

Application Level Replication

Providing offline replication in Joomla!

WWW.JOOMLA.ORG

Sam Moffatt

Sam Moffatt

[pasamio]

Development Co-ordinator, Joomla!

Sites and Infrastructure Co-ordinator, Joomla!

Systems Co-ordinator, USQ

Masters student, USQ

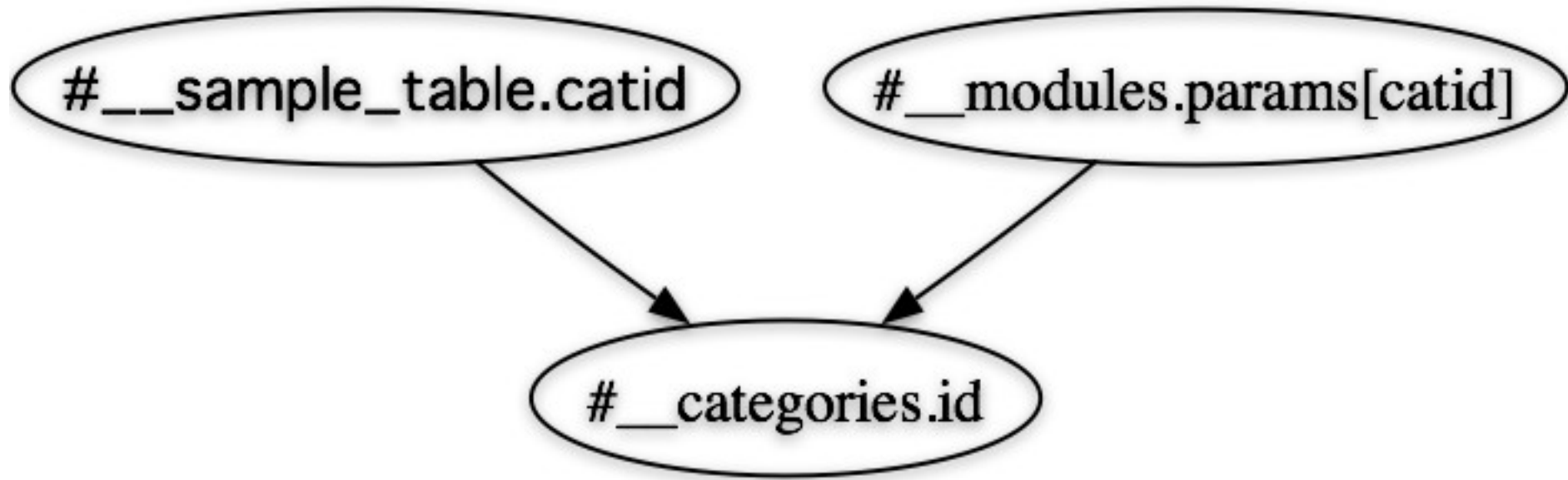
Application level replication is a form of replication where the application is actively a part of forming the replica

Why do web applications care about replication? Isn't that what databases are supposed to do?

Application replication permits replications scenarios that databases are unable to easily handle

- Partial replication
 - To permit replication of only required items as opposed to full replication by replaying transactions
- Transient replication
 - To permit easy replication when one of the nodes might not be online and available all of the time, such as when a node is on a laptop device.

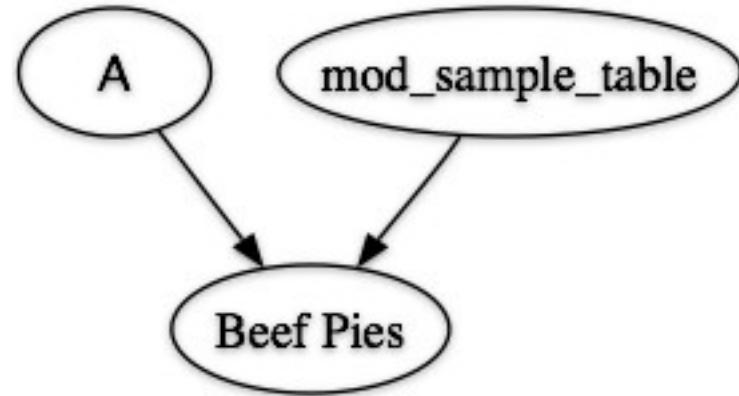
- To create replicas, dependency graphs need to be created to ensure consistency
- Replica graphs contain dependencies between tables in the schema which can then be used to calculate the minimum graph required to have a consistent replication



#_categories	
id	name
1	Beef Pies
2	Apple Pies

#_sample_table		
id	test	catid
1	A	2
2	C	2
3	B	1

#_modules		
id	module	params
1	mod_sample_table	catid=2



Replicating either “A” or “mod_sample_table” requires that “Beef Pies” is replicated as well.

One student proposed a similar system
“Joomla! Working Copy”
Edvard Ananyan

- Creates “patch” files with:
 - Updates to database tables
 - Updates to files on the file system
- Currently does not have full integrity but does have option to handle partial replication

Question and Answer