

# Application Embedding for the Masses\*

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## Application Embedding New!

The implementation of an **embedded application** as payload over a **host application**

- **DSL embedding** applied to web applications
- A **general-purpose** host application

### Special Purpose Host Applications

- Embedding but **not** general-purpose
- **Content Management Systems (CMSs)**
  - Host application: WordPress/Drupal
  - Embedded application: The site/blog

### General Purpose Host Applications

- **FishTank** New!
  - General purpose. Written in **Cedalion**
- **Axiom** New!
  - General purpose. Written in **Clojure**
  - Built on top of a **big data** platform (Apache Storm)

## Application Embedding in Axiom

### Example 1: Microblogging

```
(defrule timeline [user tweet]
  [[:test/follows user author] (by-anyone)]
  [[:test/tweeted author tweet] (by-anyone)]
  Link1
  Link2
```

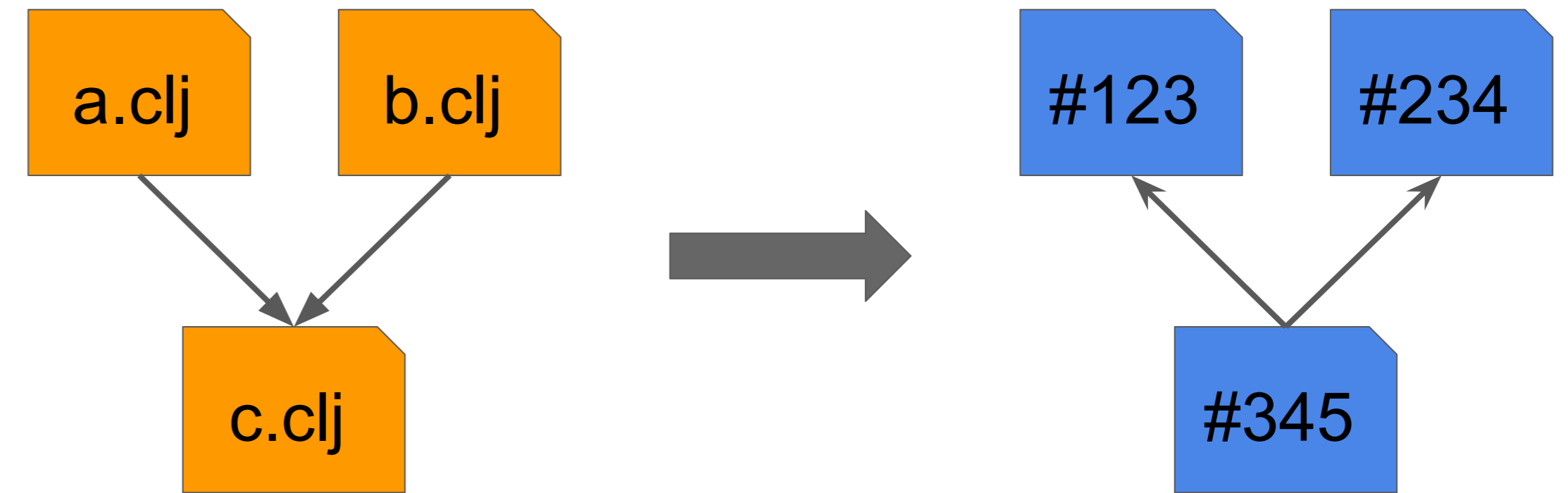
### Example 2: Search Index

```
(def stop-words #{"a" "is" "to" "the"})
(defrule index-docs [word id]
  [[:test/doc id text] (by-anyone)]
  (for [word (clojure.string/split text #"[!,.? ]+")]
    (let [word (clojure.string/lower-case word)]
      (when-not (contains? stop-words word))))
  Link1
  Link2)

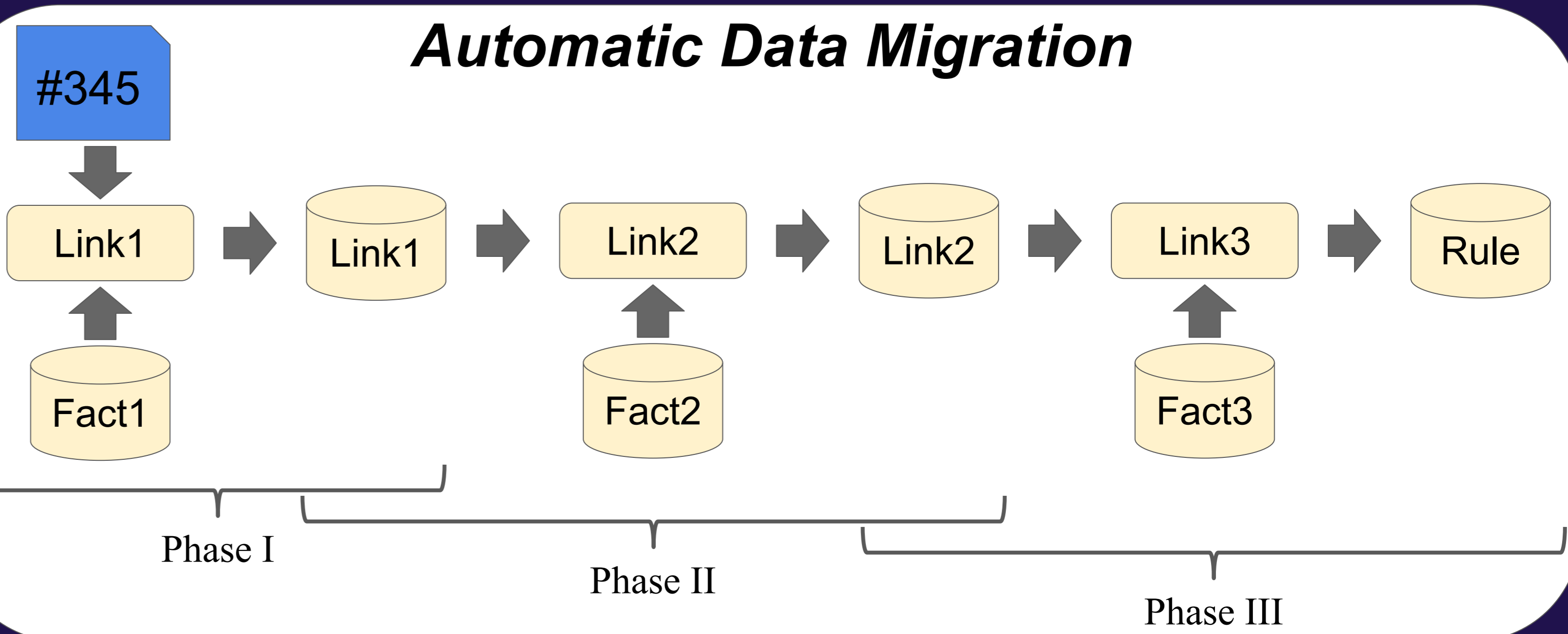
(defclause multi-keyword-search
  :test/multi-keyword-search [keywords] [text]
  (let [keywords (map clojure.string/lower-case keywords)
        first-kw (first keywords)]
    [index-docs first-kw id] (by :test)
    [[:test/doc id text] (by-anyone)]
    (let [lc-text (clojure.string/lower-case text)]
      (when (every? #(clojure.string/includes? lc-text %)
                    (rest keywords))))))
  Link1
  Link2
  Link3
  Rule
```

## Under the Hood

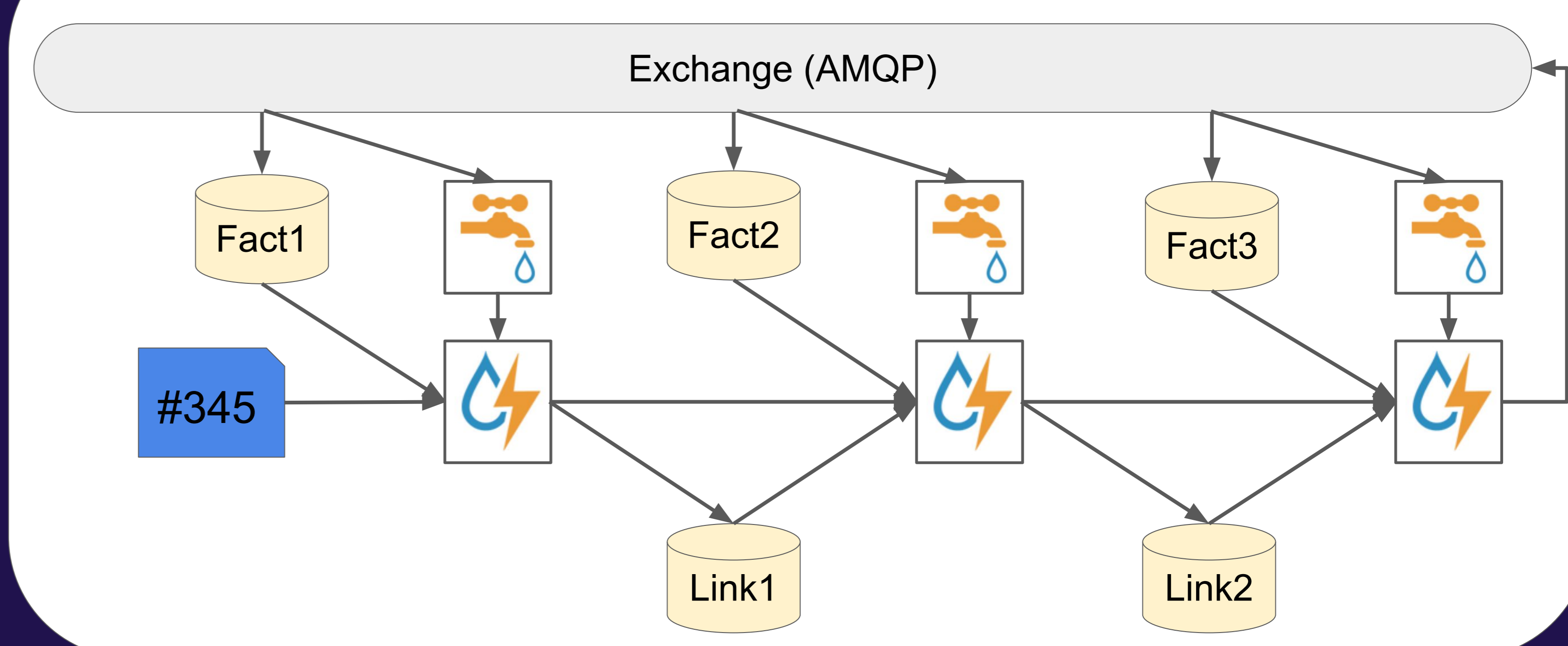
### Permacode: Content Addressing for Code



### Automatic Data Migration



### Using a Real-Time Analytics Platform



## In Programming 2017

### Research Talk

Application Embedding: A Language Approach to Declarative Web Programming

Thu 10:45 - 12:15 – Research Papers 4 at D0.07

### Demo

Application Embedding: From FishTank to Axiom

Wed 14:15 - 15:00 – Demo 2 at D2.15

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