



**VC** VICTORIA COLLEGE

# BANNER 9 PAGEBUILDER EXTENSIBILITY

CUSTOM PAGES  
DATA REPORTING

- **3000 UG STUDENTS**
- **2YR COMMUNITY COLLEGE**
- **3 BANNER SUPPORT STAFF**
- **TECHNOLOGY SERVICES STAFF**
  - 2 Help Desk
  - 2 technicians
  - 2 sys admins
  - 2 Banner support
  - 1 DBA



**ABOUT US**

- 22 years at Victoria College
  - Programmer
  - DBA
- Banner since 2009
- Dupont & BP
  
- Personal
  - Married 2 adult children
  - Support the arts
    - Pottery
    - Victoria Fine Arts Association
    - Weaver House Concerts



# About Me

Angela Weaver  
Computer Engineering  
Clemson University



# Banner Setup

## All Banner 9 SSB modules implemented and in use!

### Application Servers - Windows

TC Server 1	TC Server 2	TC Server 3	TC Server 4	Ethos
<ul style="list-style-type: none"><li>• Banner Admin</li><li>• Application Navigator</li><li>• Banner Access Mgt</li></ul>	<ul style="list-style-type: none"><li>• Finance SSB</li><li>• Faculty SSB</li><li>• Employee SSB</li></ul>	<ul style="list-style-type: none"><li>• General SSB</li><li>• Extensibility</li><li>• Communication Mgt</li></ul>	<ul style="list-style-type: none"><li>• Student Registration</li><li>• Student Self Service</li><li>• Event Management</li></ul>	<ul style="list-style-type: none"><li>• BEP</li><li>• Integration API</li><li>• Student API</li></ul>

### Third Party Applications

Unified Portal & Mobile app – CAS, MFA, password manager

Touchnet

EAB – Navigate

Radius – CRM

Raisers Edge – Advancement

Canvas – LMS

Degree Works - CPOS

# Developed Pages

## Display Data

- Student Life Clubs budget information
- Registrar /FinAid Checklist
- Bookstore resources needed for class
- FinAid Forwarding Page

## Data Entry

- ORD electronic signoffs
- Meta Major Advisor Assignment (pathways)
- Student Semester Survey – AIP

## Formstack replacement with work flow

- Student and Instructor Requested Drops
- Transfer Course Evaluation Requests
- Continuing Education Student Applications
- Emergency Aid Request
- Covid Reporting
- Faculty 'I believe in You' Vouchers

# Planned Pages

- ❖ Tutoring Requests
- ❖ Scholarship Application Review

# Ellucian Pages

- ❖ CPOS
- ❖ AIP Templates
- ❖ File upload

# Communication Management



## Communications

Send messages and manage communications.



## Populations

Send a communication to your selected group of constituents.



## Templates, Datafields and Parameters

Create personalized communication templates that can include text, graphics and datafields.



## Queries

Create SQL queries to search the system to produce populations that meet the specified criteria.



## Folders

Organize your schools' queries, populations, templates and data fields.



## Interactions

View Interaction History for a constituent and manage interaction types.



## Logs

View the communication and error logs.



## System Functions

Manage all the functions that work behind the scenes.

# Communication Management



## Document Approval Needed

First Name,

You have one or more documents that need approval.

Pending\_Approval

To approve documents, visit the [Pirate Portal](#).

### Lydia Huber

Director of Purchasing  
Office 361-572-6461  
2200 E. Red River Victoria, TX 77901

An Equal-Opportunity Institution

*Our Community, Our College*

Improving Lives, Strengthening Communities



## Document Approval Needed

Matthew,

You have one or more documents that need approval.

Requisition	Total Amount	Originated By	Date
R0010100	18200	CDOMINEY	05-16-2022

To approve documents, visit the [Pirate Portal](#).

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# Action Item Processing

- Student Data
  - Personal Details
  - Address Details
  - Contact Details
  - Emergency Contact
  - Consent
  - Photo upload
  - Confirm Major
  - Fee Agreement
- Employee Data
  - Yearly acknowledgements

## Action Item Management

### Action Item Management



#### Action Item Status

Define Action Item status and if the Action Item Status prevents a process.



#### Manage Folders, Populations and Queries

Open Banner Communication Management to:  
- Set up folders for organizing Groups, Action Items and Populations.  
- Maintain populations and population queries for posting Action Items.



#### Action Items

Create and maintain Action Items.



#### Groups

Maintain titles and instruction for Groups and assign Action Items to a Group.



#### Post Action Items

Schedule and post Action items to a population.



# Student View AIP

The screenshot shows a web browser window with the URL <https://xe-xe.victoriacollege.edu/Banner>. A modal titled "Action Item Processing" is displayed, containing the following text: "You have Action Items pending that halt access to this process." and "Continue to resolve your Action Items. Cancel to return to previous page." Below the modal, the page header shows "VICTORIA COLLEGE" and the user name "Mrs Angela Corri". The main content area is titled "Action Item Processing" and "Welcome". A "Registration Survey" is listed as a pending item with an end date of 10/14/2022. A "Registration Survey" link is highlighted in a blue box. A text box at the bottom of the survey card says "Click in this box to view the link to the Registration Survey."

The screenshot shows the Victoria College student profile page. The header is "VICTORIA COLLEGE". The address information is as follows:

Address Type	Street Line 1	Street Line 2	City	State	Zip Code
Mailing	210 Woodchase Drive		Victoria	TX	77904
Permanent	210 Woodchase Dr		Victoria	TX	779041162

There is an "Update Address Information" button below the address table.

The telephone information is as follows:

Phone Type	Phone Number	Primary Phone
Cell Phone (personal)	3616522940	
Permanent Residence Phone	3616522940	Y
Campus Phone (employees)	3615822507	

There is an "Update Phone Information" button below the telephone table.

The page contains a blue banner with the following text: "To help Victoria College determine the resources we need to better serve our students please answer the following questions. If the question does not pertain to you, please select Not Applicable."

1. Do you have difficulty speaking, reading, or writing the English language because it is not your native language? \*

Yes  
 No  
 Not Applicable

2. Are you a single parent (divorced, legally separated, widowed, or never married with sole or joint custody of a minor child/children) or a single pregnant female? \*

Yes  
 No  
 Not Applicable

# Page Builder landing page



Virtual Domain Composer



Export Domains



Domain Roles



Visual Page Composer



Export Pages



Page Roles



CSS Manager



Export CSS Stylesheets



Import



Developer Security

## Application Pages

APPLICATION\_WorkForce\_CE\_Person

Last Updated: Apr 28, 2022 9:29:18 AM



SCHOLARSHIP\_Application\_Review

Last Updated: Apr 27, 2022 12:10:58 PM



## Search Pages

All application pages

ADVISORS\_MetaMajor\_Info

Last Updated: Apr 25, 2022 2:48:02 PM



AIPAdditionalInfoEUR

Last Updated: Oct 23, 2020 11:21:49 AM

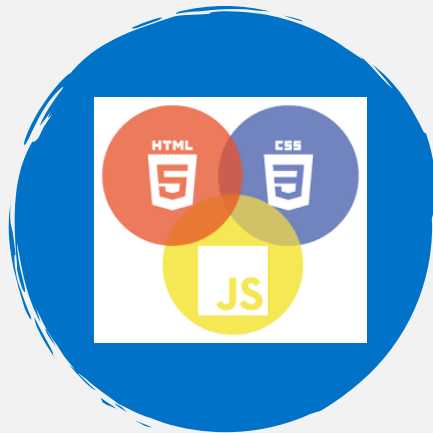


# Page Builder Components



Write Queries

- Do not end with ;
- Can call stored procedures
- 4 Queries in one Domain
  - Query
  - Delete
  - Post/Save
  - Put/Update



Design Pages

- Javascript
- HTML
- CSS Styles



Banner Security

- Security must be set in Database Virtual Domain Page
- Access control for the type of constituents that can access the data.

Virtual Domain Composer  
Visual Page Composer  
CSS Manager  
Security  
Import/Export

# Steps to build a page

## Domains

- Database grants
  - USR\_SS\_DEFAULT\_M
  - BAN\_DEFAULT\_PAGEBUILDER\_M
- Security – Domain Roles
  - Setup roles with access
- Id column needed for update

### Query Statement

```
select  
vc_dba.banner_interface.f_Create_ORD_SignOff  
(:mt, :mc, :parm_user_pidm)Qresult from dual
```

### Query Statement

```
select rowid "id", STVADVR_CODE ,STVADVR_DESC from  
STVADVR where STVADVR_CODE in (select  
STVADVR_CODE from vc_dba.meta_major_advisors_vc)  
and 1=1  
order by STVADVR_CODE
```

## Pages

Page Tree View Page Source View

- CLUBSViewData [Page]
  - My\_Funds [Resource]
  - GL\_Data [Resource]
  - Totals [Resource]
- Funds\_form [Form]
  - Fund\_select [Select]
  - Year [Text]
  - Account\_entry [Text]
- Total [Html Table]
  - Running\_total [Display]
  - DebCred [Display]
- GL\_data\_grid [Grid]
  - Account [Display]
  - Trans\_date [Display]
  - Rule\_code [Display]
  - Document [Display]
  - Trans\_description [Display]
  - Amount [Display]
  - Debit\_credit [Display]

## Style

Component Property View

Type\* Page

Name\* CLUBSViewData

Documentation

Title Club Fund Data

Label Budget Information for Clubs

Style vcthem1

Import Custom Stylesheets VC\_Custom

Object Name

Home URL https://myvc.victoriacollege.edu

### Stylesheet Source

```
width: 800px !important;  
text-indent: -2em;  
color: red;  
}  
  
.vcIndented div {  
width: 200% !important;  
padding-left: 40px !important;  
color: red;  
font-size: 17px;  
}  
  
.ngTopPanel {  
height: 50px !important;  
}
```

# Page Setup

- Page Structure
  - Resource
  - Form
  - Block
- Data set Displays
  - Grid
  - HTML table / Detail
  - List / Radio / Select
- Data entry /Display
  - Data / Display
  - Text /Text Area/Number
  - Datetime
  - Email / Phone
  - Boolean
- Components
  - Link
  - Button
  - Literal

VICTORIA COLLEGE

Mrs Angela Co

Load Page: ORDrosters

Extends: [Empty]

Buttons: New Page, Save As, Compile and Save, Reload, Preview, Delete, Page Roles

Developer Security

Page Owner: [Empty]

Page View

Component Property View

Page Tree View | Page Source View

- ORDrosters [Page]
  - My\_Students [Resource]
  - My\_CRNs [Resource]
  - Create\_signoff [Resource]
  - ORDrosters\_Classes [Form]
    - Instructions [TextArea]
  - ORD\_Classes [Html Table]
    - Signoff\_date [Display]
    - Term [Display]
    - CRN [Display]
    - Subject [Display]
    - Course [Display]
    - Section [Display]
    - ORD [Display]
  - LinkToInstructorDropForm [Literal]
  - Confirm\_Students [Button]
  - Results\_Text [Text]
  - ORDrosters\_Students [Form]
    - Students\_Grid [Grid]
      - VNumber [Display]
      - First\_name [Display]
      - last\_name [Display]
      - RSTS\_code [Display]
      - RSTS\_date [Display]

Component Property View:

Type\*: Page

Name\*: ORDrosters

Documentation: [Empty]

Title: ORD Roster Approval

Label: [Empty]

Style: vctHEME1

Import Custom Stylesheets: VC\_Custom

Object Name: [Empty]

Home URL: https://myvc.victoriacollege.edu

✓ Page Roles - Set security

✓ Style Sheets

✓ Home URL

# The simple page

**VICTORIA COLLEGE**

Load Page: FINAID\_check4Role [v] [New Page] [Save As]

Extends: [ ] [Compile and Save] [Reload] [Preview] [Delete]

**Page View**

Page Tree View | Page Source View

- FINAIDCheck4Role [Page]
- CheckRole [Resource]
- Check\_Need2Apply [Html]

### Component Property View

Type\*

Name\*

Model\*

Documentation

Label

Style

Parameters

Allow New

Allow Modify

Allow Delete

Allow Reload

Page Size

On Click

On Load

On Save

On Save Success

On Error

Load Initially

Add Record Label

Delete Record(s) Label

Save Data Label

Refresh Data Label

### Edit On Load for "Check\_Need2Apply"

```
$Check_Need2ApplyDS.data.$promise.then ( function(){  
  if ($Check_Need2Apply.FAROLE == 'Y') {  
    window.location.replace("https://xe-stu.victoriacollege.edu/StudentSelfService/ssb/financialAid");  
  }  
  else {  
    window.location.replace("https://www.victoriacollege.edu/Explore/WaysToPay/FinancialAid");  
  }  
}
```

### Define or modify virtual domain definition

Load Virtual Domain Definition

Save Virtual Domain Definition  [Save Virtual Domain Defi]

**Query Statement**

```
select GOVROLE_finaid_ind FAROLE from GOVROLE where govrole_pidm = :parm_user_pidm
```

# Display Information

Select a term Summer 2022

Select a college Science, Mathematics and PE

Export Data

## Science, Mathematics and PE

CRN	Subject	Course	Sec	Cmp	Title	Days	Time	Xlist	Cap	Act	Rem	Instructor	Date	Loca
30065	BIOL	1408	G1	GC	Biology I for Non-Sci Maj	MW	0900 - 1015	EB	19	3	16	Mike Bond	06/01 - 07/22	GCM
30190	BIOL	1408	G1L	GC	Biology I for Non-Sci Maj	MW	0900 - 1015	EB	1	1	0	Mike Bond	06/01 - 07/22	GCM
30066	BIOL	1408	LG1	GC	Biology I for Non-Sci Maj	MW	1045 - 1330	EC	19	3	16	Mike Bond	06/01 - 07/22	GCM
30191	BIOL	1408	LGL	GC	Biology I for Non-Sci Maj	MW	1045 - 1330	EC	1	1	0	Mike Bond	06/01 - 07/22	GCM
30072	BIOL	2401	W1	M	Anatomy & Physiology I				40	13	27	Alejandro Enriquez	06/01 - 06/30	ONLIN
30077	BIOL	2401	L4	M	Anatomy & Physiology I	MTWR	1300 - 1525		20	5	15	Kathleen Carr	07/06 - 08/04	HSC 2

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	CRN	Subject	Course	Sec	Campus	Title	XLST	Max Enro	Act Enroll	Remainin	Dates	Days	Times	Location	Instructor
2	30065	BIOL	1408	G1	GC	Biology I f	EB	19	3	16	06/01 - 07,	MW	0900 - 101	GCM 118	Mike Bond
3	30190	BIOL	1408	G1L	GC	Biology I f	EB	1	1	0	06/01 - 07,	MW	0900 - 101	GCM 118	Mike Bond
4	30066	BIOL	1408	LG1	GC	Biology I f	EC	19	3	16	06/01 - 07,	MW	1045 - 133	GCM 118	Mike Bond
5	30191	BIOL	1408	LGL	GC	Biology I f	EC	1	1	0	06/01 - 07,	MW	1045 - 133	GCM 118	Mike Bond
6	30072	BIOL	2401	W1	M	Anatomy & Physiolo		40	13	27	06/01 - 06/30			ONLINE C/	Alejandro Enri

# Formstack Replacement & Work flow

## Student Drop Request Process

- 23 different Domains - 2 custom tables
- 7 Pages (Student Drop, Instructor Drop, Instructor Review, Advisor Review, Reporting)
- 4 Communications (To Instructor, To Student, Drop Completed/Canceled, Linked Class dropped)

## Considerations

- Number of drops allowed
- Pending drop request
- Last date to drop
- Student type can self register
- Is Registration in progress/has class started
- Acknowledged Drop Policy

## Student Requested Drops

### Courses Eligible For Drop

Reason	Course	CRN	Title	Instructor	Last Day to Drop
Do NOT Drop This Class	ENGL 2322.W1K	20181	British Literature I (040/090)	Robinson, Jacquelyn	29-APR-2022
Do NOT Drop This Class	GOVT 2305.W2	20295	Federal Government	Nix, Nacona	29-APR-2022

Request Drops

The following enrolled courses are not eligible for drop.

Course	Title	REASON	Instructor
GEOL 1403.LW1	Physical Geology (030/090)	Drop Requested - Issue with Curriculum - too time consuming on 01/31/22	Schumaker, Karew



# Updating Data

## Query Statement

## Delete Statement

```
select e.rowid "id", request_Status, Amount_granted, Counselors, spriden_id, spriden_last_name , spriden_first_name , adulted, (housing_amt + bill_amt + transport_amt + Childcare_amt + health_amt + other_amt) total_amt, to_char(Request_date, 'dd-MON-yy') req_dt, (select max(to_char(Request_date, 'dd-MON-yy')) from vc_dba.Emergency_assistance where pidm = spriden_pidm and Request_date < to_date(:chkdate, 'dd-MON-yy')) pastreq, vc_dba.fn_perkins_ugstu(spriden_pidm) Perkins from vc_dba.Emergency_assistance e join spriden on pidm = spriden_pidm and spriden_change_ind is null where (:stu is null and ( Request_date > to_date(:chkdate) and (:reqsta spriden_id = upper(:stu))) )
```

Model Names are always upper case regardless of the query.  
Update refers to the column name selected not the HTML field name.

## Post/Create/Save Statement

## Put/Update Statement

Request\_data [Html Table]

Request\_Status [Select]

**Amt\_given [Number]**

Counselors [Text]

Type\* Number

Name\* Amt\_given

Documentation

Label  Granted

Style

Label Style

Value Style

Value

Model AMOUNT\_GRANTED

```
DECLARE
error_occurred BOOLEAN := FALSE;
error_msg VARCHAR2(10000);
save_msg varchar2(200);

BEGIN

begin
update vc_dba.Emergency_assistance set request_status = :REQUEST_STATUS , status_date = sysdate,
Counselors = (:COUNSELORS), amount_granted = :AMOUNT_GRANTED
where rowid=:id;

EXCEPTION
WHEN OTHERS THEN
error_msg := error_msg || ' Error Updating Record! ' ;
error_occurred := TRUE;

END;

IF error_occurred THEN
ROLLBACK;
raise_application_error(-20000, '@USERMESSAGE: ' || error_msg);
END IF;

END;
```

# Authenticated User?

































- ❑ For OnLoad to be created, you need a Domain.

Load Page **Check\_For\_Authenticated** ▼ **New Page** ▼ **Save**

Extends ▼ **Compile and Save**

### Page View

Page Tree View Page Source View

- CheckForAuthenticated [Page] 
  - CheckForAuthenticated\_detail [Resource] 
  - Gather\_student\_data [Block] 
    - EnterID [Text] 
    - submit [Button] 
  - Show\_student\_data [Block] 
    - ShowName [Text] 
    - Authenticated\_text [Text] 

Type\* **Text** ▼

Name\* **Authenticated\_text**

Documentation ...

Label ○

Style **hidden**

Label Style

Value Style

Value ○

Model **CheckForAuthenticated\_detail**

Parameters **{}** ...

Validation **{}** ...

Placeholder ○

Read Only

Required

On Update ...

On Load **if (!\$\$user.authenticated) { \$Gathe** ...

On Error ...

Load Initially

### Query Statement

```
select * from dual;
```

```
86     var templatesLocation = "\0002+BannerExtensibility\0002+";
87     var user = {
88     "authenticated": true,
89     "loginName": "v00002445",
90     "fullName": "Mrs Angela Corrine Weaver",
91     "oracleUserName": "AWEAVER",|
92     "isSuperUser": false
93 };
```

## Edit On Load for "Authenticated\_text"

```
if (!$$user.authenticated) {
  $Gather_student_data_visible = true;
  $Show_student_data_visible = false;
}

if ($$user.authenticated) {
  $Gather_student_data_visible = false;
  $Show_student_data_visible = true;
  $ShowName = $$user.fullName;
}

document.querySelector("[id='pbid-Authenticated_text-container']").style.display = 'none';
```

 **VICTORIA COLLEGE** ⚙️  Mrs Angela Corrine Weaver

## Show Student Information

Mrs Angela Corrine Weaver

 **VICTORIA COLLEGE** ⚙️ 

### Request Student ID

Enter your ID

# Debugging Pages - F12 Developer Tools

The screenshot shows the component inspector for a form field. The left pane lists components like 'Request [Block]', 'Housing [Number]', 'Bill [Number]', etc. The right pane shows the configuration for the selected 'Housing [Number]' component. Key properties include:

- Model: Student\_request.HOUSING\_AMT
- Parameters: {"mydate": "\$mydate", "vr": ...}
- Validation: {}
- Fraction Digits: 2
- Placeholder: (empty)
- Read Only:
- Required:
- On Update: (empty)
- On Load: \$Bill = \$HousingDS.data[0].BILL\_AMT
- On Error: (empty)
- Load Initially:

- Determine object names
- Break points in code
- Set watch variables
- View Responsive
- Useful for style sheet modification

The screenshot shows the console with the following code:

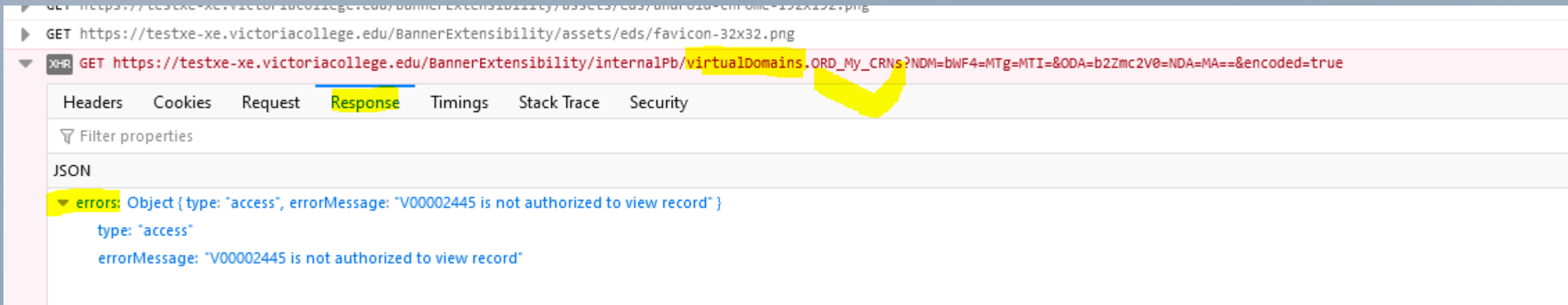
```
203
204 $scope.Student_request = pbResource('virtualDomains.EMERGENCY_Aid_Data');
205
206 $scope.HousingDS = pbDataSet ( $scope,
207 {
208     componentId: "Housing",
209     resource: $scope.Student_request,
210     queryParams: '{mydate : $scope.mydate,vnum : $scope.vnum}',
211     autoPopulate: false,
212     selectValueKey: null,
213     selectInitialValue: null
214     ,pageSize: 5
215     ,postQuery: function(data,response){
216 $scope.Bill = $scope.HousingDS.data[0].BILL_AMT;
217 $scope.Transport = $scope.HousingDS.data[0].TRANSPORT_AMT;
```

The screenshot shows the 'Watch expressions' panel with the following content:

- Paused on breakpoint
- Watch expressions
  - \$scope: {...}
  - \$scope.startDate: Date Fri Apr 01 2022 09:37:40 GMT-0500 (Central Daylight Time)
  - \$scope.\_now.valueOf(): 1650897460144
  - \$scope.Future\_RegistrationDS: {...}
    - Resource: H(a)
    - add: b/this.add(a)
    - added: []
    - cache: {...}
    - cantPageBackward: b/this.cantPageBackward()
    - cantPageForward: b/this.cantPageForward()
    - cantPageToLast: b/this.cantPageToLast()
    - componentId: "Future\_Registration"
    - confirmPageActionMain: b/this.confirmPageActionMain(a, b)
    - currentRecord: {...}
    - data: (1) [...]

# Debugging Virtual Domains- F12 Developer Tools

- 1) Domain privileges and grants to USR\_SS\_DEFAULT\_M BAN\_DEFAULT\_PAGEBUILDER\_M
- 2) Bind variable – even if not used :id

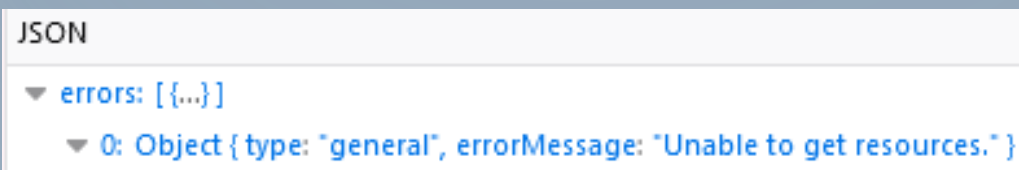


The screenshot shows the browser's developer tools with the 'Response' tab selected. The URL bar shows a GET request to `https://testxe-xe.victoriacollege.edu/BannerExtensibility/internalPb/virtualDomains.ORD_My_CRNs?NDM=bWF4=MTg=MTI=&ODA=b2Zmc2V0=NDA=MA==&encoded=true`. The response is a JSON object with an 'errors' property. The error message is: `Object { type: "access", errorMessage: "V00002445 is not authorized to view record" }`. A yellow checkmark is drawn over the response area.

Article Number: 000050130 [Troubleshooting steps for Post/Put/Delete statements in Page Builder virtual domains](#)

Article Number: 000041700 [How to programmatically call post/put methods on a Resource component in Page Builder](#)

Article Number: 000030578 [Banner 9 and enabling debug in Java applications](#)



The screenshot shows the 'JSON' tab in the developer tools. The response is a JSON array with one element: `errors: [{...}]`. The first element is an object: `0: Object { type: "general", errorMessage: "Unable to get resources." }`.

Un-comment the debugRoles setting in the BannerExtensibility\_configuration.groovy  
`debugRoles = "ROLE_GPBADMN_BAN_DEFAULT_PAGEBUILDER_M"`



**Your session has timed out.**

Your application session is no longer active due to inactivity on the screen. If you have navigated to this application through single sign on, your single sign on token/session may still be active.

Sign In

- Asynchronous JavaScript Article: **#000047415**

```
$theGridDS.data.$promise.then(  
  function(){console.log('success', $theGridDS.data[0])},  
  function(){console.log('failure', $theGridDS.data[0])}  
);
```

- OnLoad – of a component that doesn't have a domain?  
Only elements that have a resource associated with them are firing /creating an onload event.
- From Ellucian – Tips and Tricks - **Article #000040629**
- Think about values loading on the page - Pidm?

# Other Tips

## Summary

Use Page Builder for local customization projects

## Thank You

Angela Weaver

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