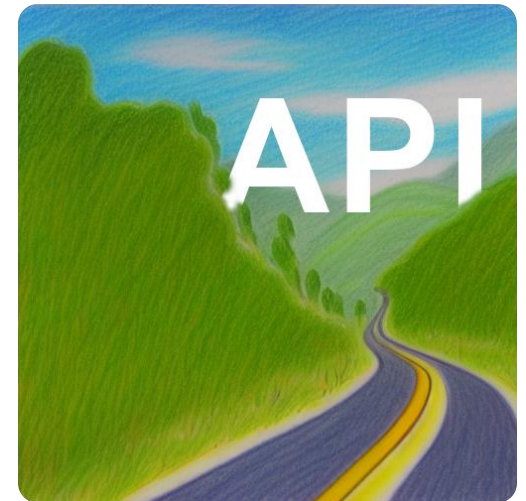


# A Journey into the Front-End with the D2L API

**Bjorn Le Roux**

Learning Designer, Flex Team

Centre for Academic Development & Quality



# API Projects

1. Customisable unit level progress
2. On-page Discussions
3. Visualisation of Awards

# Our Goals

## **Delivering high quality flexible & personalised learning**

- Enhancing the student experience
- Promoting interaction / driving engagement
- Wider adoption of Awards

# What was used

- HTML / CSS
- jQuery / JavaScript
- The Brightspace API (<https://docs.valence.desire2learn.com>)
- A ton of inspiration from D2L Fusion 2021 – in particular the presentation by Peter Phinney (Greater Essex County District School Board, CA)

# The Source

July 2021

## Another Example of an API call

- This is a **PUT** call that ac... course offering. (Be care... ensure permissions are granted.)



```
var dataObject = { "Name": name, "Code": code, "StartDate": startDate, "EndDate": endDate, "IsActive": isActive, "Description": description};

$.ajax({
  type: "PUT",
  url: "/d2l/api/lp/1.23/courses/"+ou,
  data: JSON.stringify(dataObject),
  headers:{
    'X-CSRF-TOKEN':localStorage.getItem("XSRF.Token")
  },
  success: function(result) {
    if(isActive==true){
      alert("Course is now Active!");
    }
    else{
      alert("Course is now Inactive!");
    }
    window.location.reload();
  },
  error: function(xhr,textStatus,error){
    console.log(xhr.responseText);
    console.log(xhr.statusText);
    console.log(textStatus);
    console.log(error);
  },//error function
}); //put
```

### Course.CourseOfferingInfo

When you use actions that update course information for a course offering, you should provide one of these blocks:

```
{
  "Name": <string>,
  "Code": <string>,
  "StartDate": <string:UTCDateTime>|null,
  "EndDate": <string:UTCDateTime>|null,
  "IsActive": <boolean>,
  "Description": { <composite:RichTextInput> }, // Added with LP API v1.26
  "CanSelfRegister": <boolean>|null // Added with LP API v1.27
}
```

### Code

Note that course offering code values have these limitations:

- They cannot be more than 50 characters in length.
- They may not contain these special characters (or a newline character):

```
\ : * ? " < > | ' # , % &
```

#D2LFusion

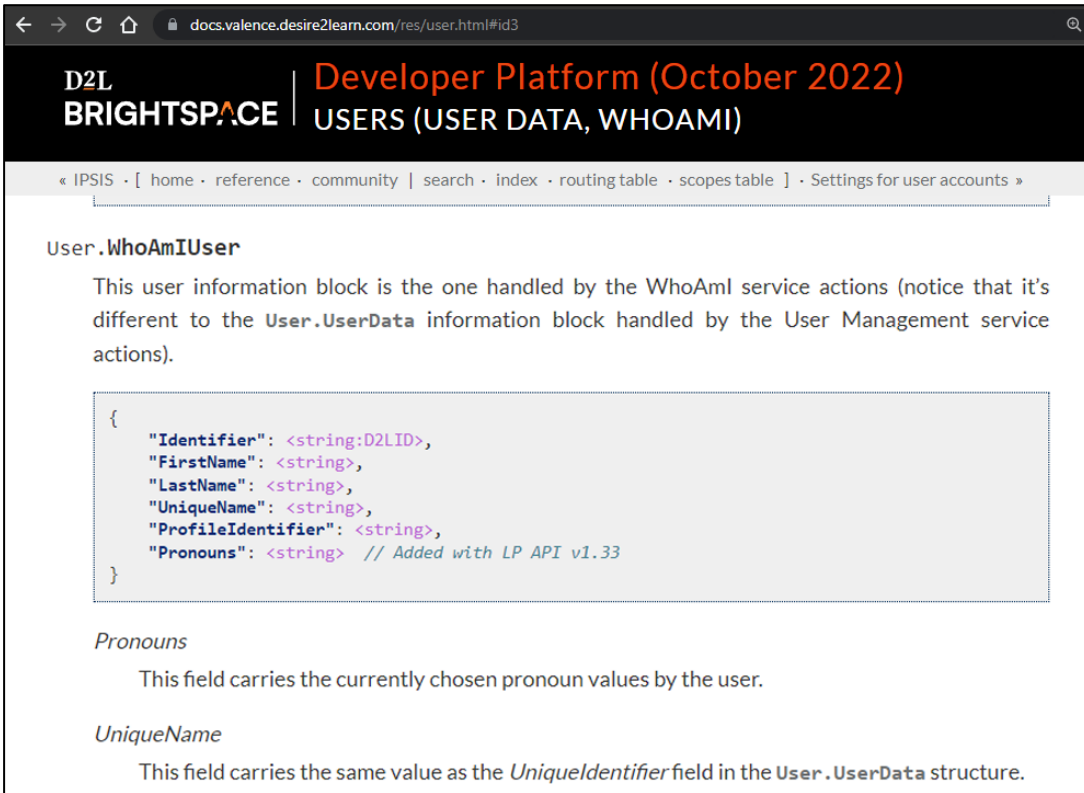
D2L Fusion  
**IMAGINEERS**  
of tomorrow

# Day 1...

- Recreate the **WHOAMI** example

# Day 1...

- Recreate the **WHOAMI** example



The screenshot shows a web browser window with the URL `docs.valence.desire2learn.com/res/user.html#id3`. The page header includes the D2L BRIGHTSPACE logo and the text "Developer Platform (October 2022) USERS (USER DATA, WHOAMI)". A breadcrumb trail reads: « IPSIS · [ home · reference · community | search · index · routing table · scopes table ] · Settings for user accounts ».

### User.WhoAmIUser

This user information block is the one handled by the WhoAmI service actions (notice that it's different to the `User.UserData` information block handled by the User Management service actions).

```
{
  "Identifier": <string:D2LID>,
  "FirstName": <string>,
  "LastName": <string>,
  "UniqueName": <string>,
  "ProfileIdentifier": <string>,
  "Pronouns": <string> // Added with LP API v1.33
}
```

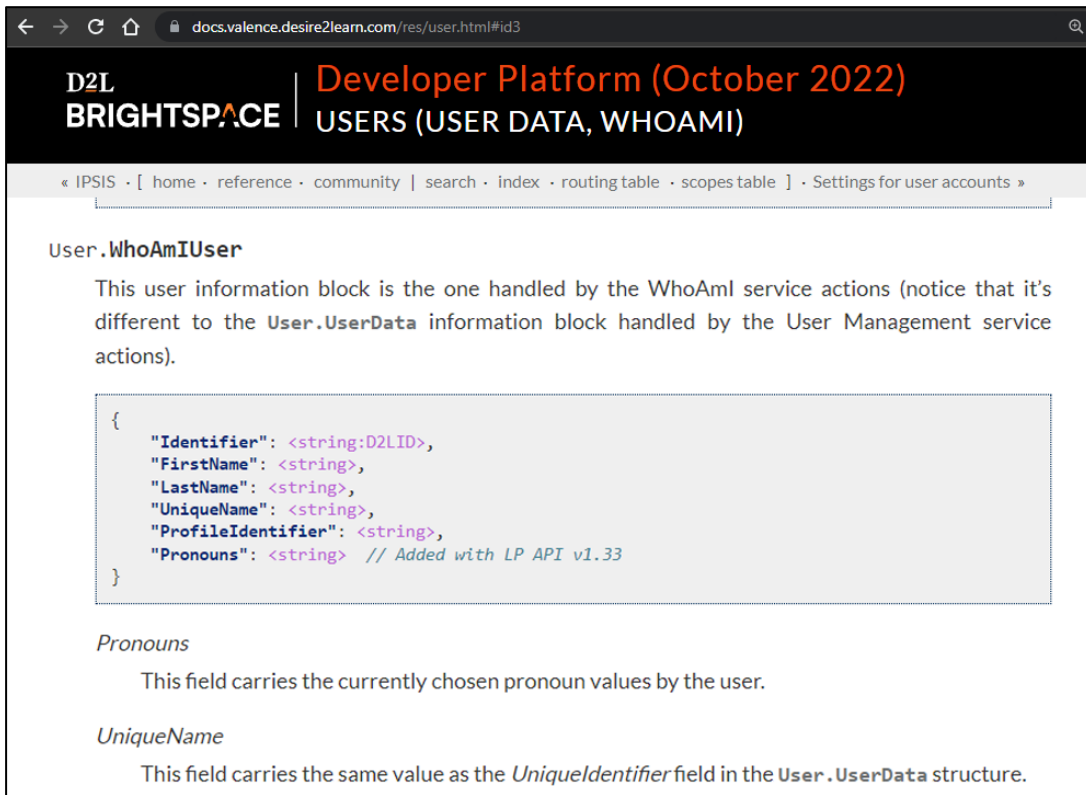
**Pronouns**  
This field carries the currently chosen pronoun values by the user.

**UniqueName**  
This field carries the same value as the `UniqueIdentifier` field in the `User.UserData` structure.

<https://docs.valence.desire2learn.com/>

# Day 1...

- Recreate the **WHOAMI** example



The screenshot shows a web browser window with the URL `docs.valence.desire2learn.com/res/user.html#id3`. The page title is "D2L BRIGHTSPACE | Developer Platform (October 2022) USERS (USER DATA, WHOAMI)". The breadcrumb navigation is "« IPSIS · [ home · reference · community | search · index · routing table · scopes table ] · Settings for user accounts »". The main heading is "User.WhoAmIUser". The text below the heading states: "This user information block is the one handled by the WhoAmI service actions (notice that it's different to the User.UserData information block handled by the User Management service actions)." Below this text is a code block containing a JSON object:

```
{
  "Identifier": <string:D2LID>,
  "FirstName": <string>,
  "LastName": <string>,
  "UniqueName": <string>,
  "ProfileIdentifier": <string>,
  "Pronouns": <string> // Added with LP API v1.33
}
```

Below the code block, there are two sections:

- Pronouns**: This field carries the currently chosen pronoun values by the user.
- UniqueName**: This field carries the same value as the *UniqueIdentifier* field in the `User.UserData` structure.

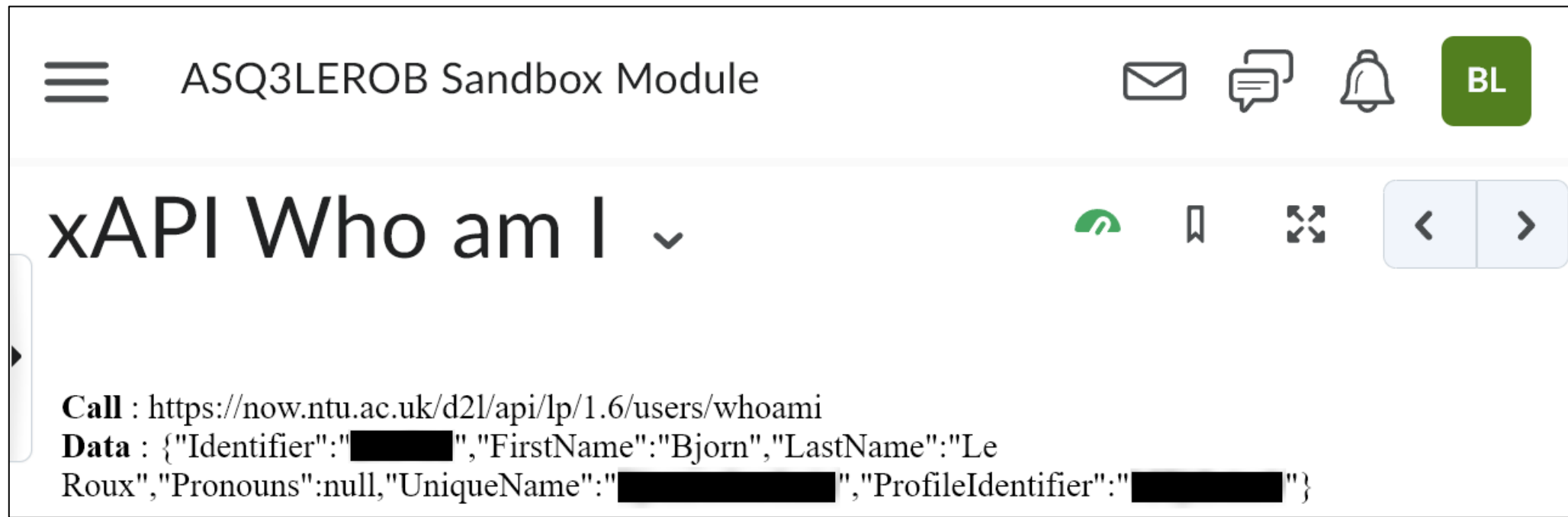
+

```
let reqURL = "https://now.ntu.ac.uk/d2l/api/lp/1.6/users/whoami";
$.ajax({
  url: reqURL,
  method: 'GET',
  headers: {
    'X-CSRF-TOKEN': localStorage.getItem("XSRF.Token")
  },
  success: function(result) {
    console.log(result); //Do something with the result
  },
  error: function(xhr, textStatus, error) {
    console.log(xhr.responseText,
      xhr.statusText,
      textStatus,
      error);
  }
});
```



# Day 1...

- Recreate the **WHOAMI** example



The screenshot shows a mobile application interface for an API client. At the top, there is a header with a hamburger menu icon, the text "ASQ3LEROB Sandbox Module", and several utility icons: an envelope, a speech bubble, a bell, and a green button labeled "BL". Below the header, the main content area displays "xAPI Who am I" with a dropdown arrow. To the right of this text are icons for a Wi-Fi signal, a bookmark, a full-screen view, and navigation arrows. The response of the API call is shown in a scrollable area:

```
Call : https://now.ntu.ac.uk/d21/api/lp/1.6/users/whoami
Data : {"Identifier":"[REDACTED]","FirstName":"Bjorn","LastName":"Le
Roux","Pronouns":null,"UniqueName":"[REDACTED]","ProfileIdentifier":"[REDACTED]"}
```

# Day 1...

- Is it possible to read the **Content Structure**?

```
GET /d2l/api/le/(version)/(orgUnitId)/content/toc
```

Retrieve the table of course content for an org unit.

**Parameters:**

- **version** (D2LVERSION) – API version.
- **orgUnitId** (D2LID) – Org unit ID.

**Query Parameters:**

- **ignoreModuleDateRestrictions** (*boolean*) – (Optional) Include content modules where date restriction would otherwise hide them from view.
- **userId** (D2LID) – (Optional) Fetch the table of course content as it would be viewed by this user.
- **moduleId** (D2LID) – (Optional) ModuleId used for filtering.
- **title** (*string*) – (Optional) Topic or module title used for filtering

**Oauth2 Scopes:**

*content:toc:read*

**Status Codes:**

- **200 OK** – Action succeeded.
- **400 Bad Request** – Provided user ID not enrolled in the provided org unit.
- **403 Forbidden** – No permission to view course content, or no permission to view table

# Day 1...

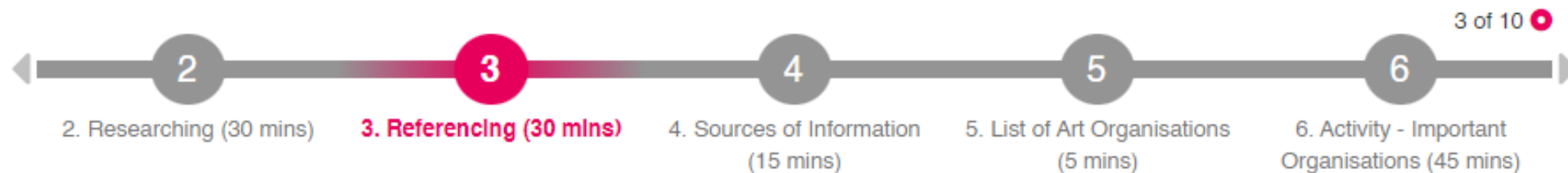
- Is it possible to read the **Content Structure**?

```
{
  "Modules": [ // Array of Module blocks
    {
      "ModuleId": <number:D2LID>,
      "Title": <string>,
      "Modules": [ // Array of child Module blocks
        {
          "ModuleId": <number:D2LID>,
          "Title": <string>,
          "SortOrder": <number>,
          "StartTime": <string:UTCDateTime>|null,
          "EndTime": <string:UTCDateTime>|null,
          "Modules": [ { <composite:ToC.Module> }, ... ],
          "Topics": [ { <composite:ToC.Topic> }, ... ],
          "IsHidden": <boolean>,
          "IsLocked": <boolean>,
          "PacingStartDate": <string:ISODate>|null,
          "PacingEndDate": <string:ISODate>|null,
          "DefaultPath": <string>,
          "LastModifiedDate": <string:UTCDateTime>|null
        },
        { <composite:Module> }, ... ]
      },
      "Topics": [ // Array of Topic blocks
        {
          "TopicId": <number:D2LID>,
          "Identifier": <string:D2LID>,
          "TypeIdentifier": <string>,
          "Title": <string>,
          "Bookmarked": <boolean>,
          "Unread": <boolean>,
          "Url": <string>,
          "SortOrder": <number>,
          "StartTime": <string:UTCDateTime>|null,
          "EndTime": <string:UTCDateTime>|null,
          "ActivityId": <string>|null,
          "CompletionType": <number:CONTENT_COMPLETIONTYPE_T>,
          "IsExempt": <boolean>,
          "IsHidden": <boolean>,
          "IsLocked": <boolean>,
          "IsBroken": <boolean>,
          "ToolId": <number:D2LID>|null,
          "ToolItemId": <number:D2LID>|null,
          "ActivityType": <number:ACTIVITYTYPE_T>,
          "GradeItemId": <number:D2LID>|null,
          "LastModifiedDate": <string:UTCDateTime>|null,
          "StartDateAvailabilityType": <AVAILABILITY_T>|null, // Available in LE's unstable contract
          "EndDateAvailabilityType": <AVAILABILITY_T>|null // Available in LE's unstable contract
        },
        { <composite:Topic> }, ... ]
      },
      { <composite:Module> }, ... ]
    }
  ],
  { <composite:Module> }, ... ]
}
```

```
"Topics": [ // Array of Topic blocks
  {
    "TopicId": <number:D2LID>,
    "Identifier": <string:D2LID>,
    "TypeIdentifier": <string>,
    "Title": <string>,
    "Bookmarked": <boolean>,
    "Unread": <boolean>,
    "Url": <string>,
  }
]
```

# 1. Customised module progress

- An alternative method for showing module progress
- Contextualise where content exists within a unit
- Customisable – consistent experience for Flex developments
- Automatically updated

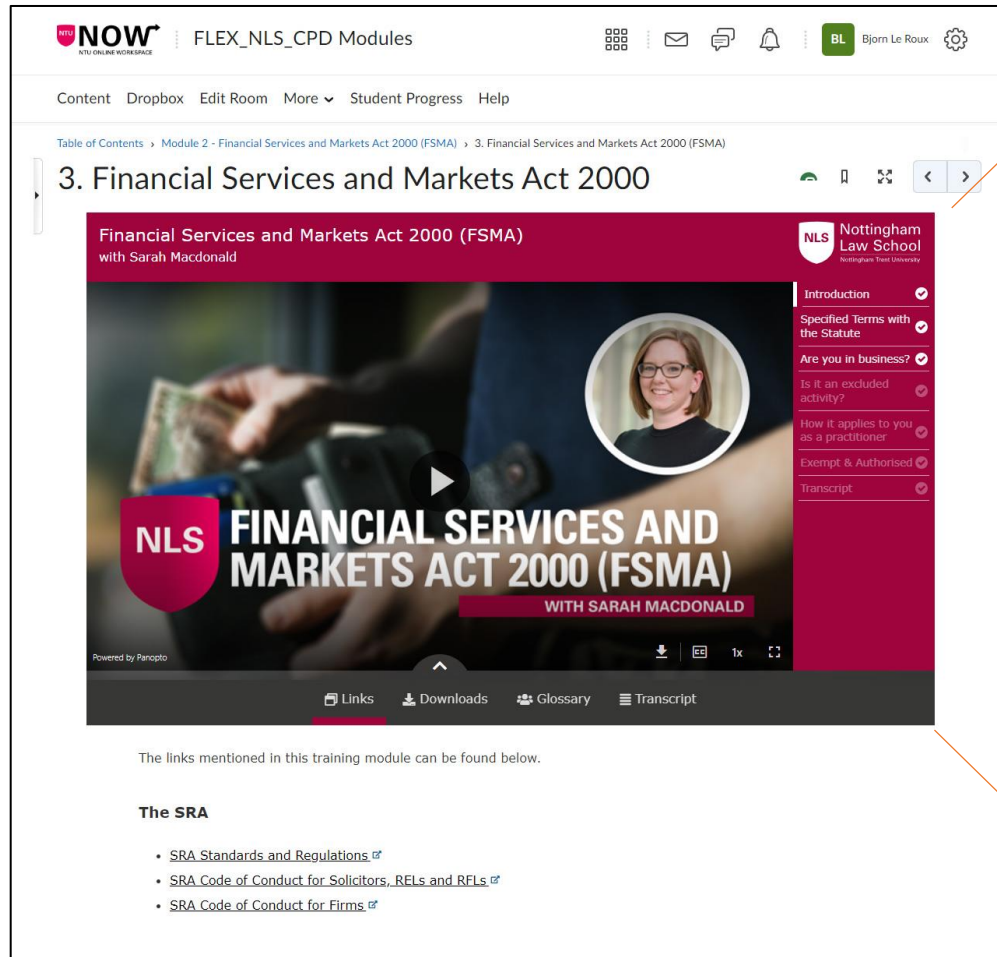


# 1. Customised module progress

The screenshot shows the NTU NOW interface for the course 'FLEX\_SSS\_Psychology\_SocialPsychology'. The user is logged in as 'Bjorn Le Roux'. The page title is 'Nocebo'. A progress bar at the top shows six steps: 2. Self-fulfilling prophecy, 3. Nocebo (highlighted), 4. Conspiracy theories, 5. Social norms, and 6. Section summary. Below the progress bar, there is a video player with the title 'Nocebo with Darel Cookson'. The video player shows a woman with her hand to her face, looking distressed. The video is powered by Panopto.

The screenshot shows the NTU NOW interface for the course 'Preparation for International Experience C...'. The user is logged in as 'Bjorn Le Roux'. The page title is '8.1 What is NBS Approval?'. A video player is embedded, showing a woman pointing upwards with the text 'WHAT IS NBS APPROVAL FOR PLACEMENTS? WITH BECCA HARDY'. Below the video player, there is a progress bar with five steps: 8.1 What is NBS Approval? (highlighted), 8.2 Uploading your Placement for Approval, 8.3 Overseas Risk Assessment, 8.4 Activity - Government Alerts, and Unit 8 Complete. Below the progress bar, there is a section for 'SENIOR LECTURER' featuring Becca Hardy, Nottingham Business School. To the right, there is a 'REQUIREMENTS' section with two tasks: 1. Watch the video presentation (2 mins) and 2. Complete Activity 8.1 (10 mins). Below the requirements, there is a note that completing these tasks contributes towards the 'Unit 8 Completion Badge'. At the bottom, there is a section for 'Learning Outcomes for this Unit'.

# 1. Customised module progress



**NOW** NTU ONLINE WORKSPACE | FLEX\_NLS\_CPD Modules

Content | Dropbox | Edit Room | More | Student Progress | Help

Table of Contents > Module 2 - Financial Services and Markets Act 2000 (FSMA) > 3. Financial Services and Markets Act 2000 (FSMA)

## 3. Financial Services and Markets Act 2000

Financial Services and Markets Act 2000 (FSMA) with Sarah Macdonald

**NLS** Nottingham Law School Nottingham Trent University

Introduction ✓  
Specified Terms with the Statute ✓  
Are you in business? ✓  
Is it an excluded activity? ✓  
How it applies to you as a practitioner ✓  
Exempt & Authorised ✓  
Transcript ✓

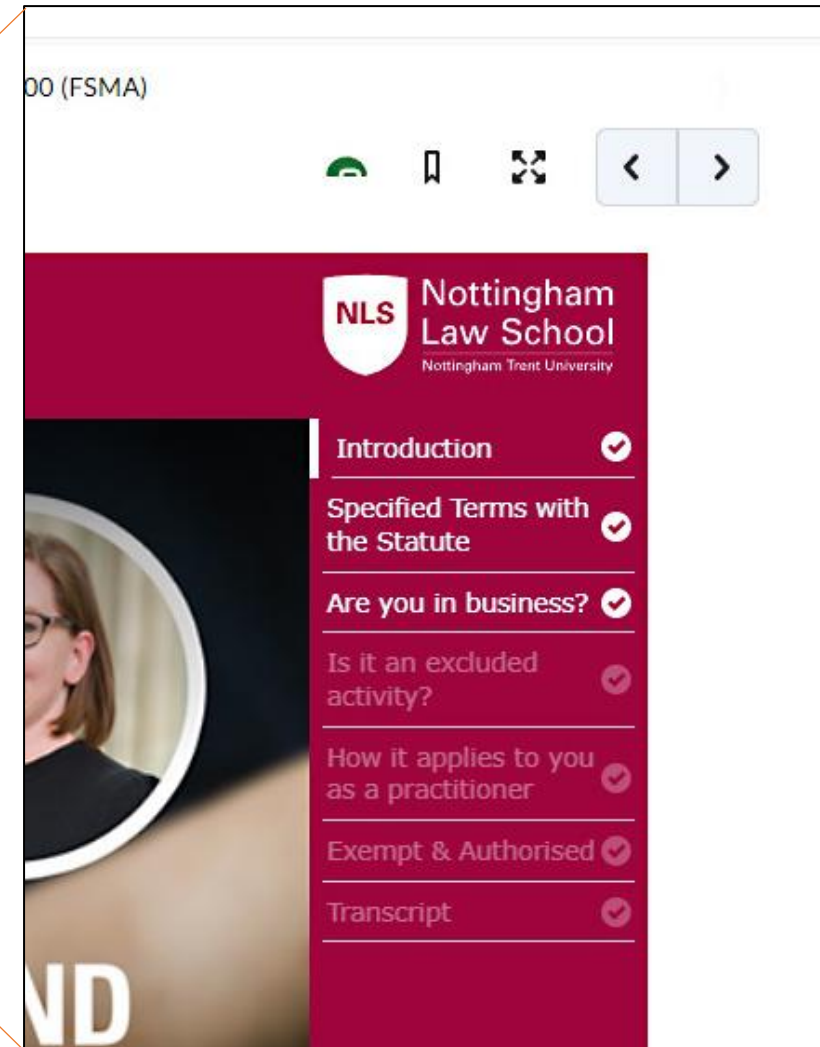
Powered by Panopto

Links Downloads Glossary Transcript

The links mentioned in this training module can be found below.

**The SRA**

- [SRA Standards and Regulations](#)
- [SRA Code of Conduct for Solicitors, RELs and RFLs](#)
- [SRA Code of Conduct for Firms](#)



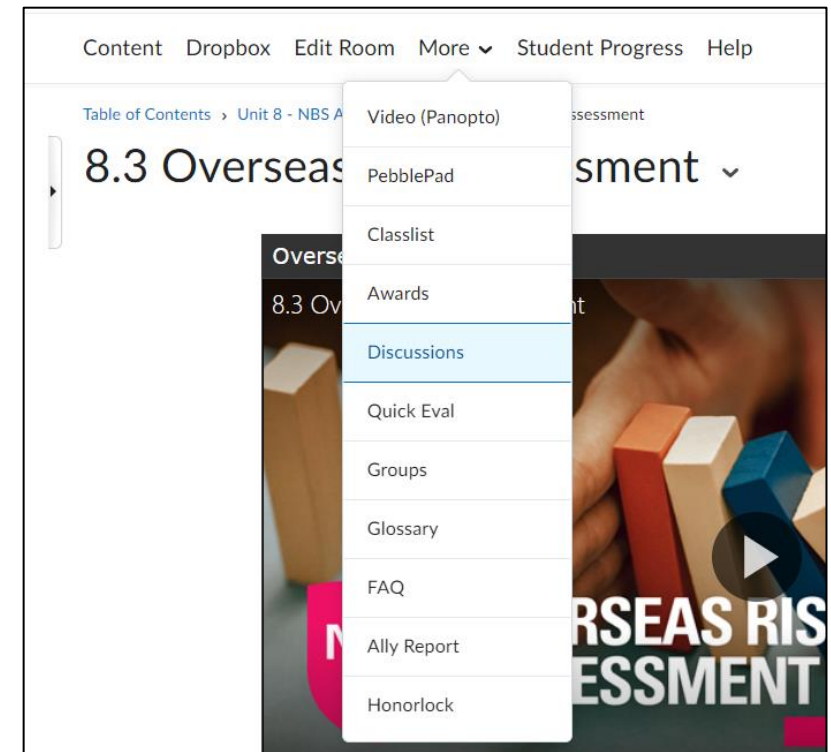
00 (FSMA)

**NLS** Nottingham Law School Nottingham Trent University

Introduction ✓  
Specified Terms with the Statute ✓  
Are you in business? ✓  
Is it an excluded activity? ✓  
How it applies to you as a practitioner ✓  
Exempt & Authorised ✓  
Transcript ✓

## 2. On-page Discussions

- Increase engagement with discussions
- Bringing the conversation to the content
- Promote discussion through relevance & immediacy





# Day 55...

- How much access do we have to **discussions**?

```
GET /d21/api/1e/(version)/(orgUnitId)/discussions/forums/(forumId)/topics/(topicId)/posts/
```

Retrieve all posts in a discussion forum topic.

**Parameters:**

- **version** (D2LVERSION) - API version.
- **orgUnitId** (D2LID) - Org unit ID.
- **forumId** (D2LID) - Forum ID.
- **topicId** (D2LID) - Topic ID

**Query Parameters:**

- **pageSize** (*integer*) - Optional. Number of topics (maximum) to return in each data page (default, maximum value is 10).
- **pageNumber** (*integer*) - Optional. Ordinal number for the data page to fetch (default value is 1).
- **threadsOnly** (*boolean*) - Optional. When true, the service will only return threads (default value is *false*).
- **threadId** (*number:D2LID*) - Optional. If present and true, the service returns only posts in this thread; otherwise, it returns posts in multiple threads.
- **sort** (*string*) - Optional. Sort by creationdate, rating, votes, upvotes, or threaded (see description).

**Oauth2 Scopes:**

*discussions:posts:read*

**Status Codes:**

- 200 OK - Action succeeded.





# Day 55...

- How much access do we have to **discussions**?

```
{
  "ForumId": <number:D2LID>,
  "PostId": <number:D2LID>,
  "TopicId": <number:D2LID>,
  "PostingUserId": <number:D2LID>|null,
  "PostingUserDisplayName": <string>,
  "ThreadId": <number:D2LID>,
  "ParentPostId": <number:D2LID>|null,
  "Message": { <composite:RichText> },
  "Subject": <string>,
  "DatePosted": <string:UTCDateTime>,
  "IsAnonymous": <boolean>,
  "RequiresApproval": <boolean>,
  "IsDeleted": <boolean>,
  "LastEditedDate": <string:UTCDateTime>|null,
  "LastEditedBy": <number:D2LID>|null,
  "CanRate": <boolean>,
  "ReplyPostIds": [ <number:D2LID>, ... ],
  "WordCount": <number:D2LID>,
  "AttachmentCount": <number:D2LID>
}
```

Discussions.Post

# 2. On-page Discussions Examples

**NTU LOCAL ART SPACES**  
WITH ROB FLINT

Activity

Using the comments box below, share a gallery you have visited recently or would like to visit in the future.

Type your thoughts here...

**Add Comment**

I would to visit Moderna Museet in Stockholm in the future as I have seem many exciting exhibitions of theirs' online throughout the years and would love to visit in person  
by Jasmine Blakeway - 26/05/2022, 12:30:09

Not recent, but I saw an exhibition called "Ghost" by Kader Attia at the Saatchi Gallery many years ago that I have never forgotten!  
by Dani Leber - 25/05/2022, 11:53:43

I have recently visited the Royal Academy of Arts Gallery in London

**NLS INTRODUCTION TO ADVOCACY**  
WITH CHRIS RATCLIFFE

Introduction 1 / 9

Links Downloads Transcript Discussion

Type your thoughts here...

**Add Comment**

Is there a comprehensive UK staff immigration service to new and current staff at the University's campuses in the UK, China and Malaysia and in support of those working for the University worldwide?  
by Bjorn Le Roux - 04/02/2022, 15:45:49

Discussions about this topic  
by Bjorn Le Roux - 04/02/2022, 09:24:03

I'm originally from Manchester but now live in Nottingham.  
by Bjorn Le Roux - 04/02/2022, 09:15:38

1 2 3 4 5



# 2. On-page Discussions Examples

Discussions about this topic

---

Type your thoughts here...

[Add Comment](#)

Is there a comprehensive UK staff immigration service to new and current staff at the University's campuses in the UK, China and Malaysia and in support of those working for the University worldwide?

by Bjorn Le Roux - 04/02/2022, 15:45:49

Discussions about this topic

I'm originally from Manchester but now live in Nottingham.

by Bjorn Le Roux - 04/02/2022, 09:15:38

I'm originally from Manchester but now live in Nottingham.

by Bjorn Le Roux - 04/02/2022, 09:15:29

1 2 3 4 5

<b>Arts Marketing</b>	<b>Professional Organisations</b>	<b>Copyright &amp; Licensing</b>
<a href="#">Arts Marketing Association</a>	<a href="#">Arts Marketing Association</a> <a href="#">Art Quest</a> <a href="#">Arts Professional</a> <a href="#">Public Art</a>	<a href="#">DACs</a> <a href="#">Canadian Artists Representation</a>
<b>Regional Arts Organisations</b>	<b>Arts and Education</b>	<b>Charities Offering Support</b>
<a href="#">ACA VA - London</a> <a href="#">CVAN Regional</a>	<a href="#">Access Art</a> <a href="#">National Society for Ed in A&amp;D</a> <a href="#">Royal Academy</a>	<a href="#">The Arts Foundation</a> <a href="#">Jerwood</a> <a href="#">UK New Artists</a>

Contribute to the list

Use the textbox below to **share the URLs** of any organisations you find that that are not on the list.

Type your thoughts here...

[Add Comment](#)

[Edit](#)

https://incarts.uk/

by Bjorn Le Roux - 18/10/2022, 12:22:39

[Edit](#)

https://www.art4space.co.uk/

by Bjorn Le Roux - 18/10/2022, 12:05:19



### 3. Visualisation of Awards

- More granular ways of visualising progress
- Promote the idea of gamification
- Additional method to track progress

# Day 107...

- Could we build a custom **Awards dashboard**?

```
GET /d21/api/bas/(version)/issued/users/(userId)/
```

Retrieve the awards issued to a user.

**Parameters:**

- **version** (D2LVERSION) - API version.
- **userId** (D2LID) - User ID.

**Query Parameters:**

- **orgUnitId** (D2LID) - Optional. Filter by the org unit.
- **awardType** (AWARD\_T) - Optional. Filter by award type, defaults to all.
- **limit** (*number*) - Optional. Number of records to return between 1 and 200 (defaults to 100).
- **offset** (*number*) - Optional. Number of records to skip, defaults to 0.
- **includeExpired** (*boolean*) - Optional. If present and true, include expired awards in the results.
- **search** (*string*) - Optional. Filter results to those with matches between search string and org unit's name, or issued award's title or description.

**Permissions:**

See Badges (Organization) or See Certificates (Organization)

**Status Codes:**

- 200 OK - Action succeeded.
- 400 Bad Request - Invalid filters.

# Day 107...

- Could we build a custom **Awards dashboard**?

```
{
  "AwardId": <number:D2LID>,
  "CreatedBy": <number:D2LID>,
  "Title": <string>,
  "Description": <string>,
  "ExpiryCalculation": { <composite:Awards.ExpiryCalculation> },
  "ExpiryNotification": { <composite:Awards.ExpiryNotification> },
  "IssuerName": <string>,
  "IssuerUrl": <string:URL>,
  "IssuerContact": <string>,
  "AwardType": <number:AWARD_T>,
  "CertificateData": { <composite:Awards.FileData> },
  "ImageData": { <composite:Awards.FileData> },
  "IsDeleted": <boolean>
}
```

Awards.Award

# 3. Award Dashboard Examples

NTU NOW  
CONM10021: Construction Industry Practic...  
Content Dropbox More Student Progress Help

Table of Contents > Badges > Construction Industry Practice Badges

## Construction Industry Practice Badges

The dashboard below indicates how much of the content you've viewed and badges you have collected. Badges are earned for completing all of the content within a week.

### Badges Dashboard

Construction Industry Practise  
You have collected 19 out of 26 badges for this module

73%

Week	Topic	Progress	Content Badges	Completion Date
Week 1	Introduction to the module	100%	1	24/03/2022
Week 2	Differentiating the construction industry	0%	0	-
Week 3	Professions & Trades	100%	2	22/10/2021
Week 4	The UK Construction Market	100%	1	15/11/2021
Week 5	Professional Pathways - Role of a Construction Manager	100%	1	15/11/2021
Week 6	Professional Pathways - The Role of a Quantity Surveyor	0%	0	-

NTU NOW  
HEA Fellowships Professional Recognition ...  
Learning Room Content Classlist Links Discussions Groups Edit Room Dropbox NTU Email Timetable More

Table of Contents > Associate Fellowship AFHEA > 1. Associate Fellowship Requirements

## 1. Associate Fellowship Requirements

### Claiming Associate Fellow AFHEA

1 of 5

1. Associate Fellowship Requirements
2. What do I need to submit for AFHEA?
3. The AFHEA submission process
4. Supporting your AFHEA writing
5. AFHEA Additional Information

### Associate Fellow requirements

AFHEA is an appropriate Fellowship category for individuals with a narrow field of practice, potentially in a supporting role or at the early stages of their academic career. AFHEA is awarded when an individual can evidence practice that reflects Descriptor 1 of the UKPSF.

#### Mapping Your Practice Examples to UKPSF D1

Indicate whether your approach has been effective in supporting learning and how you know. In other words, indicate the evidence you use to know it was effective. Successful engagement with at least two of the five Areas of Activity (A1-A5), Core Knowledge (K1-K5) and Professional Values (V1-V4).

- Complete (24/10/2021)
- Evidence Activity (A1-A5)
- Evidence Areas of Core Knowledge (K1-K5)
- Evidence Professional Values (V1-V4)

#### Reflective Account containing your Practice Examples

Gather your thoughts and place your practice. There is no one way to do this and it doesn't have to be perfect. Your map should help you "see" your achievements.

- Evidence what you did (200 words)
- Evidence why you did it (400 words)
- Evidence the impact (200 words)

#### Associate Fellow Application Process

For Associate Fellow you are required to submit a minimum of 2 case studies in which to present your response to Descriptor 1. You will also need ONE advocate.

- Mapping Your Practice Examples to UKPSF D1
- Reflective Account with Practice Examples
- Reference List
- Your Advocate Statement

# Our Limitations

- User Level Permissions – what can students do?
- No additional infrastructure
- **<iframe>** restrictions
- Our position – the role of the department



# Brightspace Community

- Ask questions
- Feature suggestions
- Get ideas

**community.brightspace.com**

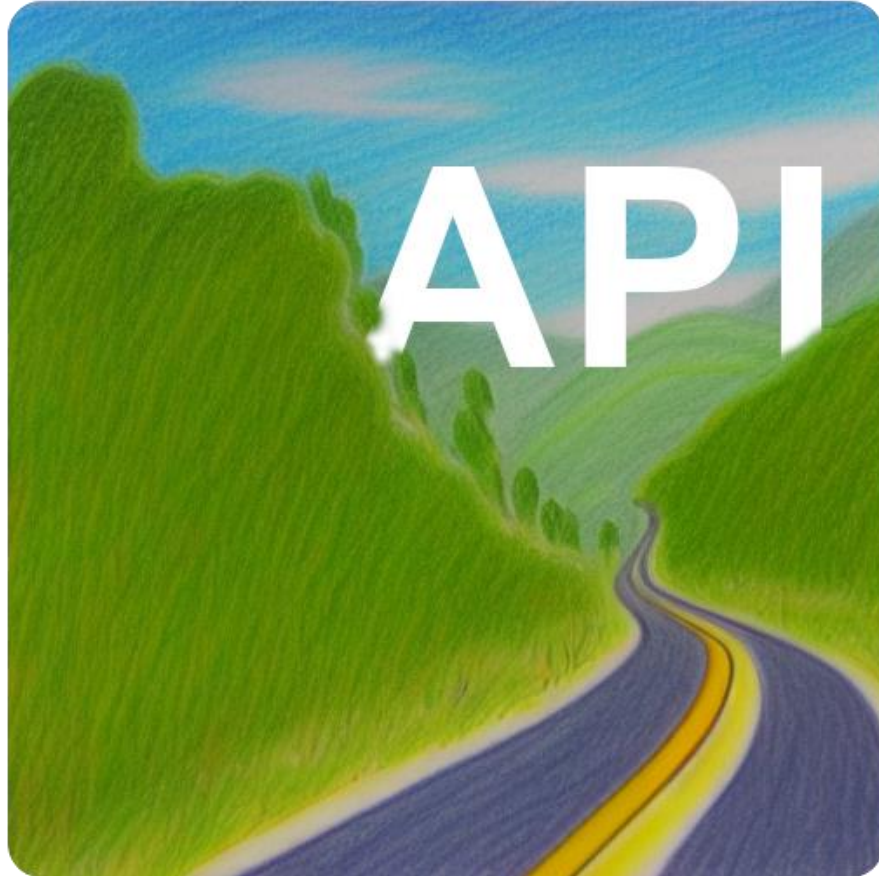


The screenshot shows the homepage of the Brightspace Community. At the top, there is a search bar with the placeholder text "Search for answers here..." and a "Search" button. To the right of the search bar is a "Login" button. Below the search bar is a navigation menu with links for "Home", "About", "Topics", "Explore Groups", "All Discussions", "Brightspace Help", and "K12 Educators".

The main content area features several sections:

- A green icon representing a group of people, with the text "Access Community Improvement Feedback Surveys".
- Two blue circular icons with text: "Access Brightspace Guided Training" and "Register For Upcoming Webinars".
- A yellow banner with the text "Data security is a joint responsibility: Learn More" and a lock icon.
- A white section with the heading "Hi, We're Glad You're Here!" and a sub-heading "You've got questions? We've got answers. Get help from community members like you, Brightspace experts, access our blogs and peruse our FAQs, 24/7".
- An orange section with the heading "Join The Community" and a sub-heading "Get Support, Answers, Tips and Proven Ideas from thousands of Brightspace users." A "Become a Member" button is located to the right.
- A blue section with the heading "Attention Learners" and a sub-heading "Having trouble logging into your Brightspace Learning Environment? Need more help? Access our Learner resources all in one easy place!". Two buttons are present: "Get Login Help" and "More Learner Resources".
- A grey section with three icons (a gear, a person at a computer, and a code editor) and the text "Explore the community through three different profiles (Administrator, Instructor, and Developer) to see conversations, best answers, and topics. Categorized and tagged so you can easily find what is most relevant to you." A "View A Personalized Experience" button is located to the right.

# Thank you



**Bjorn Le Roux**  
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Flex Team, CADQ  
Nottingham Trent University

