



MagMutual

On the JAMStack with Gatsby and Drupal 8

July 16, 2020



Today's Team



Ben Robertson

Customer Success
Gatsby



Bob Kepford


Director of Development
Mediacurrent

Mediacurrent: Open Source Expansion Partner



Who We Are

We are drupal pioneers, digital strategy experts,
open source advocates, researchers, designers,
and innovators who solve technology challenges .

A blue beam of light from a multi-lens projector illuminates the text. The beam originates from the bottom right corner, where the multiple lenses of the projector are visible, and extends diagonally upwards and to the left, creating a soft, ethereal glow around the text.

Our Mission

To bring together the most talented team members to improve technology for our clients





The way to build the
web for everyone



Our Mission

To create a better web for everyone, where security, performance, accessibility, and modern tooling are defaults, not afterthoughts.



Decoupled architectures can be a great approach for sites that require functionality beyond what Drupal normally supports. When you decouple, you have the opportunity to choose the best tool for individual technical requirements.

This session will be an inside look at our decoupled approach for MagMutual.com: combining open-source frameworks like Gatsby, Drupal 8, and Serverless, as well as third-party services for user management, a learning management system, and private APIs to build a robust custom platform.

This Session is For



Developers

Developers interested in decoupled Drupal, static sites, & the JAM Stack.



Marketer

Marketers looking for more flexibility in UX and branding. Separating their vision for the web from the CMS lifecycle



IT Professional

IT pros interested in building flexible resilient systems that give their teams security and flexibility

Learning Objectives

1

Objective 1

Breaking complex problems into smaller more discrete components

2

Objective 2

Drupal 8 as your content hub using JSON API and search API with Elasticsearch

3

Objective 3

GatsbyJS with authentication, search, and a mix of static and dynamic content

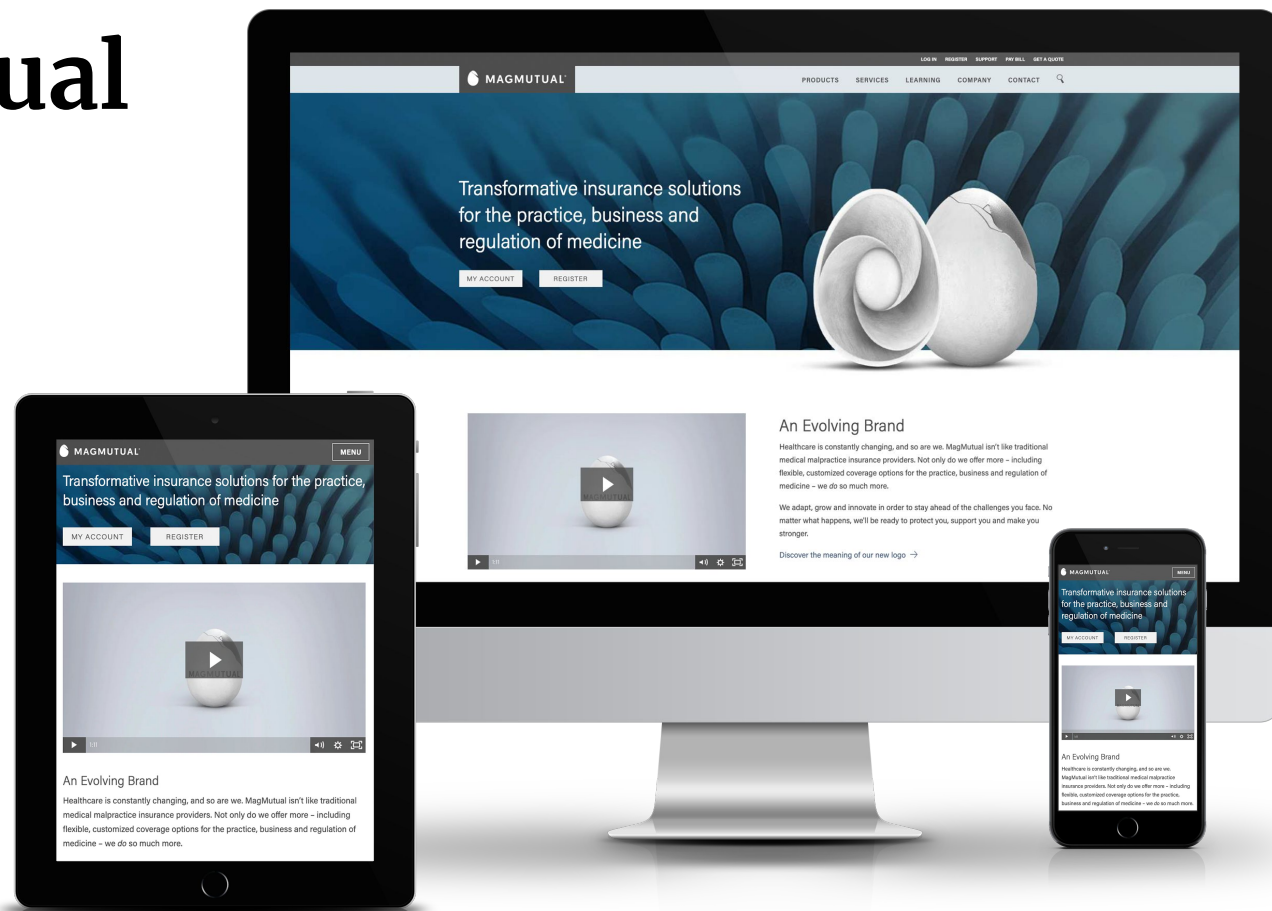
MagMutual

For nearly four decades,
MagMutual has been a leading
provider of medical
professional liability insurance.



MagMutual

Over 30,000 physicians and healthcare organizations rely on MagMutual.com for learning resources, products, and services covering all aspects of healthcare liability





I would absolutely recommend Medicurrent to people who are embarking on a Drupal 8 project. They come with a well-rounded team of strategists, UX/UI designers, and developers. Tapping into an organization like Medicurrent that can share knowledge and align toward a common goal really creates the story for success -- from what we're able to deliver, to the results we're able to measure, to being able to stay on budget and on time.



Sallie Graves

CIO of MagMutual Insurance Company



We Listened to Their Needs

- Rebrand
- Future proof
- Improve UX for policyholders
- Speed gains for authenticated and anon users



We Listened to Their Needs

- Single source of truth for user data
- Online learning integration
- Progressive learning tracks
- Maintainable and reliable SSO



MagMutual

The Challenge

- Complex Drupal 7 codebase
- Technical debt
- Extensive business logic
- AJAX (Asynchronous JavaScript And XML) based UX
- Data sync between Drupal other systems
- Difficult to understand code base
- Brittle and error prone custom D7 modules
- Drupal as authentication provider

The Solution

- Reviewing Architecture
- Volatility based decomposition
- Separation of concerns
- Using the right tools for each component of the system

Legacy Architecture



CMS / Drupal



Website / Drupal



**Business Logic /
Drupal**



**Integrations /
Drupal**



User Data / Drupal

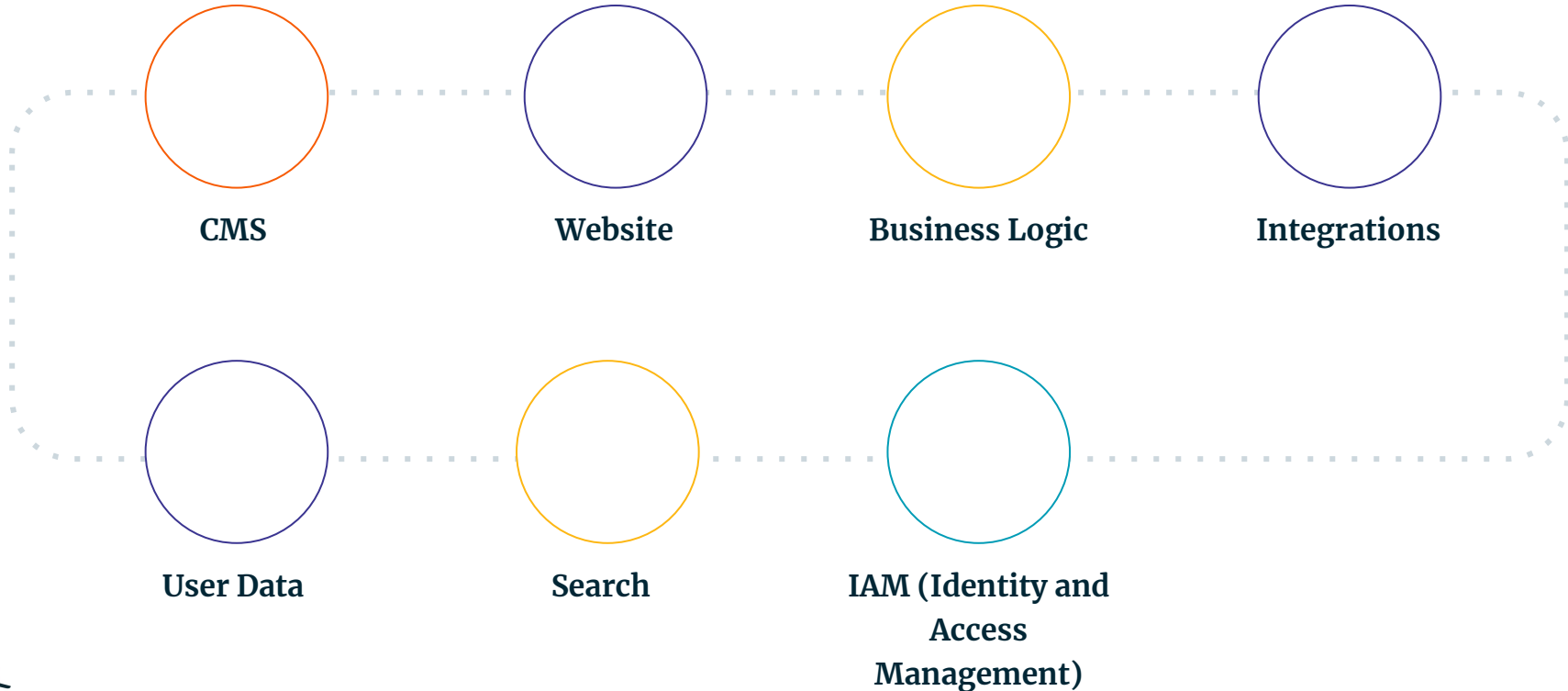


**Search / Apache
Solr**



**IAM (Identity and Access
Management) / Drupal
SimpleSAML**

The Components



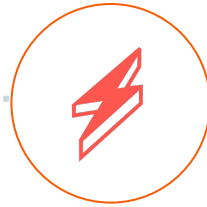
New Architecture



CMS / Drupal



Website / Gatsby



**AWS Deployment
/ Serverless**



**Business Logic,
Integrations /
Lambda**



**User Data / Apollo
GraphQL**



**Search /
Elasticsearch**

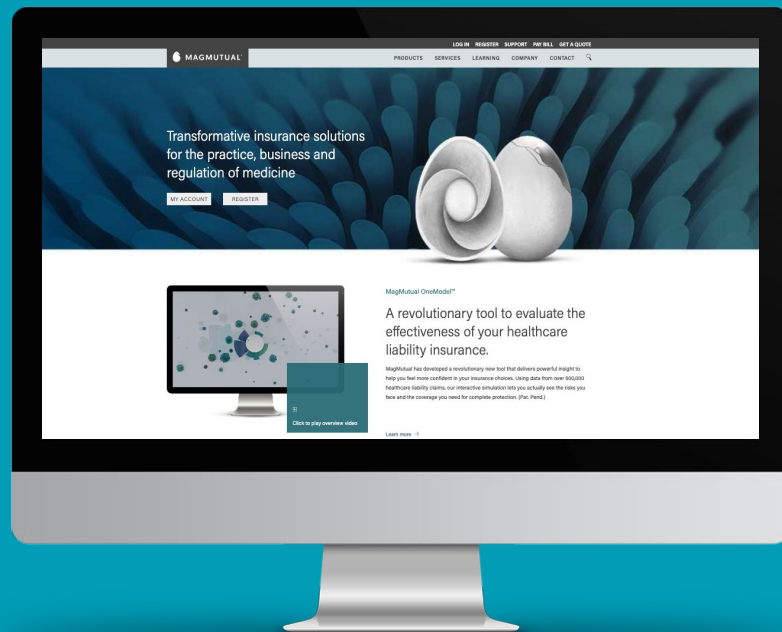


**IAM (Identity and Access
Management) / Autho**

Before



After



Transformative insurance solutions for the practice, business and regulation of medicine

[MY ACCOUNT](#)
[REGISTER](#)

[Click to play overview video](#)

MagMutual OneModel™

A revolutionary tool to evaluate the effectiveness of your healthcare liability insurance.

MagMutual has developed a revolutionary new tool that delivers powerful insight to help you feel more confident in your insurance choices. Using data from over 500,000 healthcare liability claims, our interactive simulation lets you actually see the risks you face and the coverage you need for complete protection. (Pat. Pend.)

[Learn more →](#)

PRACTICE OF MEDICINE

Medical Professional Liability

MagMutual has been a leader in medical professional liability insurance for nearly 40 years. As a mutual company owned and led by our PolicyOwners, we understand the challenges you face and can provide the precise protection, resources and support you need.

COVERAGE HIGHLIGHTS[Contact an agent →](#)[Get an online quote →](#)

- Immediate dividend and Owners Circle® eligibility
- Inclusive policy extends to your organization, medical director duties and automatic coverage for new physicians
- Includes simple protection for cyber and regulatory claims
- Free retirement tail after one year and age 50
- Automatic blanket locum tenens
- Leave of absence benefits
- Consent to settle

RESOURCES & SUPPORT

- Complimentary UpToDate® access




Welcome to the Learning Center

Access to a compendium of tools, resources and checklists to help you achieve quality and safety initiatives.


eg. HIPAA, MACRA




PRODUCT

- ☐ Practice of Medicine (244) 
- ☐ Regulation of Medicine (75) 
- ☐ Business of Medicine (59) 

DISCOUNTS & CREDITS

- ☐ CME Credits Available (17)
- ☐ Discount Eligible (26) 

RESOURCE TYPE

- ☐ Article (215) 
- ☐ Claims Lesson (88) 
- ☐ Course (32) 
- ☐ Video (20) 
- ☐ Risk Assessment (12) 
- ☐ Toolkits (13) 

PRACTICE

ARTICLE

Written Consent Required for Pelvic Exams in Florida

PRACTICE

TOOLKIT

The MagMutual COVID-19 Resource Center

PRACTICE

CLAIMS LESSON

Failure to Order Proper Testing in ED results in Pancreatitis Treatment Delay

PRACTICE

ARTICLE

Requiring Patient Face Masks and Maintaining Regulatory Compliance

PRACTICE

ARTICLE

Georgia COVID-19 Pandemic Business Safety Act

PRACTICE

ARTICLE

Recommended Actions for Unsolicited Diagnostic Tests

PRACTICE OF MEDICINE

CLAIMS LESSON

Failure to Order Proper Testing in ED results in Pancreatitis Treatment Delay

June 1, 2015



This case involves an emergency department (ED) physician who allegedly failed to order proper testing on a young man, resulting in delay and treatment of necrotic pancreatitis.

The patient initially presented to the ED with complaints of chest pain. His vital signs were: T 96.4; PO, P 104 regular; R 20 unlabored; BP 147/84, SPO2: 99; Pain: 5/10 chest. The patient's primary care physician is "NO ...

Want to learn more?

Login

Create an account

Interested in how MagMutual can help?

View our products →

RELATED CONTENT

CLAIMS LESSON

Copy and Paste Documentation Creates A Problematic Defense

CLAIMS LESSON

Details Lost in the Shuffle Led to Patient Death

CLAIMS LESSON

Delayed Diagnosis of Rocky Mountain Spotted Fever in a



REGISTER

Create an account by filling out the following form.

First Name*

Last Name*

Email*

Please enter a valid email address. All emails from the system will be sent to this address. The email address is not made public and will only be used if you wish to receive a new password or wish to receive certain news or notifications by email.

Password*

Passwords must contain at least 8 characters and at least three of the following: one lowercase letter (a-z), one uppercase letter (A-Z), numbers (0-9), special characters (eg. !@#\$\$%^&*)

Confirm password*











Provide a password for the new account in both fields.

Create New Account




My Account

[ACCOUNT](#)
[LEARNING](#)
[LOGOUT](#)

Toolkit Library

-  **Disaster Recovery Toolkit**
-  **Orthopedic Surgery Toolkit**
-  **MACRA/MIPS Toolkit**
-  **Medication Safety Toolkit**
-  **Cyber Security Toolkit**
-  **Employment Practices Toolkit**
-  **Onboarding Advanced Practice Clinicians**
-  **Onboarding Medical Assistants and Office Staff Toolkit**
-  **Onboarding Practice Managers Toolkit**
-  **Management Liability Toolkit**

Certificate Courses (CMEs)

CONTENT TITLE	STATUS	COMPLETED	CERTIFICATE
Test Course With CNE Credit	Active	—	
OPIOIDS: The Pain That Won't Go Away	Active	—	
Testing SFDC Bridge	Enrolled	—	
Another Test Course (Has CME Credit)	Enrolled	—	
Defending A Medical Malpractice Case	Active	—	
The Emergency Medical Treatment And Labor Act (EMTALA): A Guide For Physicians	Enrolled	—	
Oasis DISC May 1 Test.	Enrolled	—	
Set Your 'SMART Goals'	Complete	06-Apr-20	
The Fire Course	Complete	02-Oct-19	
Test Course For Dev	Complete	21-Mar-19	

Non-Certificate Courses

CONTENT TITLE	STATUS	COMPLETED	CERTIFICATE
Welcome To Bridge!	Enrolled	—	
Webhook Test	Active	—	

Website: Gatsby

Why Gatsby?

- Speed + performance was a big concern on the old site
- Security
- Open Source advantage
- Developer efficiency
- The content mesh!



CMS: A Boring Drupal 8 site

Drupal 8 is full featured

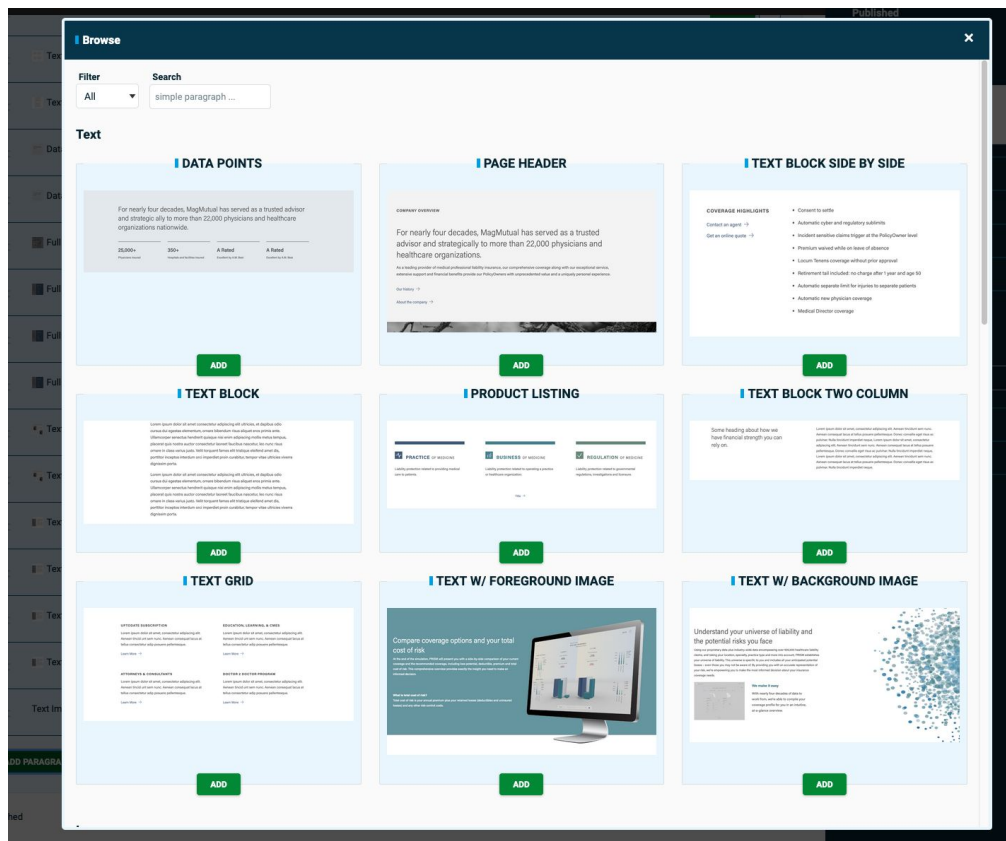
- JSON API
- JSON API Extras
- Build Hooks (Netlify)
- Search API
- Paragraphs



Rain Admin

Wins

- Improved editor UX
- Paragraph previews
- Clean look



Rain Admin

Aspect of Practice

- None -
Billing and Reimbursement
Contracts and Business Relationships
Employment and Workplace Issues

Profession

- None -
Administrator
Agent
Clinical Staff

Specialty

- None -
Anesthesiology
Cardiology
Dermatology

Product type *

Business of Medicine

Audience *

Public

SHOW ROW WEIGHTS

AUTHORS

+

Enter the text for the content's author/s byline. Example: "Jane Doe". Will be displayed as "By Jane Doe" on the site. Multiple authors are supported

ADD ANOTHER ITEM

RELATED CONTENT

SHOW ROW WEIGHTS

+

An Overview of Liability Immunity and Licensure Allowances during the Coron

+

Service Animals & Patient Rights Under the Americans with Disabilities Act (10

+

Managing the Legal and Regulatory Risks of Locum Tenens Physicians (10930)

+

Charging for Copies of Medical Records (10927)

+

Cyberthreats during the Coronavirus (COVID-19) Pandemic (10903)

+

ADD ANOTHER ITEM

☒ Published

SAVE

OPEN GATSBY PREVIEW

PREVIEW

Delete

Author: MSpringer

Create new revision

Revision log message

META TAGS

UNLISTED

URL ALIAS

☒ Generate automatic URL alias

URL alias

/learning/article/employer-considerations-when-emp

URL REDIRECTS

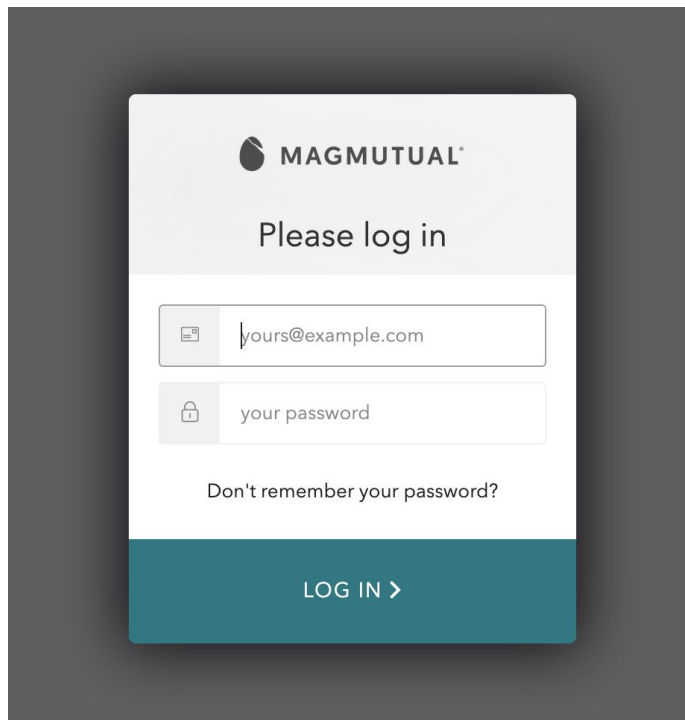
AUTHORING INFORMATION

PROMOTION OPTIONS

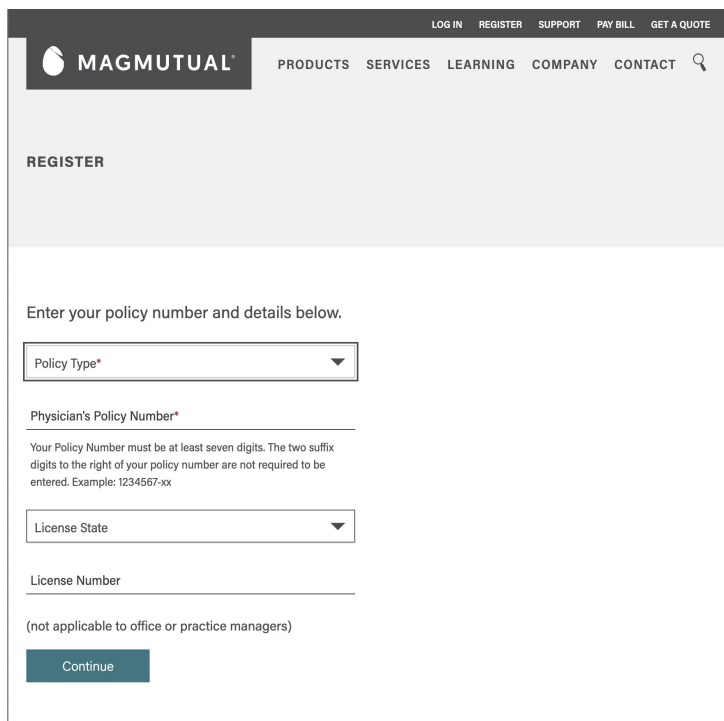
Authentication: Autho

Features

- SSO
- Universal login
- Integrations
- Protocols
- Extensibility



Server-Side Logic: AWS Lambda



The screenshot shows the 'REGISTER' page of the MAGMUTUAL website. The header includes the MAGMUTUAL logo and navigation links: LOG IN, REGISTER, SUPPORT, PAY BILL, and GET A QUOTE. Below the header, the 'REGISTER' title is displayed. The main content area contains a form with the following elements:

- A text prompt: "Enter your policy number and details below."
- A dropdown menu labeled "Policy Type*".
- A text prompt: "Physician's Policy Number*".
- A text input field for the "Physician's Policy Number".
- A text prompt: "Your Policy Number must be at least seven digits. The two suffix digits to the right of your policy number are not required to be entered. Example: 1234567-xx".
- A dropdown menu labeled "License State".
- A text input field for the "License Number".
- A text prompt: "(not applicable to office or practice managers)".
- A "Continue" button.

Use cases

- Form handlers
- Creating users in Auth0
- API Access callbacks
- Launching third party services

Apollo GraphQL

Features

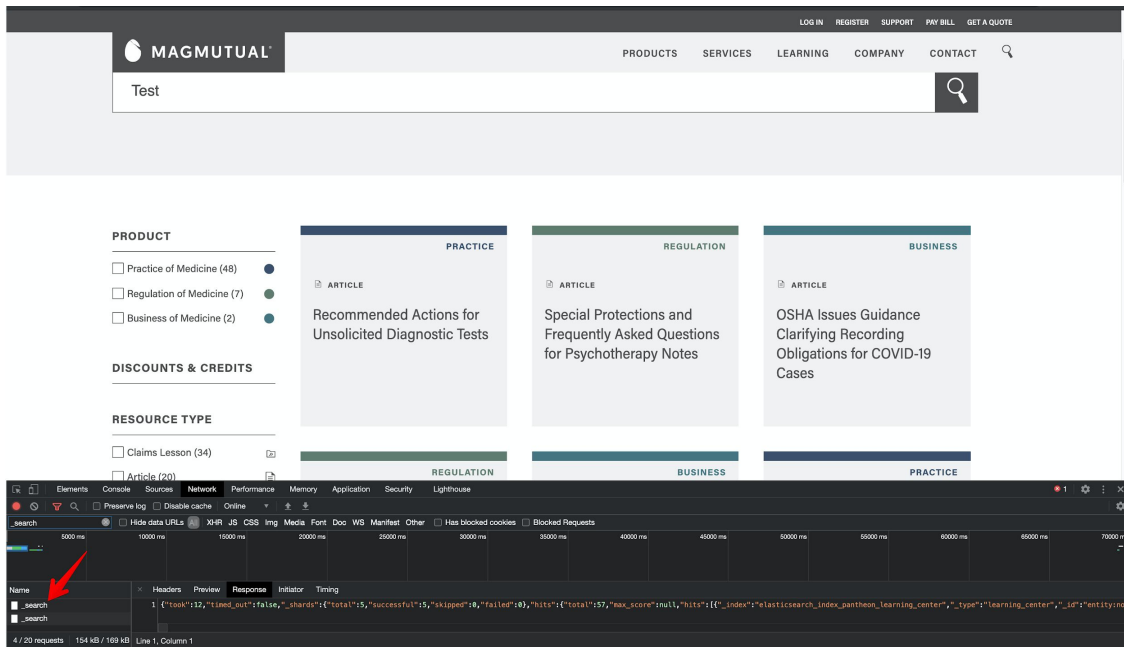
- Abstract REST API's away from the front end
- Unify your APIs
- Normalize data with schemas
- Adapt to changing needs
- Built in documentation

The screenshot displays the Apollo GraphQL IDE interface. On the left, a query is written in the editor: `learnables(learnerId: 4014, state: "complete") { title state enrollable_id course { tags certificateType isAssessment credits } }`. The right pane shows the JSON response for this query, which includes details for three learnable items, each with a title, state, enrollable_id, course information (tags, certificateType, isAssessment, credits), and contact details. On the far right, the 'SCHEMA' pane is visible, showing the GraphQL schema for the 'course' type, including fields like id, title, description, is_published, and various relationship fields like policies, licenses, accounts, and roles.

Search: Elasticsearch

Features & Integrations

- Drupal Elasticsearch AWS Connector
- AWS Elasticsearch
- AWS Lambda rate limiting
- Gatsby SearchKit plugin



Serverless Framework

```
CloudFormation - UPDATE_IN_PROGRESS - AWS::IAM::Role - IAMRoleLambdaExecution
CloudFormation - CREATE_IN_PROGRESS - AWS::S3::BucketPolicy - ServerlessDeploymentBucketPolicy
CloudFormation - UPDATE_COMPLETE - AWS::ApiGateway::RestApi - ApiGatewayRestApi
CloudFormation - CREATE_IN_PROGRESS - AWS::S3::BucketPolicy - ServerlessDeploymentBucketPolicy
CloudFormation - CREATE_COMPLETE - AWS::S3::BucketPolicy - ServerlessDeploymentBucketPolicy
CloudFormation - UPDATE_IN_PROGRESS - AWS::ApiGateway::Method - ApiGatewayMethodGraphQLOptions
CloudFormation - UPDATE_COMPLETE - AWS::ApiGateway::Method - ApiGatewayMethodGraphQLOptions
CloudFormation - UPDATE_COMPLETE - AWS::IAM::Role - IAMRoleLambdaExecution
CloudFormation - UPDATE_IN_PROGRESS - AWS::Lambda::Function - GraphQLLambdaFunction
CloudFormation - UPDATE_IN_PROGRESS - AWS::Lambda::Function - GraphQLLambdaFunction
CloudFormation - UPDATE_COMPLETE - AWS::Lambda::Function - GraphQLLambdaFunction
CloudFormation - UPDATE_COMPLETE - AWS::Lambda::Function - AuthLambdaFunction
CloudFormation - CREATE_IN_PROGRESS - AWS::Lambda::Version - AuthLambdaVersion4K4GwRnzJlB1568xeMftzLBcTp2c40K261c6s
CloudFormation - CREATE_IN_PROGRESS - AWS::Lambda::Version - GraphQLLambdaVersionKga14oR2gm01dpV0p8Uj2DPQVbWY19qOn7tZ8c3k
CloudFormation - CREATE_IN_PROGRESS - AWS::Lambda::Version - AuthLambdaVersion4K4GwRnzJlB1568xeMftzLBcTp2c40K261c6s
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CloudFormation - CREATE_COMPLETE - AWS::Lambda::Version - AuthLambdaVersion4K4GwRnzJlB1568xeMftzLBcTp2c40K261c6s
CloudFormation - CREATE_COMPLETE - AWS::Lambda::Version - GraphQLLambdaVersionKga14oR2gm01dpV0p8Uj2DPQVbWY19qOn7tZ8c3k
CloudFormation - UPDATE_IN_PROGRESS - AWS::Lambda::Permission - AuthLambdaPermissionApiGateway
CloudFormation - UPDATE_IN_PROGRESS - AWS::Lambda::Permission - AuthLambdaPermissionApiGateway
CloudFormation - CREATE_IN_PROGRESS - AWS::ApiGateway::Deployment - ApiGatewayDeployment
CloudFormation - CREATE_COMPLETE - AWS::ApiGateway::Deployment - ApiGatewayDeployment
CloudFormation - UPDATE_COMPLETE - AWS::Lambda::Permission - AuthLambdaPermissionApiGateway
CloudFormation - UPDATE_COMPLETE_CLEANUP_IN_PROGRESS - AWS::CloudFormation::Stack - web-graphql-server-test
CloudFormation - UPDATE_IN_PROGRESS - AWS::Lambda::Permission - AuthLambdaPermissionApiGateway
CloudFormation - DELETE_IN_PROGRESS - AWS::ApiGateway::Deployment - ApiGatewayDeployment
CloudFormation - DELETE_SKIPPED - AWS::Lambda::Version - AuthLambdaVersion4K4GwRnzJlB1568xeMftzLBcTp2c40K261c6s
CloudFormation - DELETE_SKIPPED - AWS::Lambda::Version - GraphQLLambdaVersionKga14oR2gm01dpV0p8Uj2DPQVbWY19qOn7tZ8c3k
CloudFormation - DELETE_COMPLETE - AWS::ApiGateway::Deployment - ApiGatewayDeployment
CloudFormation - DELETE_COMPLETE - AWS::Lambda::Permission - AuthLambdaPermissionApiGateway
CloudFormation - UPDATE_COMPLETE - AWS::CloudFormation::Stack - web-graphql-server-test
Serverless: Stack update finished...
Service Information
service: web-graphql-server
stage: test
region: us-east-2
stack: web-graphql-server-test
resources: 26
api keys:
web-graphql-server-test:
endpoints:
  POST - https://execute-api.us-east-2.amazonaws.com/test/graphql
  GET - https://execute-api.us-east-2.amazonaws.com/test/graphql
functions:
  auth: web-graphql-server-test-auth
  graphql: web-graphql-server-test-graphql
layers:
  None
Stack Outputs
AuthLambdaFunctionQualifiedArn: arn:aws:lambda:us-east-2:::function:web-graphql-server-test-auth:46
GraphQLLambdaFunctionQualifiedArn: arn:aws:lambda:us-east-2:::function:web-graphql-server-test-graphql:46
ServiceEndpoint: https://execute-api.us-east-2.amazonaws.com/test
ServerlessDeploymentBucketName: web-graphql-server-test-serverlessdeploymentbucket
Serverless: Removing old service artifacts from S3...
[magda] [1: cms] [2: gatsby] [3: serverless] [4: d7] [5: auth0] [6: user_api] [7: es] [8: graphql] Thursday Jul 9 01:48
```

Features

- Deployment
- Mocking
- Testing
- Logging
- Local development
- Project structure

Living with it - Support



Living with it – Support

The Cons

- More things to support
- More to know
- Harder to debug integration points
- Onboarding

The Pros

- Less bugs
- Focus on new features
- Drupal and Gatsby are simple to maintain
- Apollo GraphQL is a huge win
- Improved performance
- Less time to market with new features
- Added another authentication provider with little effort
- Adding new design assets is faster and easier

Questions

Does something resonate with you today? Get in touch with us.

mediacurrent.com/contact-us

mediacurrent.com/resources



**Your Feedback is
Valuable!**





Thank you!



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