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| **Introduction to DevOps:**   * Background * Ingredients of DevOps * DevOps principles * Who has adopted? * Mirage or Reality? * Challenges, Domain specific * Technology specific * DevOps Toolchain (Practices and Tools) * SDLC vs Agile/DevOps: * Agile Values and Principles * Advantages of Agile * Importance of DevOps in Agile * What is Continuous Integration,Delivery,Deployment & Feedback * Faster deployments using devops * Collaboration * How Automation helps devops * DevOps job market   **Linux**   * Linux Overview * What is Operating system * What is Unix, Linux * Unix vs Linux, Linux vs Windows * Linux market trends,Linux flavours * Linux Architecture * What is shell kernel command line utilities * Linux Boot process, Linux commands * Linux admin level commands * Reading files, Redirection operators * Piping * User management * Process management * File system management * Linux volume manager hands on * Linux installation using iso * Directory structure, Editors * VMware overview | **Python scripting**   * Python Introduction * Features of Python * Python vs Perl * Python vs shell * Interactive mode of programming using python * Reserved words * Python indentation, Python variables * Python data types * Numbers,Strings,Lists,Tuples, * Dictionaries,Loops,Operators, * Break Continue,pass, * Command line arguemtns,Functions * Lambda functions, Modules * Files, Exception Handling * Object Oriented concepts, * Class, Object, Inheritance * Polymorphism, Abstraction * Method overloading * Real time modules/scripts used     **Shell** **Scripting**   * She-bang line in shell * Command line arguments * Variables, Loops, Case statement * Getopts, Functions * Regular expressions * Grep, Awk, Sed   **Cloud Computing**   * Cloud features: * Elasticity, Pay as you use   **Different models of Cloud:**  **Iaas ,Pass,Sass** |
| **Virtualization**   * What is virtualization * Different virtualization models * Physical Partitioning - LPARs * Bare metal hypervisor – Vmware ESX servers * Hosted OS virtualization – KVM * Software Partitioning - Dockers   **Ansible**   * Introduction to Ansible and YAML. * Ansible Documentation. * Setup and Configuration. * Ansible Playbooks: * Ansible command line. * System Facts. * Target Section, Variable Section, Handler Section. * lookups, Runonce, Local Action, Loops, Conditionals, Until, Notify, Tags, Error Handling, Templates etc.   **Ansible Modules**   * Setup Module. * File Module. * Pause Module. * Yum Module. * Service Module. * Copy Module. * Package Module etc. * Ansible Command Line Usage. * How to Download Playbook from Galaxy * Real time playbooks      * Scope * Notify required keywords * Puppet modules * Site.pp vs node.pp * Puppet manifests * How to write basic manifests * How to define classes * How to write customized manifests * Real time examples of manifests   **CHEF**   * Overview of Chef * Common Chef Terminology (Server, Workstation, Client, Repository etc.) * Servers and Nodes * Chef Configuration Concepts * Workstation Setup   + How to configure knife   + Execute some commands to test connection between knife and workstation * Organization Setup   + Create organization   + Add yourself and node to organization * Test Node Setup   + Create a server and add to organization   + Check node details using knife * Databags   + How to create Databags   + Add Databags to organization * Node Objects and Search   **VAGRANT**   * Introduction   + What is Vagrant   + Uses of Vagrant in an environment * Installation and Configuration   + How to install Vagrant in Windows and Linux   + Configure Vagrant * Provisioning with Vagrant   + How to use Vagrant to create small virtual   + Add required Images to Vagrant   **CONTINUOUS INTEGRATION**  **Introduction to Jenkins**   * What is Jenkins * Introduction * How to install and configure Jenkins * How to achieve Continuous Integration with Jenkins * Jenkins Jobs * How to schedule jobs in Jenkins * How to integrate Jenkins with Ant * How to integrate Jenkins with Maven and Slack * How to integrate Jenkins with Shell scripts * How to integrate Jenkins with Python scripts | **Agile and Scrum**   * Agile Principles. * Agile and Scrum Methodologies. * Scrum Roles, Planning, Estimation.   **Git**   * Introduction to Version Control. * Installation and Server setup. * Git Configuration. * Branching,Data Recovery   **Puppet**  Introduction to Puppet   * Difference between puppet open source and enterprise * Puppet Architecture * Puppet components * Puppet Master installation and configuration * Puppet agent installation and configuration * Puppet connections * Adding agents to master * Components of Puppet * Hiera * Mcollective * Puppet DB * Puppet dash board * Geppato * Facter * Catalogue   **Puppet DSL**   * Templates * Defining the classes in puppet   + How to Add Run list to node * Relationships between resources * Variables   + Check node Details * Environments   + How to create Environments   + Add servers to environments * Roles   + Create roles   + Add Roles to organization   **Dockers**   * Introduction to Dockers * Installing dockers * What are containers * How to manage dockers from machine * Jenkins dashboard and Jenkins authentication * Jenkins plugins – how to download and use * Parameterizing the build * One click regression * Docker pull ,run & attach * Exploring Docker hub * Pulling images from hub   **MONITORING Tool**  **NAGIOS**   * Nagios Introduction & Architecture * How to install and configure Nagios * Plugins in Nagios * How to add servers to Nagios * NRPE – Nagios Remote Plugin Executor * How to configure plugins on remote nodes * Monitoring with Nagios * Using the default plugins, Writing our plugins |

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| **Amazon Web Services:**  **Identity Access Management (IAM)**   * Introduction to IAM * IAM Users * Policies, Groups and Roles * Identity Federation and Quiz   **EC2 (Elastic Compute Cloud)**   * Ec2 and Types, Pricing * EIP (Elastic IP),Allocating, Releasing, Associating * Windows and Linux instances connecting from Ec2 Instances   **S3 (Simple Storage Service)**   * Introduction to S3 * Bucket, Bucket ACLs & Policies * Object and Object ACLs * Bucket and Object Operations   **EBS (Elastic Block Storage)**   * Creating, Attaching * Detaching volumes   **Auto Scaling**   * Auto Scaling Groups * Launching Amazon EC2 Instances with Auto Scaling   **ELB (Elastic Load Balancer)**   * Introduction to ELB * Configuring ELB and Connecting web services with ELB |