

2019



dotCMS Product Brief

APIs & API Tooling in dotCMS

Trusted, Continuous & Connected
Customer Experiences

dotcms





Inside the Brief

Building a Digital Experience Platform (DXP) based on a content foundation has never been easier. Besides an open and decoupled product architecture,

dotCMS brings a rich set of APIs and LowCode API tooling for technology teams to build a best-of-breed ecosystem.

Dependencies on hardcore Java skills have been removed with the new tools, allowing for wider adoption in the technology teams/community. As a result, enterprises can now increase their enterprise agility and deliver on the time-to-value and digital ambitions.



Introduction

With the ever-increasing demand of customers and high-paced market dynamics, alongside the influx and change of leading-edge technology, technology teams are cautious to select traditionally 'sticky' and monolithic platforms and products. This is particularly true with regards to Content Management Systems (CMS) and Digital Experience Platforms (DXP). The days of 18-month implementation projects and multi-million-dollar budgets are mostly long gone.

The new norm is **API-driven products that provide maximum ease-of-integration and little to no hardcore back-end development skills** (like Java, .Net etc.), while still maintaining the highest standards with regards to **performance and security**.

The bigger driver for the API-led approach is the explosive rise of Internet of Things (IoT) devices, as well the increasing number of digital and physical touchpoints consumers are exposed to for brands and organizations.

In order to differentiate, brands need to focus on the **brand experience and hyper personalization**, by building a DXP that delivers a trusted, connected, and continuous experience. dotCMS delivers the content foundation (as-a-service)





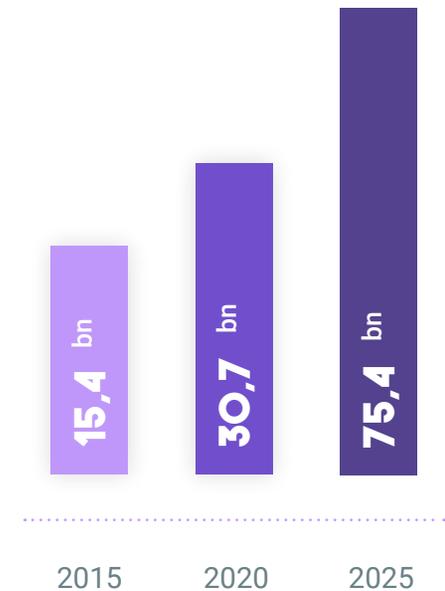
to technology teams. This allows for maximum interoperability, agility, and scalability - letting technology teams build any platform they want with the dotCMS APIs and API tooling.

“A cloud-first and API-led approach prevails because it gives organizations the advantage of a faster pace of innovation, greater scalability & agility,”

- Gartner



Global IoT Devices





APIs & dotCMS

As an open source CMS platform, dotCMS offers a variety of APIs to cater for best-of-breed scenarios as easily as possible.

Where it supports traditional Java APIs, the majority of clients work with dotCMS's extensive and well-defined set of RESTful APIs. In dotCMS 5.1, GraphQL API and query support was added to the mix in order to enhance integration scenarios even further.





REST APIs

From its inception, dotCMS has supported RESTful APIs.

Having all relevant objects stored in the content repository, makes exposure over REST APIs very straightforward & effective.

Content can be exposed as XML or JSON over REST APIs. Within the authoring UI of dotCMS, the 'show query' presents the REST API call directly onto the screen.

Velocity Content Pull (cut and paste for use in
#foreach(\$con in \$dotcontent.pull("+content,
M_HOST"),10,"modDate desc"))

...
#end

Lucene Query (Copy this query for the back-end Que
+contentType:webPageContent +(conhost:48190c
se +working:true

REST API Call URLEncoded (Use this URL for extern
http://demo.dotcms.com:8082/api/content/rend/
0cd5db894797%20conhost:SYSTEM_HOST)%20

REST API: [xml](#) | [json](#)

Ordered by: modDate desc



GraphQL

Native GraphQL Support

Starting with dotCMS 5.1, the GraphQL API and GraphQL query language are supported out-of-the-box by dotCMS. dotCMS GraphQL support exposes the dotCMS content repository as GraphQL and

...provides an API that allows developers to query and return specific properties of content and shape the API response at call time.

Coupled with new content relationships, this makes delivering custom views into the content repository simple and allows developers to traverse the content graph based on content relationships and other properties.



API Tooling

Building REST endpoints in dotCMS was already easy, but with the addition of two new tools, the level of effort for web developers to build REST endpoints has been even further.

01. Scriptable API endpoints:

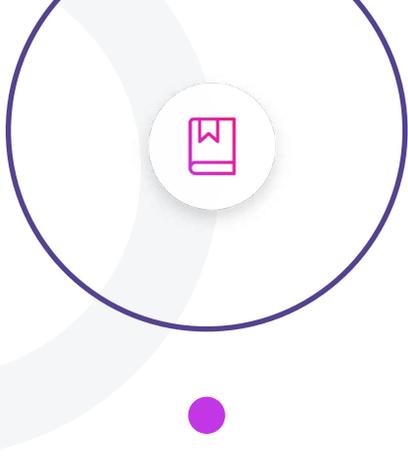
In dotCMS 5.1 it is possible to define and deliver scriptable REST endpoints, which is a more solid and scalable pattern.

This has a direct impact on the integrations (of any kind) with adjacent system and technology. No Java coding is required to build REST endpoints using this tool.



02. Scripting-as-a-Service:

In addition, permissioned users can control responses by using PUTting and GETting Velocity script in the requests.



Performance

Even when rendering content with the full-stack (i.e. dotCMS delivery tier), performance is already unprecedented. The numbers only go up when running dotCMS API-first. Having built-in caching at multiple layers in the product, reduces the number database call already tremendously.

The native support for the GraphQL query language & API

now makes the API-call even more efficient and will yield additional performance for the overall platform.



Security

Running dotCMS headless does not compromise security in any way. The very granular **permission model is applied and respected all the way on API-calls**, and technology teams can leverage authentication as usual.

dotCMS APIs & API Tooling



APIs	Supported	Documentation
Java		See documentation >>
RESTful		See documentation >>
GraphQL		See documentation >>

Personalization APIs	Supported	Documentation
Personas		Persona is a Content Type
Rules		See documentation >>

System API	Supported	Documentation
Roles		See documentation >>
Workflows		See documentation >>

API Tooling	Supported	Documentation
Scriptable API Endpoints		See documentation >>
Scripting-as-a-Service		See documentation >>

Content APIs	Supported	Documentation
Content		See documentation >>
Content Type		See documentation >>
File		File is a Content Type
Key/Value		Key/Value is a Content Type
Vanity URL		Vanity URL is a Content Type
Image Resizing & Processing		See documentation >>
Internationalization		See documentation >>
Relationships		Is a Content Attribute
Managing Indexes		See documentation >>
ElasticSearch		See documentation >>
Site Search Indexes		See documentation >>

Layout, Styling & Navigation APIs	Supported	Documentation
Page		Page is a Content Type
Page Layout		See documentation >>
Navigation		See documentation >>
Widget		See documentation >>



Complimentary Evaluation Support

dotCMS offers a variety of tactics to test-drive and proof out your key use-cases around your personalization strategy. It is our investment and helps you to evaluate dotCMS effectively, way beyond shiny product demos and slick sales presentation.

More on our evaluation support

[Here>>>](#)





About dotCMS

dotCMS is a leading, open source content and customer experience management platform for companies that want innovation and performance driving their websites and other content-driven applications. Extensible and massively scalable, both small and large organizations can rapidly deliver personalized and engaging content across browsers, mobile devices, channels, second screens and endpoints -- all from a single system.

Founded in 2003, dotCMS is a privately owned US company with offices in Miami, Florida; Boston, Massachusetts and San Jose, Costa Rica. With a global network of certified development partners and an active open source community, dotCMS has generated more than a half-million downloads and thousands of implementations and integration projects worldwide. **Notable dotCMS customers include:** Telus, Standard & Poors, Hospital Corporation of America, Royal Bank of Canada, DirecTV, Thomson Reuters, China Mobile, Aon, and DriveTest Ontario.

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