Different types of JAVA frameworks

- Based on the level of Application development there are 4 types of
  Java frameworks in Java

  a) ORM Frameworks (Object Relational Mapping Frameworks)
  b) MVC Frameworks (Model View Controller Frameworks)
  c) Web Services Frameworks (Distributed App Frameworks)
  d) JEE Frameworks (Application Frameworks)

c) JEE Frameworks (Application Frameworks)

- These frameworks provide classes/interface on multiple MVC/JEE Technologies and multiple JAVA frameworks
  to develop the process different Application development

  eg: spring uses Aware interface & (process classes)
      (container) <---> ioc interface/ioc (provide beans)

      java technologies: JDBC, JSP, JSF, Servlet
      JEE technologies: JDBC, servlet, jsp, web service and etc.,

- so spring/spring boot frameworks provide abstraction on multiple java/jee technologies
      over multiple java frameworks
- so using spring/spring boot frameworks we can easily simplify the process of coding/class types, web application,
      distributed Application etc.,

These are two types of frameworks in JAVA based on the kind/mode of programming we do

      a) Invasive frameworks
      b) Non Invasive Frameworks

a) Invasive Frameworks   (Frameworks
                               with Tight Coupling)

- While working with these frameworks, the classes we develop as part of
  Project development should implement/extend the framework API classes/interfaces

- Here, The App/Project Development process is tight coupled with framework APIs

- Invasive Framework says, programmer wants to reuse me in Project development
  and always be usable for reusability

      eg: struts

b) Non Invasive Frameworks   (Frameworks with Loose Coupling)

      While working with these frameworks, classes of the App
      development need not to implement/extend from framework
      API classes/interfaces

      - These frameworks based coding/App development is loosely coupled
      development with frameworks API

      - These frameworks say, very important came to me, use me in Project Development
      if you are not comfortable with my framework you can move your code to another framework

      eg: JSF, hibernate, spring, spring boot and etc.,

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      API (Application Programming Interface)

      - It is base for the Programmers to develop the software apps using programming
      languages/technologies and frameworks

      - In java, API means set of packages having classes, interfaces, enums and annotations
      - In c++, API means set of header files having classes & functions
      - In C, API means set of header files having functions

      3 types of APIs
      _____
      a) pre-defined APIs
            Ready made API given language, technologies and frameworks
            eg: libraries (jms.jar, javax.sql.*, servlet-api (tomcat server), tomcat server etc.)

      b) user defined APIs
            - created by the programmer manually
            - user-defined packages & user-defined classes

      c) Third Party APIs
            - APIs given by third party companies /vendor
            eg: tomcat api, printing API, payment API and etc.

      while developing projects/apps in order using APIs in the following order
            a) predefined apis b) user defined apis c) Third party apis

c) Software Vendor Company

            - It is the company who created and release the software to the market
            eg: Microsoft, oracle corp, amazon, google and etc.,

b) Software Services Company

Different types of JAVA frameworks

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=> Based on the kind of Apps we develop there are 4 types of Java Frameworks in java

a) ORM frameworks (Object Relational Mapping Frameworks) b) MVC Frameworks (Model View Controller Frameworks) c) Web Services Frameworks/Distributed App frameworks d) JEE Frameworks /Application Frameworks

d) JEE Frameworks /Application Frameworks

=>These frameworks provide abstraction on multiple JAVA,JEE Technologies and multiple JAVA frameworks to simplify the process different Apps development

eg: spring -----> from interface21 (pivotal team)

Spring boot -----> from interface21 (pivotal team)

JAVA Technologies :: JDBC, JNDI, RMI and etc..

JEE Technologies :: servlet,jsp, ejb, jta and etc..

=> spring/spring boot frameworks provide abstraction on multiple java,jee technologies

and multiple java frameworks

=> Using Spring/Spring boot frameworks we can simplify the process of standalone apps, Web applications, Distributed Apps and etc..

There are two types of frameworks in JAVA based on the kind/mode of programming we do

a) Invasive Frameworks

b) Non Invasive Frameworks

a) Invasive Frameworks

(Frameworks with Tight Coupling)

=> While working with these frameworks, the classes we develop as part of Projects development should implement /extend the framework API classes/interfaces

=> Here the App/Project Development process is tight coupled with framework APIs

=> Invasive Framework says, programmer come to me,use me in Project development and keep that code for ever with me

eg:: Struts

b) Non Invasive Frameworks (Frameworks with Loose Coupling)

While working with these frameworks, classes of the App

development need not to implement /extend from framework

API classes/interfaces

=>These Frameworks based Coding /App development is loosely coupled development with Frameworks API

=>These frameworks say, hey programmer come to me,use me in Projects Development

if ur not not comfortable with my framework u can move ur code to another frameworks

eg:: JSF, hibernate, spring, spring boot and etc..

API (Application Programming Interface)

====

=> It is base for the Programmers to develop the software apps using programming languages,technologies and frameworks

=> In java, API means set of packages having classes, interfaces, enums and annotations

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3 types of APIs

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a)pre-defined APIs

Ready made APIs given language, technology and frameworks

eg:: jdbc api (java.sql, javax.sql), servlet api (Jakarta.servlet, Jakarta.servlet.http)

b)user-defined APIs

=>create by the programmers manually

eg: user-defined packages with user-defined classes

c) Third party APIs

=> APIs given by Third party companies / Vendor

eg: Lombok api, printing API, java zoom API and etc...

while developing projects/apps prefer using APIs in the following order a) pre-defined apis b) user-defined apis c) third party apis

Can explain the following terminologies?

a) Software Vendor Company b)Software Services Company c) Software Products Company d) Client Organization

a) Software Vendor Company

=> It is the company who creates and releases the softwares to the market eg:: Microsoft, oracle corp, amazon, google and etc..

b)Software Services Company

=> It is the company who gathers the requirements from Client organizations

and develops the software projects (services projects) for them

eg: Infosys, wipro, CTS, TCS and etc..

=> The s/w services projects will be designed and developed exclusively for certain client organization

c) Software Products Company

=> This company designs, develops Project/Project by understand certain gap in market by having self funding.. Once the project/product is ready they keep that product/project open for multiple client organization to purchase

eg:: Druva soft (Tally s/w), Uber

rapido,

Microsoft (Ms-office), Sum Total

d) Client Organization

=> The organization whose requirements are gathered and developed the Projects by software services

companies

eg:: AirBus, SBI, TG State, Cntral Govt, Indian Passport

Conclusion:: Software services company or Software product company uses the

Vendor

softwares given by Software companies to develop the projects/products to release them to Client organizations