
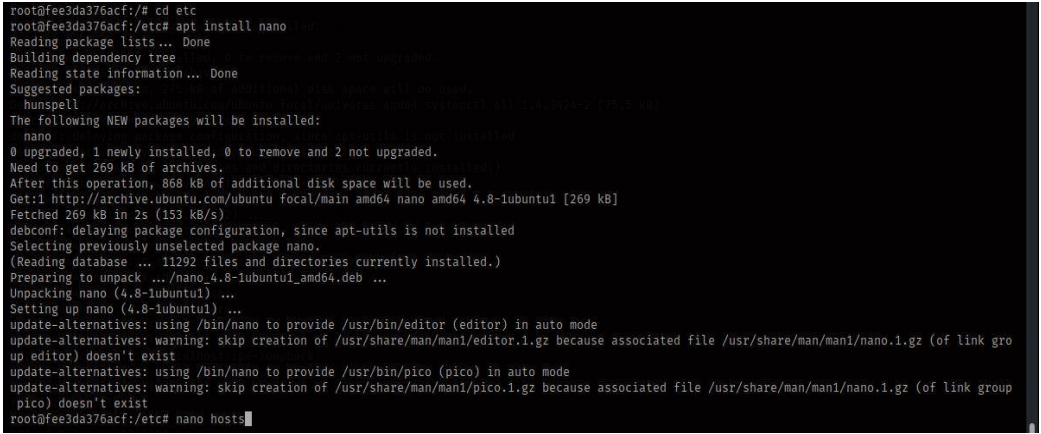


DEPARTMENT OF INFORMATION TECHNOLOGY

Semester	B.E. Semester VIII – Information Technology Engineering
Subject	DevOps Lab
Subject Professor In-charge	Prof. Rohit Barve
Laboratory	

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Grade and Subject Teacher's Signature	

Experiment Number	6
Experiment Title	To perform Software Configuration Management using Puppet.
Resources / Apparatus Required	<div>Hardware:</div> <ul style="list-style-type: none"> Intel Core i3/i5/i7 Processor with Intel VT-X support. 4 GB RAM 500 GB Hard disk <div>Software:</div> <div>Operating systems: Linux Desktop OS for Client machines.</div>
Theory/ Procedure/ Algorithm	<p>Puppet Master and Slave Communication</p> <p>Puppet Master and Slave communicates through a secure encrypted channel with the help of SSL. The diagram below depicts the same:</p> <p>As you can see from the above Image:</p>  <pre> sequenceDiagram participant Slave as Puppet Slave participant Master as Puppet Master Slave->>Master: Request for Master Certificate Master-->>Slave: Send Master Certificate Master->>Slave: Request for Slave Certificate Slave-->>Master: Send Slave Certificate Slave->>Master: Request for data Master-->>Slave: Send data </pre> <p>The diagram illustrates the communication sequence between a Puppet Slave and a Puppet Master. It shows six steps: 1. The Slave requests the Master's certificate. 2. The Master sends the Master's certificate to the Slave. 3. The Master requests the Slave's certificate. 4. The Slave sends the Slave's certificate to the Master. 5. The Slave requests data from the Master. 6. The Master sends data to the Slave.</p>

	<ul style="list-style-type: none"> • Puppet Slave asks for Puppet Master certificate. • After receiving Puppet Master certificate, Master requests for Slave certificate. Once Master has signed the Slave certificate, Slave requests for configuration/data. • Finally, Puppet Master will send the configuration to Puppet Slave.
Output:	<p>Puppet Slave</p> <pre>cd etc apt install nano nano hosts</pre>  <p>Add 172.17.0.2 puppet in last line</p>  <p>puppet agent -t --debug</p> 

	<div><h2>Puppet Master</h2><h3>systemctl start puppet-master.service</h3><pre>root@09e4408aeae4:/# systemctl start puppet-master.service root@09e4408aeae4:/# cd etc root@09e4408aeae4:/etc# cd hosts bash: cd: hosts: Not a directory root@09e4408aeae4:/etc# cat hosts 127.0.0.1 localhost ::1 localhost ip6-localhost ip6-loopback fe00::0 ip6-localnet ff00::0 ip6-mcastprefix ff02::1 ip6-allnodes ff02::2 ip6-allrouters 172.17.0.2 09e4408aeae4 root@09e4408aeae4:/etc#</pre></div> <div><h3>Puppet cert list</h3><pre>root@09e4408aeae4:/etc# puppet cert list /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:315: warning: deprecated Object#~ is called on Puppet::Transaction::Report; it always returns nil /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete Warning: 'puppet cert' is deprecated and will be removed in a future release. (Location: /usr/lib/ruby/vendor_ruby/puppet/application.rb:370:in `run') "524941e49907" (SHA256) 6A:56:05:4C:38:BC:1C:2E:C6:E1:0E:24:DF:C4:5A:2D:09:B3:04:D7:E7:AF:90:06:CA:C6:8E:81:B8:F3:D5:A7 "fee3da376acf" (SHA256) AB:53:39:48:F2:D5:38:B4:B4:C1:17:C0:5F:DC:33:98:85:EA:E0:14:AF:F8:F1:DA:AC:A4:BF:35:95:91:49:D5 root@09e4408aeae4:/etc#</pre></div> <div><h3>puppet cert sign fee3da376acf</h3><h3>puppet cert sign 524941e49907</h3><pre>root@09e4408aeae4:/etc# puppet cert sign fee3da376acf /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:315: warning: deprecated Object#~ is called on Puppet::Transaction::Report; it always returns nil /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete Warning: 'puppet cert' is deprecated and will be removed in a future release. (Location: /usr/lib/ruby/vendor_ruby/puppet/application.rb:370:in `run') Signing Certificate Request for: "fee3da376acf" (SHA256) AB:53:39:48:F2:D5:38:B4:B4:C1:17:C0:5F:DC:33:98:85:EA:E0:14:AF:F8:F1:DA:AC:A4:BF:35:95:91:49:D5 Notice: Signed certificate request for fee3da376acf Notice: Removing file Puppet::SSL::CertificateRequest fee3da376acf at '/var/lib/puppet/ssl/ca/requests/fee3da376acf.pem' root@09e4408aeae4:/etc# puppet cert sign 524941e49907 /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:315: warning: deprecated Object#~ is called on Puppet::Transaction::Report; it always returns nil /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete /usr/lib/ruby/vendor_ruby/puppet/util.rb:461: warning: URI.escape is obsolete Warning: 'puppet cert' is deprecated and will be removed in a future release. (Location: /usr/lib/ruby/vendor_ruby/puppet/application.rb:370:in `run') Signing Certificate Request for: "524941e49907" (SHA256) 6A:56:05:4C:38:BC:1C:2E:C6:E1:0E:24:DF:C4:5A:2D:09:B3:04:D7:E7:AF:90:06:CA:C6:8E:81:B8:F3:D5:A7 Notice: Signed certificate request for 524941e49907 Notice: Removing file Puppet::SSL::CertificateRequest 524941e49907 at '/var/lib/puppet/ssl/ca/requests/524941e49907.pem' root@09e4408aeae4:/etc#</pre></div>
Conclusion	We come to know about how to perform software configuration management using puppet.