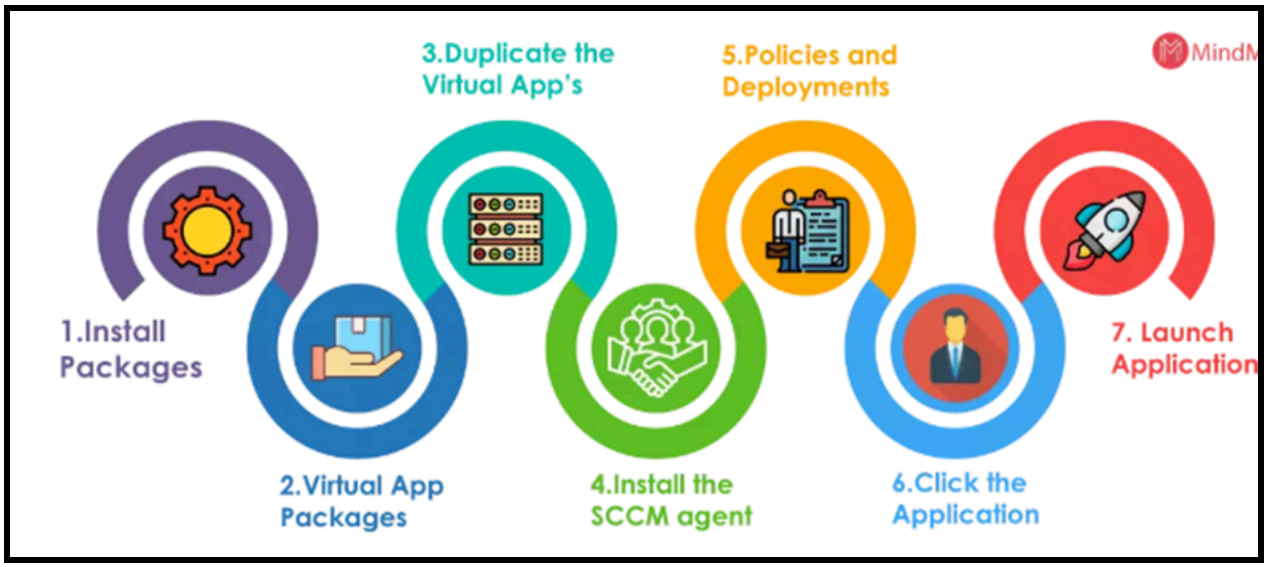
Step by Step Procedure of SCCM and Active Directory Forest

Microsoft System Center Configuration Manager (SCCM) is a Windows product that enables administrators to manage security and deployment of applications. System Center is the suite of management tools from Microsoft. Organizations would rather purchase System Center Configuration Manager than purchasing a component in the System Center for updating or patching their systems.

Steps of how SCCM works:

- **Step 1:** To install the application, **create packages in the SCCM console** which consists of the **command line** and **executed files**.
- **Step 2: Configuration manager admin** creates **virtual application packaging** and replicates it to selected **Distribution Points**. (Distribution points are nothing but file servers which store the packages for a particular region like **APAC(Asia-Pacific)**, **EMEA(Europe, Middle East and Africa)**, **US(United States of America)**).
- **Step 3:** If the user wants to download any application then the user can directly **download the application** from the **distribution points** rather than connecting to the SCCM primary server.
- **Step 4:** Now, install the **SCCM agent** which helps a machine communicate with the SCCM servers.
- **Step 5:** In this step, the SCCM agent keeps on checking for the **new policies** and **deployments**. Using the updates SCCM admin creates **deployment** where an **application is targeted on a bunch of machines**.
- **Step 6:** Once the policy reaches the end machine, the SCCM agent **evaluates the policy** and reaches out to its **particular regional distribution points for downloading the packages**.
- **Step 7:** Once the executed files are **downloaded in a temp folder**, users can **install those packages in the local system**. Now the **file status** is sent back to the **SCCM server** to **update in the database**.

These are the basic steps to explain how SCCM works and a lot more additional steps need to be considered in the background. But the core components used in the software distribution (Application packages, Distribution points, SCCM agents and servers) are the same for any infrastructure.



Active Directory Forest:

An Active Directory forest is the **highest level of organization** within Active Directory. Each forest **shares a single database**, a **single global address list** and a **security boundary**. By default, **a user or administrator in one forest cannot access another forest**.

The first step in **creating a new Active Directory domain forest** is to **install Windows Server**. After doing so, the **Active Directory Domain Services** role and the **DNS Server** role needs to be deployed. Once these roles have been installed, the user can **promote the server** to a **domain controller**. When the option to promote a server to a domain controller has been chosen, Windows launches the **Active Directory Domain Services Configuration Wizard**. This wizard's initial screen provides an option to **create a new forest**. The user can simply choose this option, specify a **root domain name** and follow the remaining prompts.

Advantage:

- It acts as a **centralized mechanism** for **managing and controlling authentication** and **authorization** across the organization.
- **Administrators** can **create user objects** (user accounts) within the Active Directory. These user objects **act as security principals**, meaning that the Active Directory can **authenticate logins**.
- **Administrators** are also able to **create security groups** within the Active Directory. These security groups **act as collections of user objects** and play an important role in **data security**.
- Additionally, **group policy** settings can be applied at various levels of the Active Directory hierarchy to enforce **user account** or **computer configurations**.

Disadvantage:

- It has **security vulnerabilities** such as the **possibility for more exploitation**.
- While using a **multi-forest design** could be an option, it is **not secure by default** because it still **requires setup for permissions** and **authentication for each forest**.
- **Multi-forest designs** also **increase costs**.