximity using the nested DDM geolocation field	301	Test Test	May 21, 2023, 11:08:42 AM	May 21, 2023, 8:21:35 PM	⋮
<input type="checkbox"/>	Exercise 3 - Limit to Upcoming Events	Limit search to upcoming events	101	Test Test	May 17, 2023, 1:52:30 PM	May 17, 2023, 2:35:23 PM	⋮
<input type="checkbox"/>	Text Match Over Multiple Fields	Search for a text match over multiple text fields.	38		Apr 19, 2023, 6:18:40 PM	Apr 19, 2023, 6:18:40 PM	⋮

# Test Site



The screenshot shows a Liferay-based application interface. At the top, there is a dark header bar with a "Search" icon and a magnifying glass icon. To the right of the search bar are several small icons: gear, eye, plus, magnifying glass, info, and a grid. Below the header, the page title is "University of Blueprints". On the left, there is a sidebar with "Search", "Dashboard", and "Calendar" links. On the right, there is a search bar with "Search..." and a magnifying glass icon, and a user profile icon with a red notification badge showing the number "6". The main content area has a heading "WORKSHOP GEOLOCATION SIMULATION OPTIONS" and two blue-bordered boxes, each containing the text "Configure additional low level search options in this page." and "Configure additional search options in this page." respectively.



# Exercise 1

Personalize Search Page

# The Goal

Personalize Search Page so that results matching my group (team) and geotagged closer to my location appear higher on the list

The screenshot shows a search interface for 'news' on the 'University of Blueprints' website. The search bar at the top contains the word 'news'. Below the search bar, there are several filter categories: 'TYPE', 'CATEGORY', 'USER', and 'LAST MODIFIED'. Under 'TYPE', there is a checkbox for 'Web Content Article (39)'. Under 'CATEGORY', there are checkboxes for 'Staff (12)', 'Students (12)', 'Braga (10)', 'Coimbra (9)', 'Lisbon (9)', 'Porto (9)', and 'Featured (2)'. Under 'USER', there is a checkbox for 'test test (39)'. Under 'LAST MODIFIED', there is a checkbox for 'May 20, 2023'. To the right of these filters, a list of search results titled '39 Results for news' is displayed. The first result is 'Porto Campus Staff News\_2: Groundbreaking Invention', followed by 'Porto Campus Staff News\_1: Groundbreaking Invention', and finally 'Porto Campus Staff News\_3: Groundbreaking Invention'. Each result includes a thumbnail, the title, a brief description, and metadata like 'Campus: PORTO' and 'Target Group: STAFF'.

# Geolocation Service

The screenshot shows the Liferay System Settings interface under the 'Search Experiences' section. A modal dialog is open for the 'Ipstack' provider. The 'Enabled' checkbox is checked. The 'API Key' field contains a redacted value. The 'API URL' field contains the value `http://api.ipstack.com`. The 'Cache Timeout' field contains the value `604800`. At the bottom are 'Update' and 'Cancel' buttons.

< Search Experiences

System Settings > Search Experiences

VIRTUAL INSTANCE SCOPE

Semantic Search (Beta)

Ipstack

OpenWeatherMap

**Ipstack**

Enabled

API Key

API URL

Cache Timeout

604800

Update Cancel

# User Segments for Staff and Students

The screenshot shows the Liferay DevCon interface. On the left, there is a sidebar with the following navigation items:

- University of Blue...
- Home
- Page Tree
- Design
- Site Builder
- Content & Data
- Categorization
- Recycle Bin
- People
  - Memberships
  - Teams
  - Segments

The "Segments" item is highlighted with a yellow background. The main content area is titled "Segments" and contains the following table:

Name	Scope	Modified Date	⋮
<input type="checkbox"/> <u>Students</u>	Current Site	28 Minutes Ago	⋮
<input type="checkbox"/> <u>Staff</u>	Current Site	28 Minutes Ago	⋮

# User Segments for Staff and Students

The screenshot shows the Liferay DevCon interface for creating a user segment. The left sidebar is titled "University of Bluep..." and includes links for Home, Page Tree, Design, Site Builder, Content & Data, Categorization, Recycle Bin, People (with sub-links for Memberships and Teams), and Segments. The main content area is titled "Staff" and shows the "Conditions" tab selected. It displays the condition "USER WITH PROPERTY" and "Team equals Staff". A message indicates "Conditions Match 1 Member" and a "View Members" button. The top right of the screen shows a navigation bar with icons for Home, Logout, and a user profile, along with a notification badge showing the number 7.

# The Blueprint

The screenshot shows the Liferay Blueprint editor interface. At the top, there's a header with a back arrow labeled "Edit Blueprint", a user icon, and buttons for "Preview", "Cancel", and "Save". Below the header, the title "Exercise 1 - Personalize Search Results" is displayed, followed by a subtitle: "Boost search results categorized for my target group and geotagged closer to my Location". The main area is divided into two tabs: "Query Builder" (which is selected) and "Configuration". Under "Query Builder", there are two sections: "Query Elements" and "Query Settings". The "Query Elements" section contains three items, each with a toggle switch set to "On":

- Boost Contents in a Category for User Segments**: Boost contents in a category for users belonging to the given user segments.
- Boost Contents in a Category for User Segments**: Boost contents in a category for users belonging to the given user segments.
- Exercise 1 - Boost by Proximity Using Web Content Structure Geolocation Field**: Boosts by proximity using the nested DDM geolocation field.

Each item has a "More" button (three dots) and a "Move" button (right arrow).

# Get an IP in Porto

<https://tools.tracemyip.org/search--city/porto>

Google: “Porto IP addresses”

## Exercise Steps

1. Update segment entry and category IDs in the Blueprint
2. Apply the Blueprint to the search page
3. Simulate search page to see the results changing

# Simulation in Blueprint Preview

### Search Context Attributes

These attributes will only affect the results in this preview and will not be saved with the blueprint configuration.

Key	Value	X
search.experiences.ip.address	185.101.179.135	X
search.experiences.scope.grp	44275	X

+

Cancel Done

# Simulation on the Page

The screenshot shows a Liferay search interface with a sidebar for "Simulation".

**Search Bar:** news

**Blueprints Options:** Configure blueprints options in this page. Blueprint: Exercise 1 - Personalize Search Results

**Workshop Geolocation Simulation Options:** Configure additional low level search options in this page.

**TYPE:** 39 Results for news

- Web Content Article (39)

**CATEGORY:**

- Staff (12)
- Students (12)
- Braga (10)
- Coimbra (9)
- Lisbon (9)
- Porto (9)
- Featured (2)

**USER:**

**Simulation Sidebar:**

- SCREEN SIZE: Desktop, Tablet, Mobile
- AutoSize, Custom
- SEGMENTS:  Staff,  Students

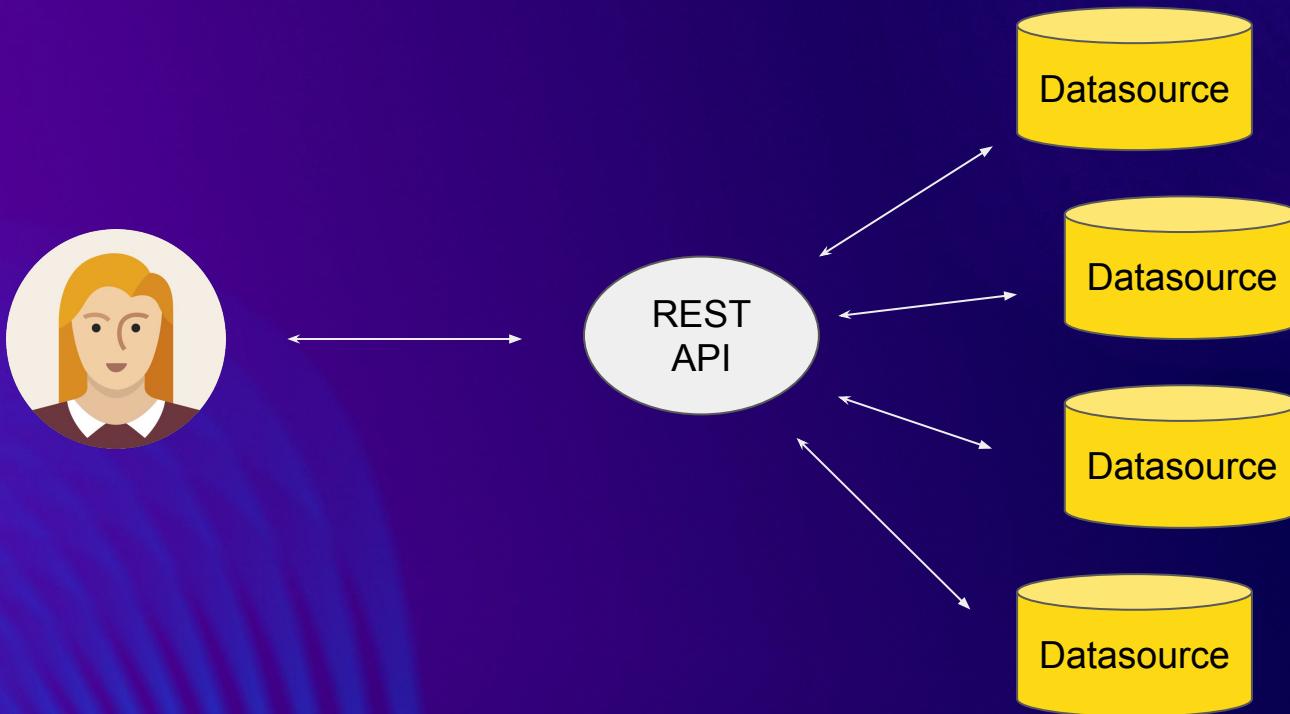
A red arrow points from the "Staff" checkbox in the segments section of the sidebar to the "Staff" category in the search results list.



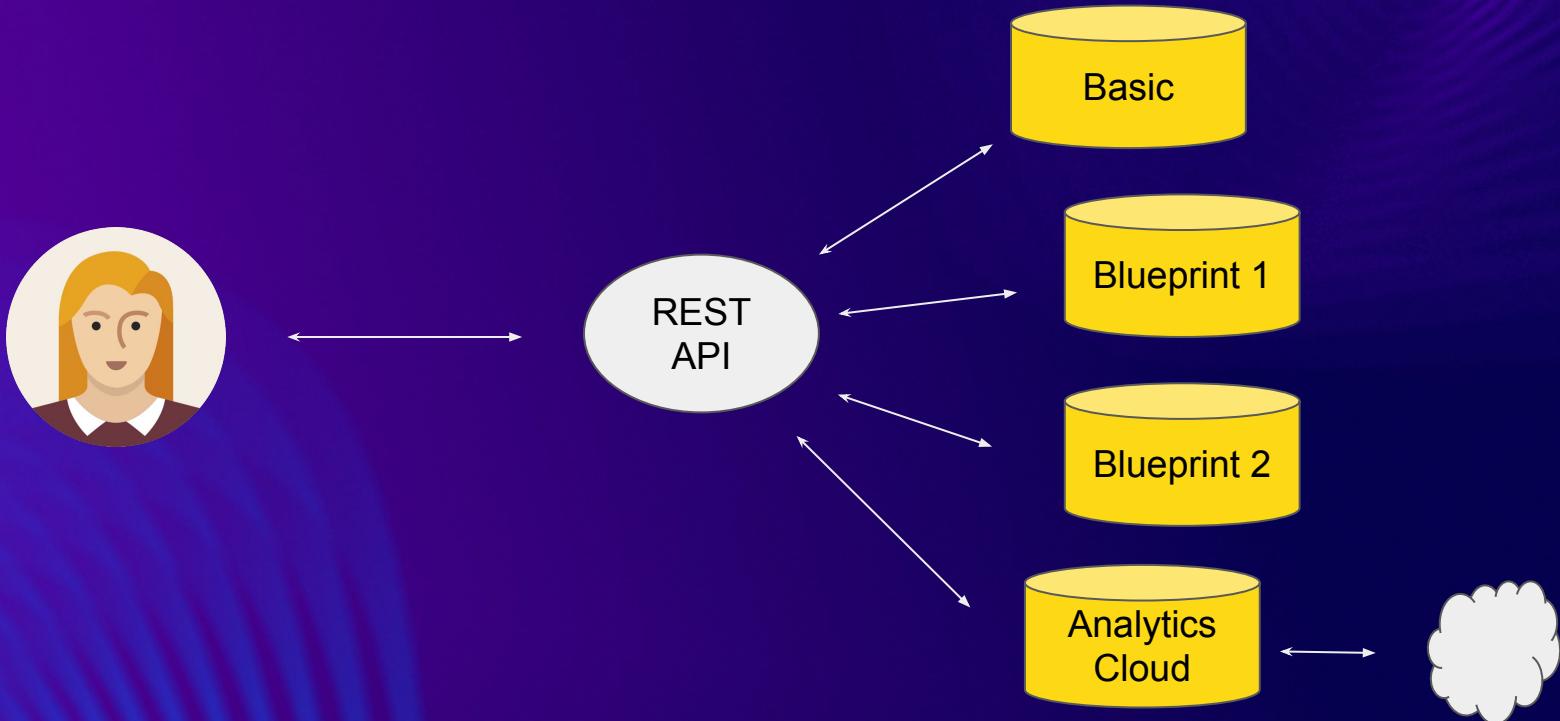
## Exercise 2

Personalize Search Bar  
Suggestions

# Suggestions Architecture

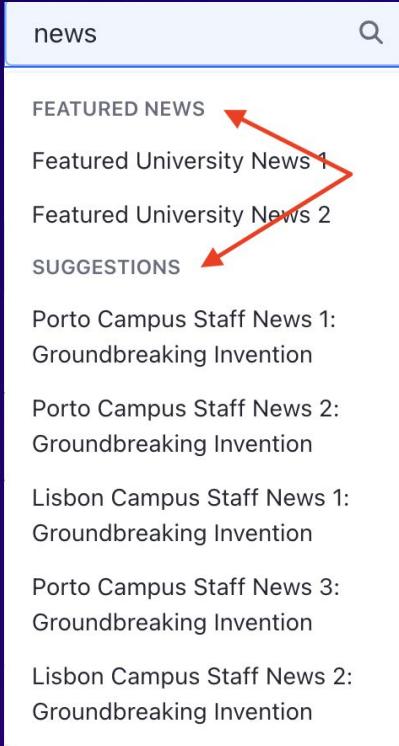


# Suggestions Architecture



# The Goals

1. Configure Search Bar to use the same Blueprint as the search page
2. Create a suggestions group for ‘featured’ news for logged in users



# The Blueprint

The screenshot shows the Liferay Blueprint editor interface. At the top, there's a header with a back arrow, the title "Edit Blueprint", and a user icon with a red notification badge. Below the header, the title "Exercise 2 - 'Featured' News" is displayed, followed by a subtitle "Search for items categorized with 'featured'. Show only for logged in users." On the right side of the header are buttons for "Preview", "Cancel", and "Save".

The main area is divided into two tabs: "Query Builder" (which is selected) and "Configuration". Under "Query Builder", there are two sections: "Query Elements" and "Query Settings".

The "Query Elements" section contains a "Filter by Exact Terms Match" element. It has a toggle switch turned on, a "Field" dropdown set to "assetCategoryIds", and a "Values" input field containing the value "46613" with a delete button.

The "Query Settings" section contains a "Hide Contents in a Category for Guest Users" element. It has a toggle switch turned on, a "Asset Category Name (ID)" dropdown set to "Featured (ID: 46613)", and a "Select" button.

# Configure Suggestions

Search Bar - Configuration

X

Blueprint Suggestions Contributor

Influence or override the search query using a blueprint. [Learn more.](#)

Display Group Name\* ⓘ Size\* ⓘ

Featured 5

Blueprint\* Ⓢ

Exercise 2 - 'Featured' News ⌂ Select ⌂

Character Threshold ⓘ Include Asset URL ⓘ Include Asset Summary ⓘ

True True

Fields ⓘ

Blueprint Suggestions Contributor

Influence or override the search query using a blueprint. [Learn more.](#)

Display Group Name\* ⓘ Size\* ⓘ

Suggestions 5

Blueprint\* Ⓢ

Exercise 1 - Personalize Search Results ⌂ Select ⌂

Cancel Save

## Exercise Steps

1. Configure the Blueprint to list the ‘Featured’ items
2. In the Search Bar widget configuration:
  - a. Remove the Basic contributor
  - b. Add a Blueprint provider for the the Exercise 1 Blueprint
  - c. Add a Blueprint provider for the Exercise 2 – Blueprint



# Bonus Exercise

Personal Dashboard

# The Goal

Create a personal dashboard page using search widgets and Blueprints.

The screenshot shows the Liferay DXP Dashboard interface. At the top, there's a header bar with a 'Dashboard' icon, the 'Dashboard' title, and various system icons. Below the header is the Liferay logo and a search bar. The main content area is titled 'My Dashboard'. It features two search widgets: 'SEARCH FROM MY DOCUMENTS' and 'SEARCH FROM MY EVENTS'. The 'SEARCH FROM MY DOCUMENTS' section shows a search bar with placeholder 'Search...', a result count of '5 Results for', and two document cards: 'tree.png' and 'stars.png'. The 'tree.png' card has details: 'Test Test', 'May 15, 2023 8:45 AM', and 'Document'. The 'stars.png' card also has similar details. The 'SEARCH FROM MY EVENTS' section shows a search bar with placeholder 'Search...', a result count of '2 Results for', and two calendar event cards: 'e.g. Meeting' and 'Another meeting'. Both event cards are labeled 'Calendar Event'.

# The Dashboard

The screenshot shows the Liferay DEVCON dashboard interface. At the top, there's a header bar with a 'Dashboard' icon, a search bar, and various system icons. Below the header, the title 'University of Blueprints' is displayed next to a blue circular icon. A navigation bar includes 'Search', 'Dashboard', and 'Calendar'. On the left, a sidebar titled 'MY DASHBOARD' contains the heading 'My Dashboard'. The main content area is organized into several sections:

- CAMPUS NEWS:** A section containing a button labeled 'Configure blueprints options in this page. Blueprint: Exercise 3 - My News'.
- CAMPUS NEWS BULLETINS BLUEPRINT OPTIONS:** A section containing a button labeled 'Configure additional search options in this page.'
- SEARCH FROM MY DOCUMENTS:** A search bar with a placeholder 'Search...' and a magnifying glass icon.
- MY DOCUMENTS SEARCH RESULTS:** A section showing the results of the search from the previous step.
- SEARCH FROM MY UPCOMING EVENTS:** A search bar with a placeholder 'Search...' and a magnifying glass icon.
- MY UPCOMING EVENTS:** A section showing the results of the search from the previous step.
- MY EVENTS BLUEPRINTS OPTIONS:** A section containing a button labeled 'Configure blueprints options in this page. Blueprint: Exercise 3 - My Events'.
- MY EVENTS SEARCH OPTIONS:** A section containing a button labeled 'Configure additional search options in this page.'
- MY EVENTS CUSTOM BLUEPRINT PARAMETER CONTRIBUTOR:** A section showing the results of the search from the previous step.

# The Dashboard

The screenshot shows the Liferay DEVCON dashboard interface. At the top, there's a header bar with a search bar, a user icon with a red notification badge (10), and various system icons. Below the header is the Liferay logo and the title "University of Blueprints". The main content area is titled "My Dashboard". It features two main sections: "CAMPUS NEWS" and "SEARCH FROM MY UPCOMING EVENTS".

**CAMPUS NEWS**

9 Results for

- Porto Campus General News 3: Groundbreaking Invention**  
Web Content Article · By Test Test On May 21, 2023 7:37 AM  
Good News Bulletin: Groundbreaking Invention Revolutionizes Transportation! 🚗 Innovation Alert! A brilliant new invention has emerged that promises to transform the way we travel, making...  
Campus: PORTO
- Porto Campus General News 2: Groundbreaking Invention**

**SEARCH FROM MY UPCOMING EVENTS**

Search...

**MY UPCOMING EVENTS**

3 Results for

- Campus party**  
Calendar Event
- Lunch with the faculty dean**  
Calendar Event
- DevCon unConference**

# The Dashboard

The screenshot shows the Liferay DEVCON dashboard interface. At the top, there's a header bar with a 'Dashboard' icon, a search bar, and various system icons. Below the header, the title 'University of Blueprints' is displayed next to a blue circular icon. A navigation bar includes 'Search', 'Dashboard', and 'Calendar'. On the left, a sidebar titled 'MY DASHBOARD' contains the heading 'My Dashboard'. The main content area is organized into several sections:

- CAMPUS NEWS**: Includes a message box stating 'Configure blueprints options in this page. Blueprint: Exercise 3 - My News'.
- CAMPUS NEWS BULLETINS BLUEPRINT OPTIONS**: Includes a message box stating 'Configure additional search options in this page.'
- SEARCH FROM MY DOCUMENTS**: Includes a search bar with placeholder 'Search...' and a magnifying glass icon.
- MY DOCUMENTS SEARCH RESULTS**: This section is currently empty.
- SEARCH FROM MY UPCOMING EVENTS**: Includes a search bar with placeholder 'Search...' and a magnifying glass icon.
- MY UPCOMING EVENTS**: This section is currently empty.
- MY EVENTS BLUEPRINTS OPTIONS**: Includes a message box stating 'Configure blueprints options in this page. Blueprint: Exercise 3 - My Events'.
- MY EVENTS SEARCH OPTIONS**: Includes a message box stating 'Configure additional search options in this page.'
- MY EVENTS CUSTOM BLUEPRINT PARAMETER CONTRIBUTOR**: This section is currently empty.

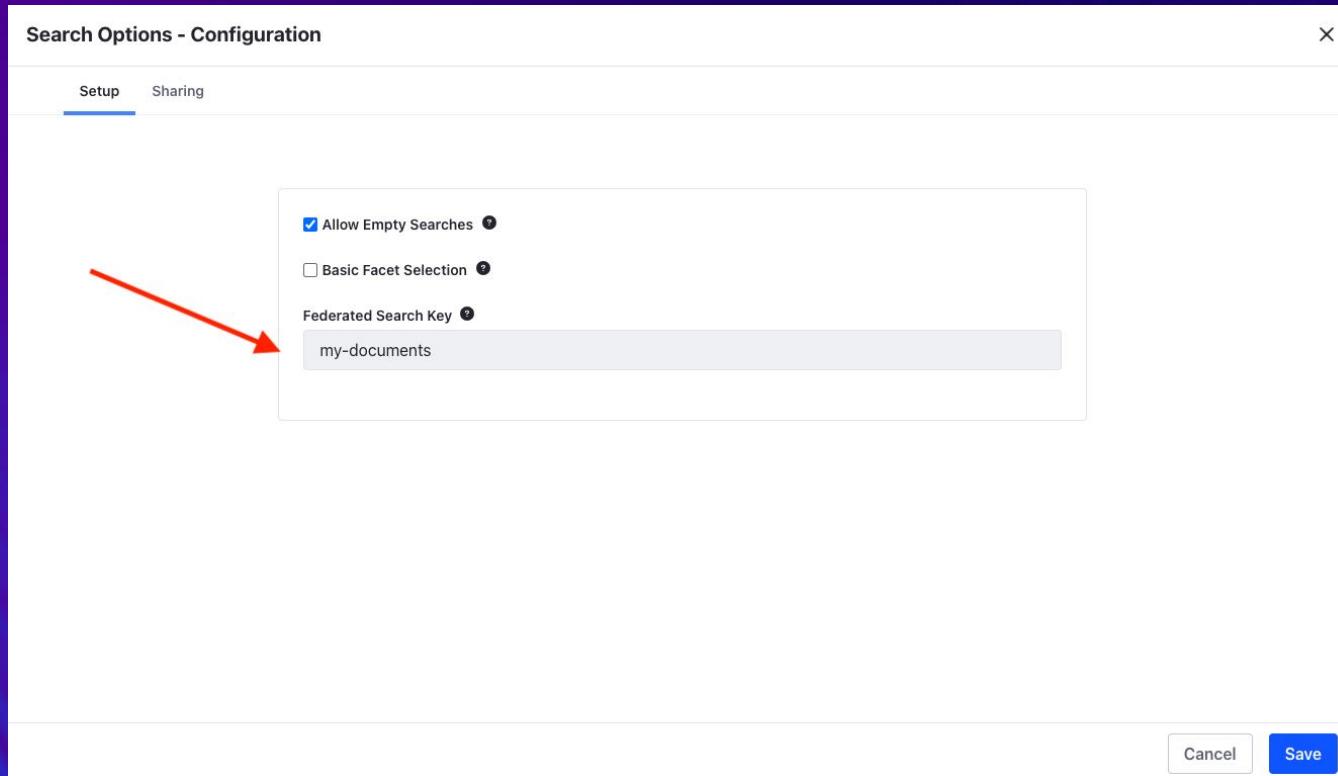
# The Dashboard

The screenshot shows the Liferay Dashboard interface. At the top, there's a header bar with a 'Dashboard' button, a search bar, and a user icon indicating 8 notifications. Below the header, the title 'University of Blueprints' is displayed next to a blue circular icon.

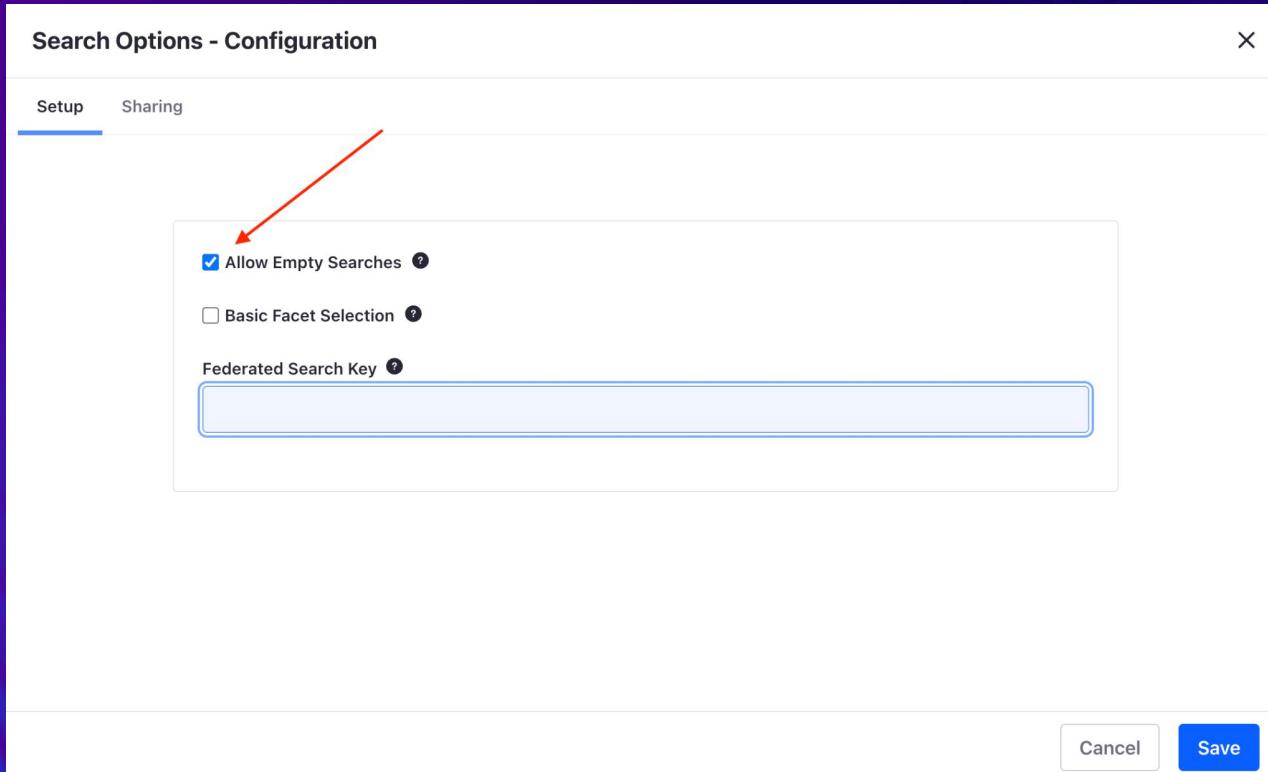
The main content area is titled 'MY DASHBOARD' and features a section titled 'My Dashboard'. This section contains several cards:

- CAMPUS NEWS** (Card 1): Contains 'CAMPUS NEWS BULLETINS BLUEPRINT OPTIONS' with a button to 'Configure blueprints options in this page.' and 'CAMPUS NEWS BULLETINS SEARCH OPTIONS' with a button to 'Configure additional search options in this page.'
- SEARCH FROM MY DOCUMENTS** (Card 2): Contains a search bar labeled 'Search...' with a magnifying glass icon.
- SEARCH FROM MY UPCOMING EVENTS** (Card 3): Contains a search bar labeled 'Search...' with a magnifying glass icon.
- MY UPCOMING EVENTS**: A section titled 'MY EVENTS BLUEPRINTS OPTIONS' with a button to 'Configure blueprints options in this page.' and 'MY EVENTS SEARCH OPTIONS' with a button to 'Configure additional search options in this page.'
- MY EVENTS CUSTOM BLUEPRINT PARAMETER CONTRIBUTOR**: A section titled 'MY EVENTS CUSTOM BLUEPRINT PARAMETER CONTRIBUTOR'.

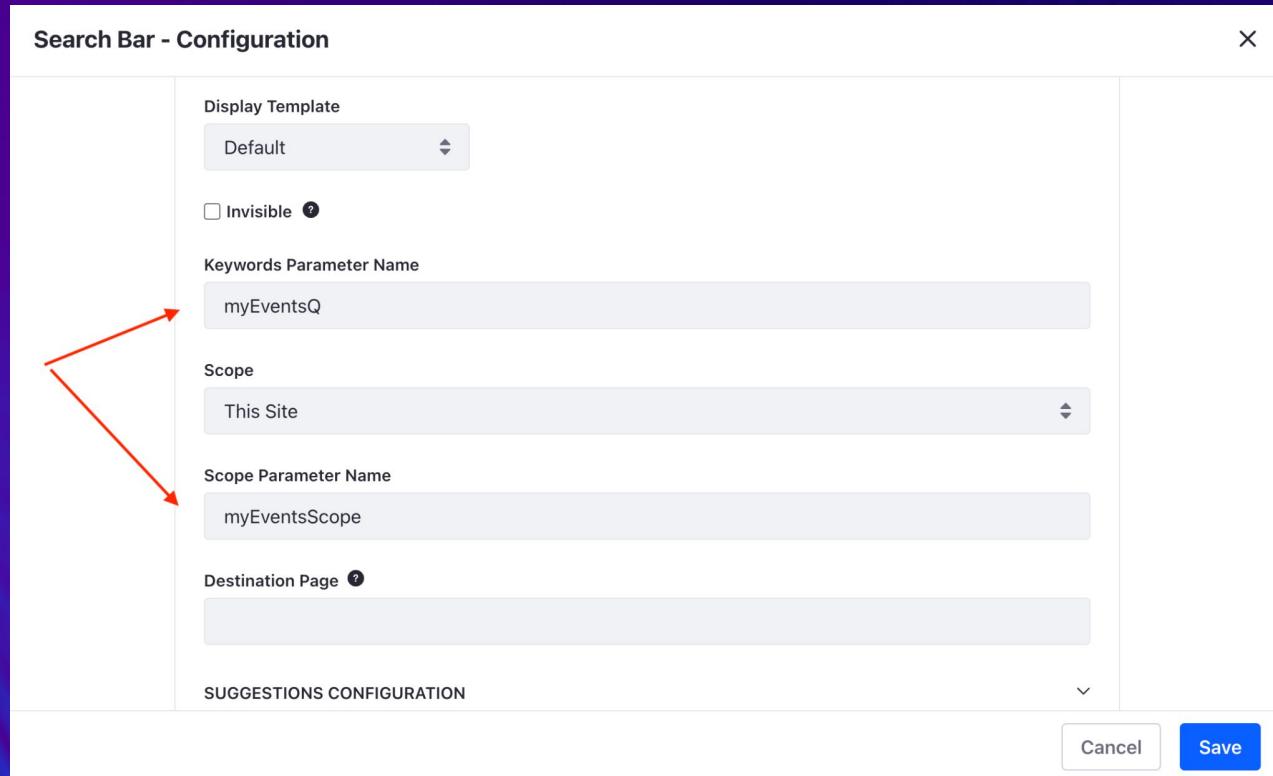
# Federated Search Key



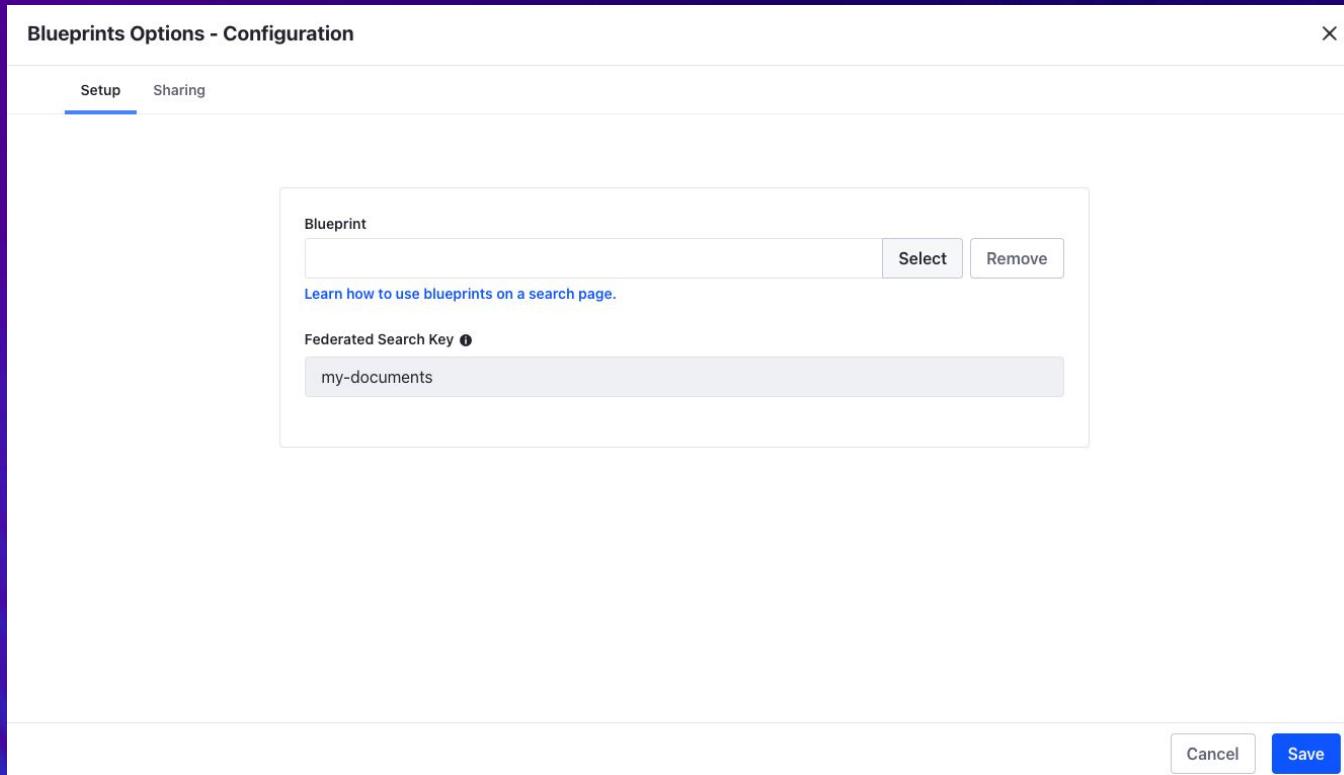
# Allow Empty Searches



# Set Unique Parameter Names



# Select the Blueprint



# Configure Suggestions

Search Bar - Configuration

Enable Suggestions

Character Threshold for Displaying Suggestions ?  
2

Blueprint Suggestions Contributor

Influence or override the search query using a blueprint. [Learn more.](#)

Display Group Name\* ? Size\* ?  
My Events

Blueprint\*  
 Exercise 3 - Dashboard My Events × Select W

Character Threshold ? Include Asset URL ? Include Asset Summary ?  
True True

Fields ?

Cancel Save

# Campus News Blueprint

The image shows two side-by-side screenshots of a Liferay application interface, likely the Liferay DevCon portal.

**Left Screenshot:** This is a detailed view of the 'Query Settings' section of a blueprint configuration. It includes:

- A title "Query Settings".
- A "SEARCHABLE TYPES" section with two radio button options:
  - "All Searchable Types" (unselected).
  - "Selected Types" (selected).
- A note: "Select the assets and objects to be searched. If disable all types, disable the search framework."
- A "Select Asset Types" button.
- A list box containing "Web Content Article".
- A "SEARCH FRAMEWORK INDEXER CLAUSES" section with a toggle switch labeled "On".
- A "SEARCH FRAMEWORK QUERY CONTRIBUTORS" section.

**Right Screenshot:** This is a summary view of the blueprint configuration. It includes:

- A title "Edit Blueprint" and "Exercise 3 - My News".
- A note: "Search for news matching user's categories".
- A "Query Elements" section with a "Collapse All" button and a "+" button.
- A list box titled "Exercise 3 - My News" containing the text "Search for items matching user's categories".
- A toggle switch labeled "On" and a three-dot menu icon.

# My Documents Blueprint

Exercise 3 - My Documents  
Search for documents owned by me

Preview | Cancel | Save

Query Builder Configuration

Query Elements

Query Settings

SEARCHABLE TYPES

All Searchable Types  
 Selected Types

Select the assets and objects to be searched. If disable all types, disable the search framework

Select Asset Types

Document

SEARCH FRAMEWORK INDEXER CLAUSES (?)

On

Exercise 3 - My Documents  
Search for documents owned by me

Preview | Cancel | Save

Query Builder Configuration

Query Elements

Query Elements

Collapse All +

Exercise 3 - Limit Search to My Content

Limits search to my contents. If using federated search, requires a custom parameter search.experiences.user.id, used as a backup in case user ID is 0

...

# My Events Blueprint

The image shows two identical 'Edit Blueprint' windows side-by-side, illustrating a comparison or a step-by-step process. Both windows have a header with a back arrow, the title 'Edit Blueprint', and a user icon with a red notification badge (9). Below the header are 'Preview', 'Cancel', and 'Save' buttons.

The left window is titled 'Exercise 3 - My Events' and has a 'Query Settings' tab selected. It displays a 'Query Elements' section with a 'Query Settings' button. The 'Query Settings' panel contains a 'SEARCHABLE TYPES' section where the 'Selected Types' radio button is selected. A red arrow points from the bottom-left towards this panel. Below it is a 'Select Asset Types' button, which is currently showing 'Calendar Event'. There is also a 'SEARCH FRAMEWORK INDEXER CLAUSES' section with a 'On' toggle switch.

The right window is also titled 'Exercise 3 - My Events' and has a 'Query Builder' tab selected. It displays a 'Query Elements' section with a 'Query Settings' button. The 'Query Settings' panel contains two configuration cards:

- Exercise 3 - Limit Search to My Content**: A card with a toggle switch set to 'On' and a note: "Limits search to my contents. If using federated search, requires a custom parameter search.experiences.user.id, used as a backup in case user ID is 0".
- Exercise 3 - Limit to Upcoming Events**: A card with a toggle switch set to 'On' and a note: "Limit search to upcoming events".

Both windows have a 'Collapse All' button and a '+' button to add more configurations.

# Demo

# The Dashboard

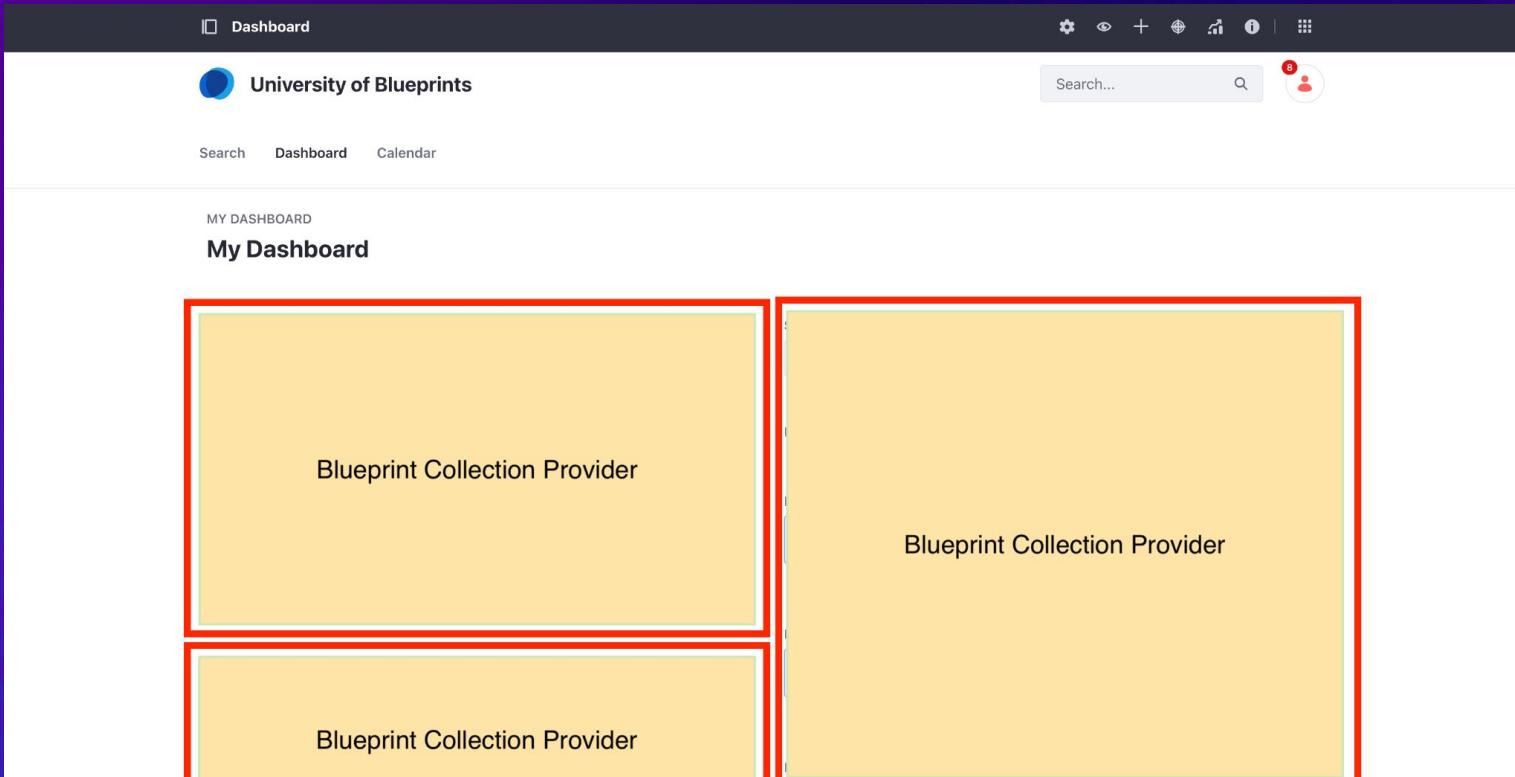
The screenshot shows the Liferay Dashboard interface. At the top, there's a header bar with a 'Dashboard' button, a search bar, and a user icon indicating 8 notifications. Below the header, the title 'University of Blueprints' is displayed, along with navigation links for 'Search', 'Dashboard', and 'Calendar'. The main content area is titled 'MY DASHBOARD' and features a section titled 'My Dashboard'. This section contains several cards:

- CAMPUS NEWS** (Card 1): Contains 'CAMPUS NEWS BULLETINS BLUEPRINT OPTIONS' with a button to 'Configure blueprints options in this page.' and 'CAMPUS NEWS BULLETINS SEARCH OPTIONS' with a button to 'Configure additional search options in this page.'
- SEARCH FROM MY DOCUMENTS** (Card 2): Contains a search bar labeled 'Search...' with a magnifying glass icon.
- SEARCH FROM MY UPCOMING EVENTS** (Card 3): Contains a search bar labeled 'Search...' with a magnifying glass icon.
- MY UPCOMING EVENTS**: A section titled 'MY EVENTS BLUEPRINTS OPTIONS' with a button to 'Configure blueprints options in this page.' and 'MY EVENTS SEARCH OPTIONS' with a button to 'Configure additional search options in this page.'
- MY EVENTS CUSTOM BLUEPRINT PARAMETER CONTRIBUTOR**: A section titled 'MY EVENTS CUSTOM BLUEPRINT PARAMETER CONTRIBUTOR'.

# Blueprints & Headless Search API

The screenshot shows a Liferay dashboard titled "University of Blueprints". The top navigation bar includes "Dashboard", "Search", "Dashboard", and "Calendar". The main content area is titled "MY DASHBOARD" and "My Dashboard". It features three cards, each representing a "Client Extension". Each card contains a black puzzle piece icon and the text "Client Extension". The first two cards are enclosed in a red rectangular border, while the third card is separate.

# Blueprints & Collections



The screenshot shows a Liferay dashboard titled "University of Blueprints". The dashboard has a top navigation bar with "Dashboard" and other icons. Below the navigation is a header with a profile icon, a search bar, and a notification badge showing "8". The main content area is titled "My Dashboard". It contains three large, yellowish-orange rectangular boxes, each labeled "Blueprint Collection Provider". These boxes are arranged in two rows: one box in the top row and two boxes in the bottom row. All three boxes are outlined with a thick red border.

## Takeaways

# Exercise Steps

1. Go to the 'Dashboard' page
2. Import the Blueprint to list my upcoming events
3. In the right column (events):
  - o Set the Blueprint for Events
  - o Allow empty search
4. Import the Blueprint to list my documents
5. In the left column (documents):
  - o Set the Blueprint for Documents
  - o Allow empty search



# Developer Options

# Custom Parameters in a Blueprint

- Segments
- Search Context Attributes

# Custom Parameters in a Blueprint

The screenshot shows the 'New User Segment' configuration screen. At the top left is the title 'New User Segment'. To the right are navigation icons (grid, back, forward) and a user icon with a red notification badge showing '2'. The main area has a header 'Untitled Segment' with a 'en-US' language flag. On the right are 'Cancel', 'Save' (blue), and '⚙️' buttons.

**Conditions** section: Shows 'Conditions Match 0 Members' and a 'View Members' button. Below it is a 'SESSION WITH PROPERTY' section containing a 'Request Parameters' dropdown menu with options: equals, Key, Value, and checkboxes for 'req' and 'req' (disabled).

**Properties** section: A search bar with 'req' and a clear 'X' button. Below are three sections: 'USER' (0 members), 'ORGANIZATION' (0 members), and 'SESSION' (1 member). A note at the bottom states: 'Inherited attributes are not taken into account to include members in segments.'

A blue-bordered box highlights the 'Request Parameters' section in the Properties sidebar.

# Custom Parameters in a Blueprint

The screenshot shows a Liferay Blueprint configuration dialog titled "Boost Contents in a Category for User Segments". The title includes a small icon of a hand giving a thumbs up. To the right of the title are three icons: a vertical ellipsis, a downward arrow, and a blue toggle switch which is turned on. Below the title is a descriptive text: "Boost contents in a category for users belonging to the given user segments." At the bottom of the dialog are three input fields: "Asset Category Name (ID)" with a "Select" button, "User Segment IDs", and "Boost" with a value of "20".

Boost Contents in a Category for User Segments

Boost contents in a category for users belonging to the given user segments.

Asset Category Name (ID)

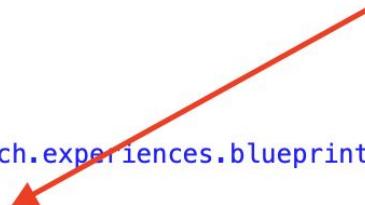
User Segment IDs

Boost

20

# Custom Parameters in a Blueprint

```
private SearchResponse _getSearchResponse(RenderRequest renderRequest) {  
  
    SearchRequestBuilder searchRequestBuilder =  
        _searchRequestBuilderFactory.builder()  
            SearchContextFactory.getInstance(  
                PortalUtil.getHttpServletRequest(renderRequest)));  
  
    searchRequestBuilder.emptySearchEnabled(  
        true  
    ).from(  
        0  
    ).size(  
        10  
    ).withSearchContext(  
        searchContext -> {  
            searchContext.setAttribute("search.experiences.blueprint.id",  
                _getSXPBlueprintId());  
  
            searchContext.setAttribute("is_vip", _isVip());  
        }  
    );  
  
    return _searcher.search(searchRequestBuilder.build());  
}
```



# Custom Parameters in a Blueprint

## Parameter Configuration

Declare new template variables from search context attributes. [Learn more.](#)

```
1 {  
2     "parameters": {  
3         "is_vip": {  
4             "type": "Boolean"  
5         }  
6     }  
7 }
```

# Custom Parameters in a Blueprint

Custom JSON Element  
Editable JSON Text Area

JSON

```
24 }  
25     ]  
26   }  
27 }  
28 }  
29 ],  
30 "condition": {  
31   "equals": {  
32     "parameterName": "is_vip",  
33     "value": false  
34   }  
35 }  
36 }  
37 ]  
38 }
```





# Tips

Try to Keep It  
Simple

# Start With Low Boosts

# Make It Reusable

# Use Kibana and Explain

# Have a Plan



## How was this session?

Please share your rating in  
the event app. Thank you!