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# Development of a Groovy based DSL for Apache OFBiz

Presented For The Apache Foundation By  
 **LINUX FOUNDATION**

# “How to write better business logic code with the new Groovy DSL for OFBiz”

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# Outline



- Business logic in OFBiz (<http://ofbiz.apache.org>)
- Code review: implementation using Java, Minilang, Groovy
  - Pros and cons
- Code review: implementation using the OFBiz Groovy DSL (Domain Specific Language)
  - Main advantages of the new approach
- Future enhancements

# Business logic in OFBiz

- Contexts
  - Services
  - Events
  - Data preparation scripts
- Main programming languages
  - Java
  - Minilang
  - Groovy



# Business logic in OFBiz



- Contexts
  - Services
  - Events
  - Data preparation scripts
- Main programming languages
  - Java: Services, Events
  - Minilang: Services, Events and (partially) Data preparation scripts
  - Groovy: Services, Events, Data preparation scripts



# Code review



- Code samples are attached to the page:  
[https://cwiki.apache.org/confluence/x/\\_M\\_oAQ](https://cwiki.apache.org/confluence/x/_M_oAQ)

# Pros and cons of Java

- Pro&Con: it is a general purpose language
- Con: low level details are required, e.g.
  - framework details in input arguments for services and events
  - explicit processing for input retrieval
  - explicit processing of locale and userLogin
  - error (and transaction) handling
- Con: code changes require recompilation/restart
- Con: differences in different contexts (e.g. services and events)
- Con: not available for data preparation scripts

# Pros and cons of Groovy



- Pro&Con: it is a general purpose language
- Con: low level details are required, e.g.
  - framework details in input arguments for services and events
  - explicit processing for input retrieval
  - explicit processing of locale and userLogin
  - error (and transaction) handling
- Con: differences in different contexts (e.g. services and events)
- Pro: well suited (and widely used) for data preparation scripts



# Pros and cons of Minilang

- Pro: it is a domain specific language
- Con: not a general purpose language
- Pro: low level details are hidden and automatically handled
- Pro: minor differences between service and event code
- Con: some old api and inconsistencies
- Con: verbose and unfriendly for general programming tasks:
  - xml syntax
  - calls to Java methods
  - math computation
- Con: limited support for data preparation scripts



# The new Groovy DSL

- Available in all the contexts
  - services, events, data preparation scripts
- Clean and simple API
- Same advanced features of Minilang:
  - Automatic handling of locale and userLogin objects
  - Automatic error/transaction handling
  - Same code in different contexts (e.g. services vs events)
- Advanced DSL features (MOP)
- Powerful general purpose language



# Future enhancements

- Converting existing Java/Minilang/Groovy code
- Testing and bug fixing
- Enhancing the DSL language
  - Builder for Entity Queries
  - Extend Strings with entity and service specific API
    - `'createProduct'.runService [productId: WG-1111]`
    - `oneProduct = 'Product'.findOne [productId: WG-1111]`
- Improving DSL support for data preparation scripts (performance)

# References

- OFBiz website: [ofbiz.apache.org](http://ofbiz.apache.org)
- Emails:
  - [dev@ofbiz.apache.org](mailto:dev@ofbiz.apache.org)
  - [jacopoc@apache.org](mailto:jacopoc@apache.org)
- Information (and code samples) about the DSL:  
[https://cwiki.apache.org/confluence/x/\\_M\\_oAQ](https://cwiki.apache.org/confluence/x/_M_oAQ)

