**Title:**

# Installation and Deployment of MongoDB Application

**Description:**

Workflow for install and deployment of sharded, production-ready mongoDB cluster. This bundle has dependency on Core and Validation KI bundles. For more information related to MongoDB and related installation steps, please check <http://docs.mongodb.org/manual/tutorial/install-mongodb-on-ubuntu/> and http://docs.mongodb.org/manual/tutorial/install-mongodb-on-ubuntu

**Readme**

Important: the Knowledge Items of this bundle try to simulate Workflows seen in frameworks such as Chef, Puppet and Ansible.

For this reason, Workflow KIs seem to not follow traditional best practices of KI Creation in terms of reusability. They are, however atomic pieces of knowledge, meaning the knowledge cannot be broken down further while still maintaining the same level of functionality.

Due to the controlled nature of the Workflow approach, the Workflow KIs try to structure Tasks like steps in a sequence rather than letting AutoPilot pick the path to a solution.

In order to simulate these Workflows, the Knowledge Items are split into 3 groups:

* Workflow KIs
* Validation KIs and
* Core KIs.

This bundle intends to install MongoDB with all its related application and libraries on the given host.

Dependencies

1. Core KIs bundle
2. Validation KIs bundle

For this bundle to run, you will need MARS nodes in AutoPilot engine. For your reference, please see sample nodes below (at the end of this readme).

Steps to run

1. Put the validation KIs bundle in AutoPilot engine
2. Put the core KIs bundle in AutoPilot engine
3. Put the Workflow KI MongoDBWorkflowHandlePKG.xml and DeployShardedMongoDbClusterWorkflow.xml (attached with this bundle) in AutoPilot engine
4. Put the Issue in AutoPilot engine to trigger this KI
   * For your reference, please see sample issues below
5. This will trigger the KI and run the workflow to install/configure MongoDB on your machine (as specified in the Issue)

Workflow KI in this bundle, runs below installation steps (as per the link mentioned in the description) on the target machine (as specified in the Issue)

1. Modify Apt Resource
2. Install mongodb-org
3. Make directory for Mongodb
4. Configure MongoDB

**Sample Issue**

**Issue:**

Issue:

NodeID: OpexSoftware:Workflow:Application:EnterpriseInfrastructure

xmlns: http://www.arago.de/IssueSchema

IssueSubject: 'Deploying Sharded MongoDB cluster'

DeployShardedMongoDbClusterWorkflow:

TargetApp: EnterpriseInfrastructure

TargetMachine: BD

TargetState: Created

Path: /data/configdb

ConfigServerHostnames: localhost

ConfigServerPort: 27019

User: bhagyashree

Host: 192.168.1.89

Issue:

NodeID: OpexSoftware:Workflow:Application:EnterpriseInfrastructure

xmlns: http://www.arago.de/IssueSchema

IssueSubject: 'Installing MongoDB cluster'

MongoDBWorkflowHandlePKG:

TargetApp: EnterpriseInfrastructure

TargetMachine: BD

TargetState: Created

AptKey: 7F0CEB10

AptRepoUrl: http://repo.mongodb.org/apt/ubuntu

AptArchiveType: deb

AptDistribution: trusty/mongodb-org/3.0

AptComponents: multiverse

User: bhagyashree

Host: 192.168.1.89

**Machine Node**

<Linux xmlns="http://mars-o-matic.com" ID="OpexSoftware:Workflow:Machine:BD"

HasAgentType\_WatchMe="False" MachineArchitecture="x86\_64"

NodeType="Machine" MachineClass="Linux" NodeName="BD">

<Dependencies>

<Node ID="OpexSoftware:Workflow:Software:MongoDB" />

</Dependencies>

<CustomerInformation ID="opex.com" Name="opex"/>

<Extensions>

<ssh User="bhagyashree" />

<PasswordPolicy MinLength="8" MaxLength="14" CharSet="alnum" />

</Extensions>

<OSInformation Name="Ubuntu" MajorVersion="14" Vendor="Ubuntu" />

<NetworkInformation>

<InterfaceInformation>

<Interface Name="eth1" IP="192.168.1.89" />

</InterfaceInformation>

</NetworkInformation>

</Linux>

**Software Node**

<AutoPilot xmlns="http://mars-o-matic.com" ID="OpexSoftware:Workflow:Software:MongoDB"

NodeType="Software" SoftwareClass="Automation"

SoftwareSubClass="AutoPilot" NodeName="MongoDB">

<Dependencies>

<Node ID="OpexSoftware:Workflow:Machine:BD" />

<Node ID="OpexSoftware:Workflow:Resource:WebResource" />

</Dependencies>

<CustomerInformation ID="opex.com" Name="opex"/>

</AutoPilot>

**Resource Node**

<Service xmlns="http://mars-o-matic.com" ID="OpexSoftware:Workflow:Resource:WebResource"

NodeType="Resource" ResourceClass="Service" NodeName="WebResource">

<Dependencies>

<Node ID="OpexSoftware:Workflow:Software:MongoDB" />

<Node ID="OpexSoftware:Workflow:Application:EnterpriseInfrastructure" />

</Dependencies>

<CustomerInformation ID="opex.com" Name="OpexSoftware" />

</Service>

**Application Node**

<EnterpriseInfrastructure xmlns="http://mars-o-matic.com" ID="OpexSoftware:Workflow:Application:EnterpriseInfrastructure"

NodeType="Application" ApplicationClass="Enterprise"

ApplicationSubClass="EnterpriseInfrastructure" NodeName="EnterpriseInfrastructure">

<Dependencies>

<Node ID="OpexSoftware:Workflow:Resource:WebResource" />

</Dependencies>

<CustomerInformation ID="opex.com" Name="OpexSoftware" />

</EnterpriseInfrastructure>