AWS CloudFormation Master Class v2 [2022]

Course Objectives:

* Learn CloudFormation and master all its concepts.
* Go through Hands On examples to practice what we learned.
* Learn how to use YAML to write the CloudFormation templates.
* Learn how to write your infrastructure as code(laC).
* Launch Several templates.
* Advanced concepts overview

Who is this course for?

* Developers who want to learn about AWS CloudFormation and how to write templates.
* Devops who want to learn how deploy and orchestrate CloudFormation templates.
* Solutions Architect who wants to understand the benefit of using CloudFormation to manage infrastructure and steer their team to use CloudFormation.

Prerequisites:

* Basic Knowledge of AWS is required.
* AWS IAM
* AWS S3
* AWS EC2, Security Groups, Autoscaling groups.
* AWS Lamba
* A Few others…
* Knowledge of JSON and/or YAML is preferred.
* Recent MacOS /Linux /Windows Machine
* Lots of desire to learn new exciting things!!

Lesson 2:

What is CloudFormation:

* CloudFormation is a declarative way of outlining your AWS Infrastructure, for any resource (most of them are supported).
* For Example, within a CloudFormation template, you say:
* I want a security Group.
* I want two EC2 Instance using this security Group.
* I want two Elastic Ips for these EC2 instances.
* I want an S3 Bucket.
* I want a load Balancer (ELB) in front of these EC2 Instance.
* Then CloudFormation creates those for you, in the right order, with the exact configuration that you specify.

CloudFormation Template Example:


        A screenshot of the Designer with its panes and components numbered.
      

Benefits of AWS CloudFormation(l/2)

* Infrastructure as code :
* No resources are manually created, which is excellent for control.
* The code can be version controlled for example using Git.
* Changes to the infrastructure are reviewed through code.
* Cost:
* Each resource within the stack is tagged with an identifier so you can easily see how much a stack cost you.
* You can estimate the costs of your resource using the CloudFormation template.
* Savings strategy: In Dev, you could automation deletion of templates at 5PM And recreated at 8 AM, Safely.

Benefits of AWS CloudFormation (2/2)

* Productivity
* Ability to destroy and re-create an infrastructure on the cloud on the fly.
* Automated generation of Diagram for your templates!
* Declarative programming (no need to figure out ordering and orchestration).
* Separation of concern: Create many stacks for many apps, And many layers. EX:
* VPC stacks
* Networks stacks
* App Stacks
* Don’t re-invent the wheel.
* Leverage existing templated on the web!
* Leverage the documentation.

What this course won’t do?

* This course won’t go over every AWS Services.
* There are 200+ services,700+ Resource types so it’s impossible to cover them all.
* Instead, we’ll go over understanding how to write a CloudFormation template in the perfect way.
* Then you just pick up the documentation for your services and it will be as easy as 1..2..3!

Course Cost:

* AWS CloudFormation is free, but the resources it may create are not.
* Some resources are covered by the AWS Free Tier, and some are not.
* Overall, if you want to experiment after the class, budget around $10.
* Don’t forget to delete your CloudFormation stacks after the lectures!!

Quiz 1:

Question 1:

Using AWS CloudFormation is free, but you are charged for the resources it creates (e.g., EC2 Instances, Elastic Load Balancers, etc.).

And:True

Question 2:

Which AWS service helps you create your AWS Infrastructure resources in the right order you specify?

Ans:AWS Cloud Formation.

**Section -2: Code Download & Tools Setup:**

**Code Download**

Please follow the instructions at [**https://courses.datacumulus.com/downloads/aws-cloudformation-1b5**](https://courses.datacumulus.com/downloads/aws-cloudformation-1b5) to download the code.

**VSCode Setup**

**Tools used in the course**

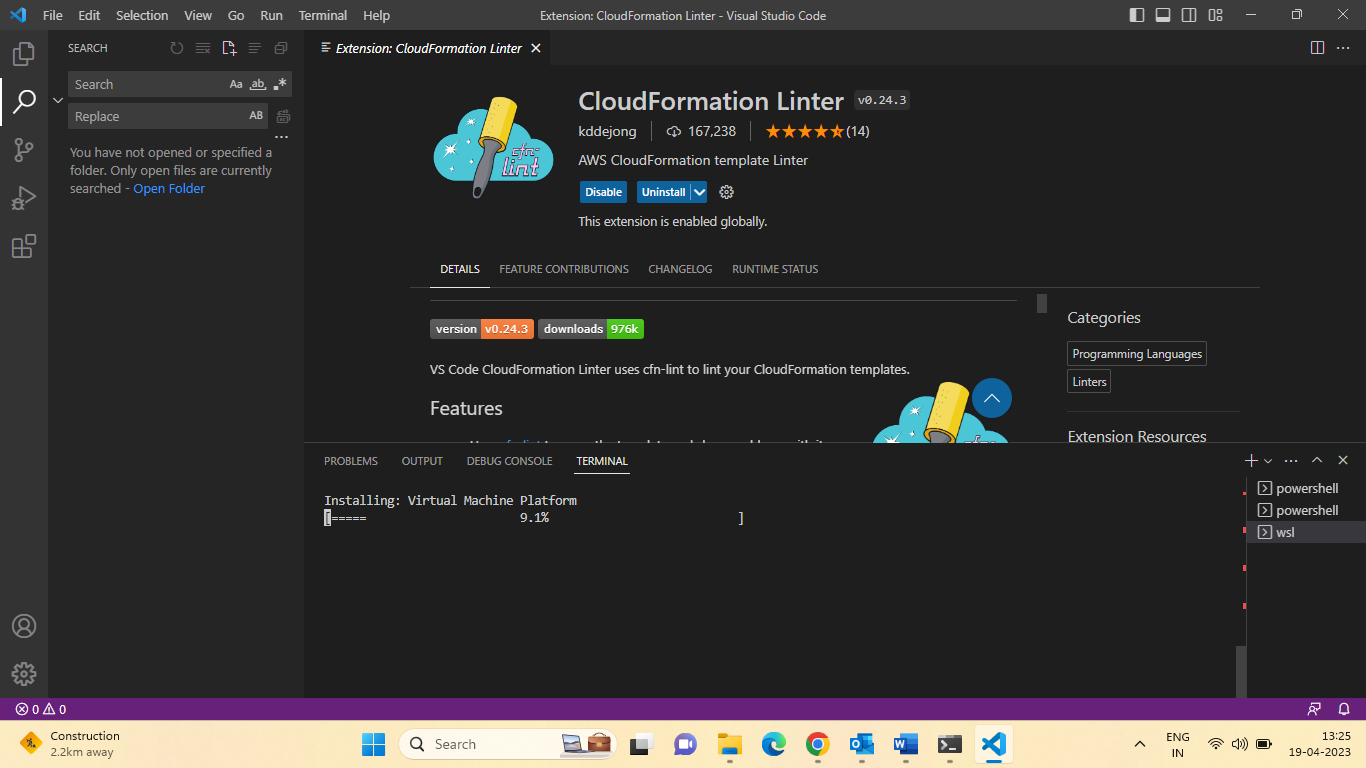
Note: the setup is done in video form in the next lecture

VSCode: <https://code.visualstudio.com/>

With the cfn-lint extension: <https://github.com/aws-cloudformation/cfn-lint-visual-studio-code>

Install cfn-lint here: <https://github.com/aws-cloudformation/cfn-lint>

<https://www.techielass.com/install-cfn-lint-on-windows/>

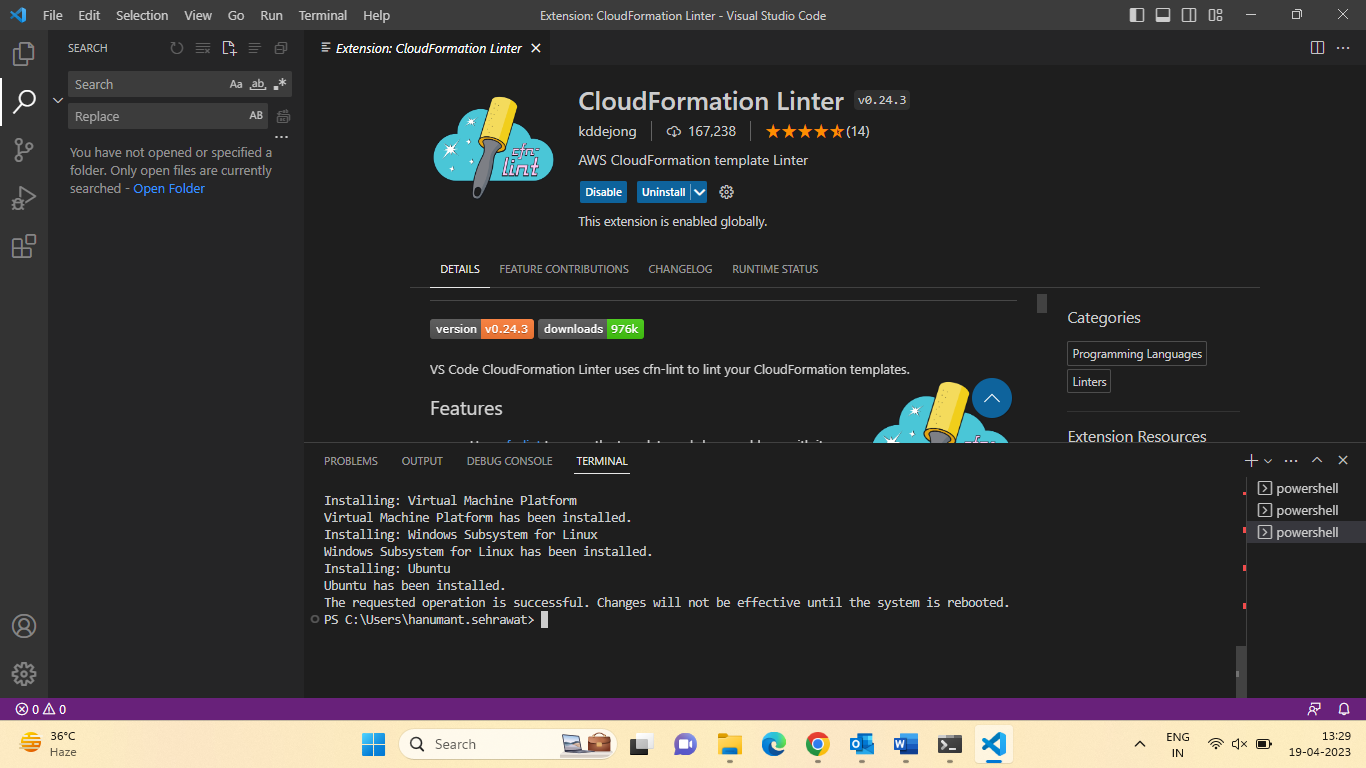
wsl –install 

A screenshot of a computer

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A screenshot of a computer

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Also install python

Let install the CloudFormation extension in visual studio code.

1.CloudFormation Linter

In visual studio code install

1. pip install cfn-lint