# OCI API, SDK & CLI

Prasenjit Sarkar

Oracle Cloud Infrastructure

February 2020

# Safe harbor statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.

# Objectives

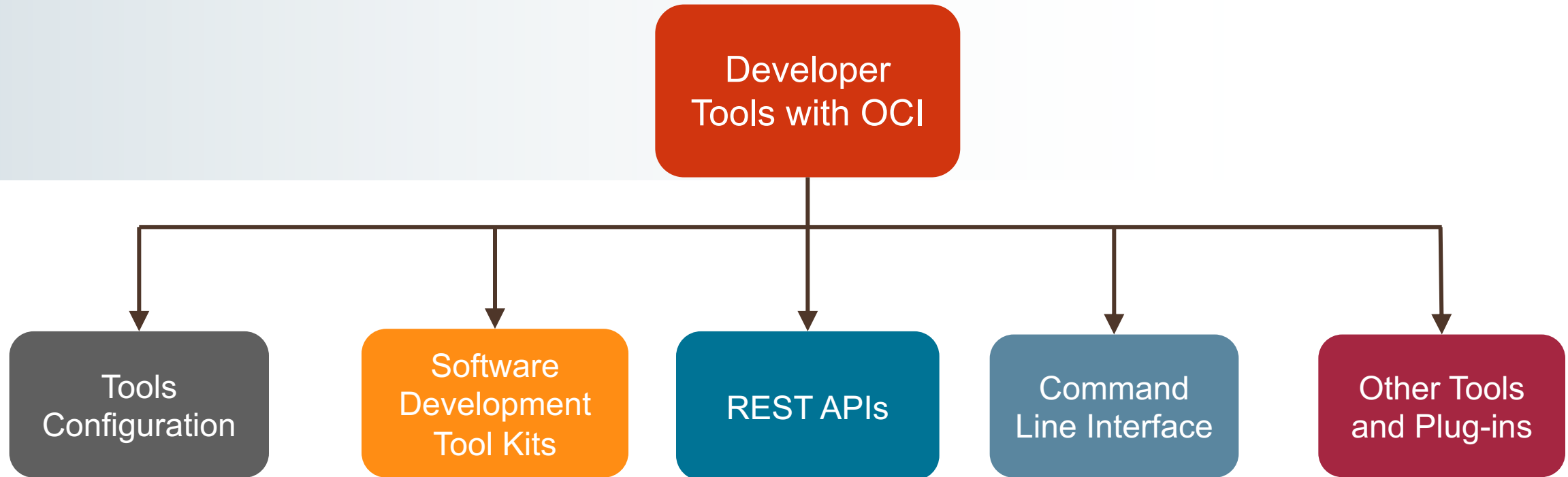After completing this lesson, you should be able to;

- Access Oracle Cloud Infrastructure through different ways
- Use Developer Tools with Oracle Cloud Infrastructure
- Describe SDKs provided by Oracle Cloud Infrastructure

# Different Ways to Access OCI
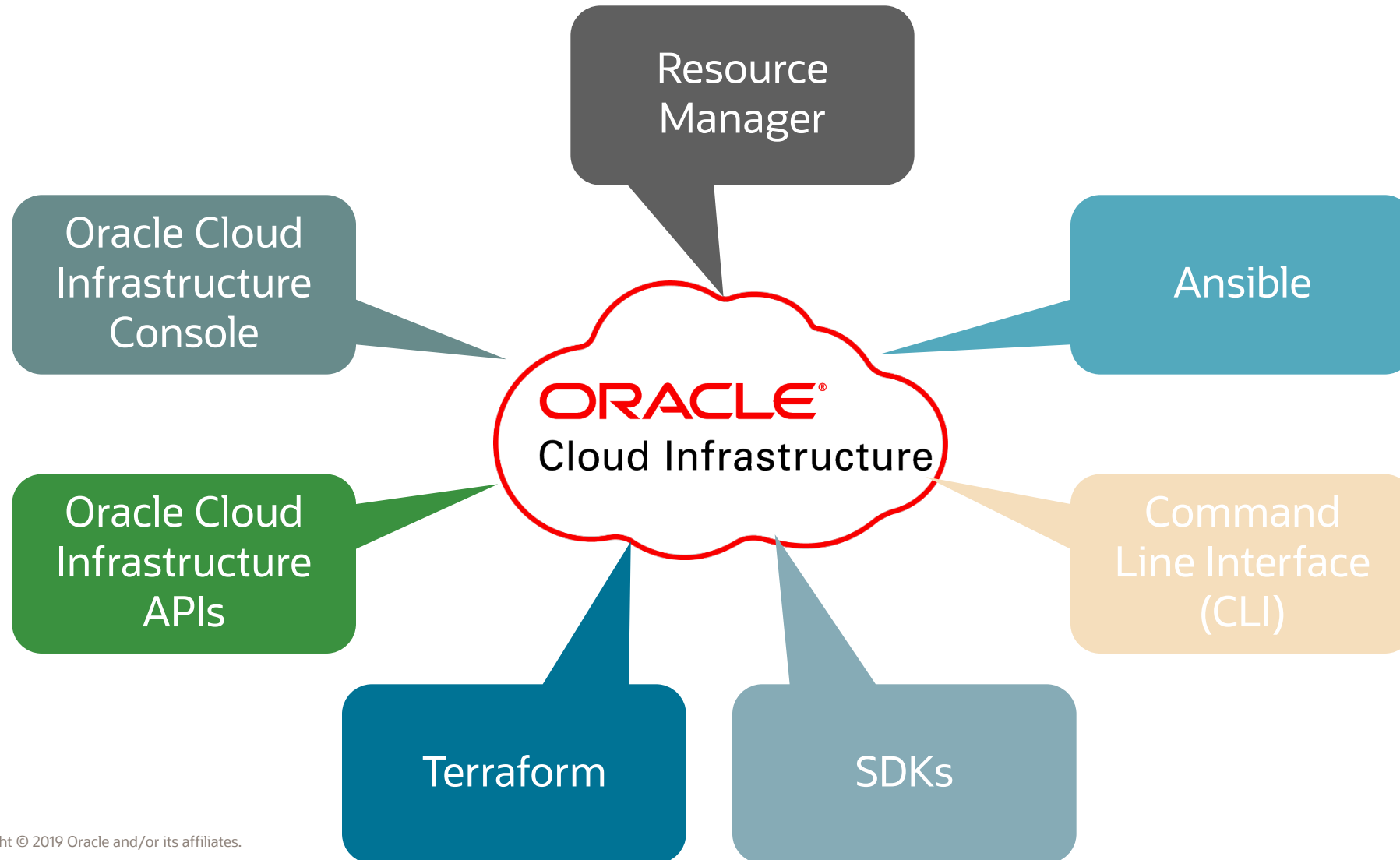
# Developer Tools with OCI

OCI provides kits, tools, and plug-ins to facilitate the development of apps and simplify the management of infrastructure.

```
                    Developer
                  Tools with OCI
```

- Tools Configuration
- Software Development Tool Kits
- REST APIs
- Command Line Interface
- Other Tools and Plug-ins

# Command Line Interface (CLI)

- OCI provides a Command Line Interface (CLI) to facilitate development of custom solutions.

- The CLI is a small footprint tool that can be used on its own or with the Console to complete Oracle Cloud Infrastructure tasks.

# Tools Configuration

List of elements required to Configure the SDKs and other developer tools to integrate with OCI services

- Required Keys and OCIDs: Details on identity and access management

- SDK and CLI Configuration File: Methods for providing configuration information when using the SDKs or CLI

# Software Development Tool Kits (SDKs)

OCI provides several Software Development Kits (SDKs) to facilitate development of custom solutions.

SDK for Java

Python SDK

Ruby SDK

Go SDK
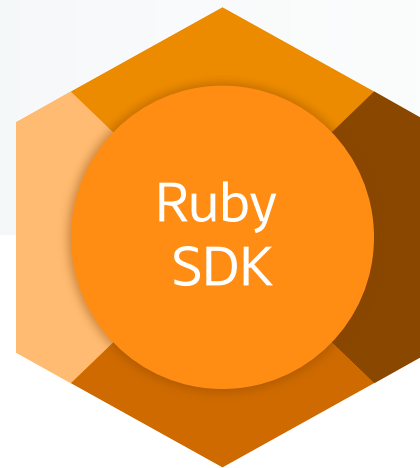
# REST APIs

The OCI APIs are typical REST APIs that use HTTPS requests and responses. It describes basic information about using APIs.

- API Reference and Endpoints

- API Errors

- Asynchronous Work Requests

- Request Signatures

# Other Tools and Plug-Ins for SDKs and CLI

OCI provides additional developer tools for automating processes and facilitating development.

**Toolkit for Eclipse:** It is an open source plug-in for the Eclipse IDE that enables Java developers to code and deploy applications more quickly and efficiently.

**HDFS Connector for Object Storage:** Read and write data with Apache Hadoop application to and from the OCI Object Storage service.

# Supported Services for Java and Go SDK, Python, and Ruby SDK

## Java and Go SDK

- Announcements
- Health Checks
- Quotas
- Object Storage
- Email Delivery
- Search
- Key Management
- Monitoring

## Python & Ruby SDK

- Web Application Acceleration and Security
- Database
- Core Services (Networking, Compute, Block Volume)
- Compute Work Requests
- Load Balancing
- File Storage
- Resource Manager

# Prerequisites for Working with Python SDK

## Python SDK Requirements

- Python version 2.7.5 or 3.5 or latest

- OpenSSL version 1.0.1 or latest

- Uses Cryptography.io library which requires OpenSSL

# Prerequisites for Working with OCI SDK

## OCI SDKs Requirement

- OCI account

- Created User being added to a group with policy that grants the desired permissions

- Key pair used for signing API requests with the public key uploaded to OCI

- Within the root compartment of tenancy a policy statement `ALLOW GROUP DEMO.GROUP to manage all-resources IN COMPARTMENT` must be defined to give access to resources in the tenancy.
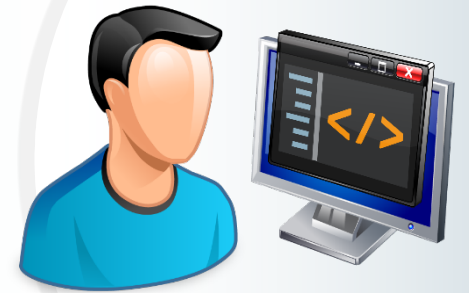
# Installing Oracle Cloud Infrastructure CLI

The command is to run the Installer Script of OCI CLI along with the required packages.

```
bash -c "$(curl -L https://raw.githubusercontent.com/oracle/oci-cli/master/scripts/install/install.sh)"

If you want to accept all the default configuration then run this command
```

curl -L -O https://raw.githubusercontent.com/oracle/oci-cli/master/scripts/install/install.sh
chmod +x install.sh
./install.sh --accept-all-defaults

# Configuring the Oracle Cloud Infrastructure CLI

The following command is to set up Configuration of OCI CLI:

```
oci setup config
```

The command prompts to enter the following inputs during execution:

```
Enter a Location for config:
Enter a user OCID:
Enter a Tenancy OCID:
Enter a Region:
```
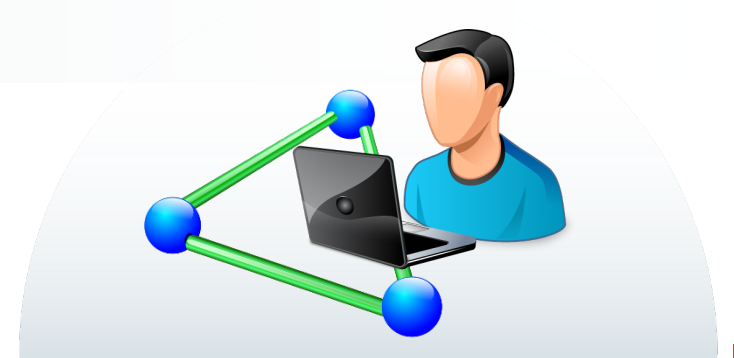
# Working with OCI Services with CLI – Check Connectivity

Syntax

```
oci <service> <type> <action> <options>
```

This command is used to check the connectivity to OCI:

```
Oci os ns get
```

# Downloading and Configuring SDKs for OCI

OCI provides:

- Additional developer tools for automating processes and facilitating development.

- Toolkit for Eclipse

# Downloading and Configuring SDKs for OCI

- SDK stands for Software Development Kit or Devkit.

- SDK enables to write code to manage OCI resources.

- It is a set of software tools and programs used by developers to create applications for specific platforms.

- The SDKs available are:

| Java SDK | Python SDK | Ruby SDK | Go SDK |
|----------|------------|----------|--------|
| GitHub or Maven | GitHub or Python Package Index (PyPi) | GitHub or RubyGems | Download: GitHub |

# Installing the Python SDK for OCI

To install the Python SDK for OCI, we use Python Package Manager (PIP) with the following commands:

```
pip install oci
```

```
pip install oci-*-py2.py3-none-any.whl
```

The `.whl` file is given as a parameter to complete the installation of the OCI Python SDK.

# Configuring the Python SDK for OCI

The default configuration file name and location for OCI config file is in the **.oci/config** directory as shown below:

```
~/.oci/config
```

# Develop Python Application: To Interact with OCI

The following command executes the Python application, which in turn, communicates with OCI and its resources.

```
python UserDetails.py
```

UserDetails.py

```python
import oci

config = oci.config.from_file()

identity = oci.identity.IdentityClient(config)

user=identity.get_user(config["user"]).data

print(user)
```

# Additional Information

For additional information on API, SDK, CLI, please refer to:

https://docs.cloud.oracle.com/en-us/iaas/Content/devtoolshome.htm

**ORACLE**

**Oracle Cloud always free tier**:
oracle.com/cloud/free/

**OCI training and certification**:
cloud.oracle.com/en_US/iaas/training
cloud.oracle.com/en_US/iaas/training/certification
education.oracle.com/oracle-certification-path/pFamily_647

**OCI hands-on labs**:
ocitraining.qloudable.com/provider/oracle

**Oracle learning library videos on YouTube**:
youtube.com/user/OracleLearning