

Archival Resources Keys (ARKs) in IIIF resources

Persistent Identifiers in IIIF | 26.10.2021
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Archival Resource Key (ARK)

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- ARK – a persistent link for **any kind of thing**
- **8.2 billion** ARKs created by over **850 institutions** (libraries, archives, museums, publishers, educators, etc.)
 - Internet Archive, New York Public Library, Bodleian Libraries, French National Library, French National Archives, British Library, Musée du Louvre, Smithsonian National Museum, Google → https://n2t.net/e/pub/naan_table.html

The ARK Alliance



ARK Alliance

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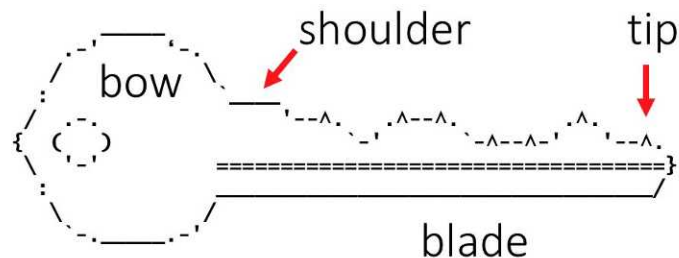
The ARK Alliance community comprises institutions and people who use or assign ARK identifiers as well as those interested in **promoting ARKs and sustaining the open ARK infrastructure**, which consists of **standards, best practices**, the **N2T.net resolver**, and the **registry of organizations** that create ARKs.

<https://arks.org/>



[@arks_org](https://twitter.com/arks_org)

The ARK anatomy




`https://NMA/ark:/NAAN/{N}ame/[Qualifier]`

- **Name Assigning Authority Numbers** (NAANs) identifying large institutional namespaces.
- **{NAAN “shoulder”}** extensions identifying sub-namespaces.
- **Name Mapping Authority** (NMA) services that accept names and return information about them.
- **[Qualifiers]** are optional string that extends the base ARK to support access to individual hierarchical subcomponents of an object, and to variants (versions, languages, formats) of components.


The ARK anatomy

A labelled URL with a globally unique identity inside it

`https://n2t.net/ark:/12345/fk1234`



makes ARK
actionable
(the resolver)



core globally unique
identity (independent
of web and hostname)

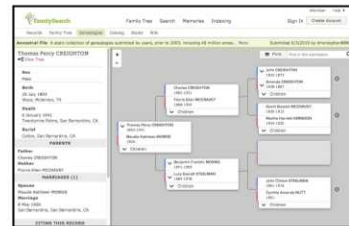
Resolving ARKs

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Core ARK identifier	<code>ark:/12148/btv1b8449691v/f29</code>
URI that will be resolved locally (BnF)	<code>http://ark.bnf.fr/ark:/12148/btv1b8449691v/f29</code>
URI that will be resolved globally (N2T)	<code>https://n2t.net/ark:/12148/btv1b8449691v/f29</code>
Gallica URI	<code>https://gallica.bnf.fr/ark:/12148/btv1b8449691v/f29</code>

What are ARKs used for?

- genealogical records (3 billion [FamilySearch](#))
- publisher content (100 million [Portico](#))
- scientific datasets and records (22 million [INIST](#))
- scanned books and texts (23 million [Internet Archive](#))
- bibliographic records (15 million [BnF main catalog](#))
- museum specimens (15 million [Smithsonian Institution](#))
- public health documents (14 million [UCSF IDL](#))
- historical documents (21 million [CDL](#), 5 million [BnF Gallica](#))
- historical authors and scholars (4 million [SNAC](#))
- vocabulary terms (9,000 [Periodo](#), [YAMZ](#))



ARK and IIIF

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Syntax	URI
ARK	[https://NMA/]ark:/NAAN/Name[Qualifier]
IIIF Image Request	{scheme}://{server}/{prefix}/{identifier}/ {region}/{size}/{rotation}/{quality}.{format}
IIIF Image Information	{scheme}://{server}/{prefix}/{identifier}/info.json
IIIF Resource (Manifest)	{scheme}://{host}/{prefix}/{identifier}/manifest.json
ARK+IIIF example 1 (Manifest)	https://example.org/iiif/ark:/NAAN/<objectID>/manifest.json
ARK+IIIF example 2 (Image)	https://example.org/iiif/ark:/NAAN/<imageID>/full/max/0/default.jpg

ARK and IIF

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- Open communities
- Both are well-suited for the cultural heritage field
- No (direct) fees
- Highly flexible creation in terms of associated metadata

Where can I find information/approaches about implementing ARK in IIIF resources?

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- 2021 IIIF Conference presentation by Modou Dia (Pleade) – “*Association of IIIF and ARK Protocols*”:
<https://www.youtube.com/watch?v=oFlicS5f8HA>
- Durham University Library:
<https://www.durhampriory.ac.uk/about-the-project/technology/ark-urls/>
- French National Library:
<https://api.bnf.fr/api-iiif-de-recuperation-des-images-de-gallica>



<https://gallica.bnf.fr/iiif/ark:/12148/btv1b8449691v/f29/2131,4016,1467,948/full/0/default.jpg>