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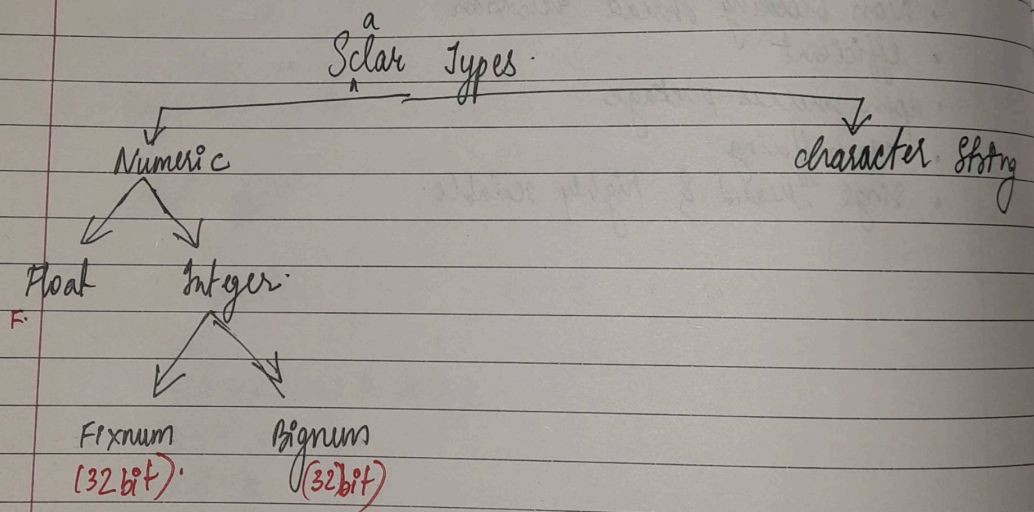
Unit 6 - Ruby & Rails.

* **Ruby -**
  - scripting language designed by Yukihiro Matsumoto (Matz).
  - executes on all platforms
  - open source & freely available on net
  - pure object oriented programming language.
  - similar to smalltalk, Python, Perl
  - pattern matching feature (like Perl).
  - connected to dB → MySQL, DB2 & Oracle.



* variables in Ruby → Case Sensitive
* contain letters, underscore & digits.
* variable → declard in lowercase.

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Methods

→ similar to functions
→ block of statements repeated many → program method.
→ defined outside the class.
→ fundamentals
  • method header.
    ↳ reserved word def
    ↳ begin with lowercase.

Access control.
→ Public
  ↓
  default access method
  ↓
  can be called by any method or code

Private
  ↓
  private methods of any object can't be accessed by another one object

Protected.
  ↓
  only objects of defining class & its subclass may call method.

Inheritance.
• two created classes are created one base class & another derived class
• object of derived class one can access methods of itself & base class both.

Pattern Matching
• operator → =~
• pattern can be placed within /
• split method → seperate out words → Interactive Ruby Interpreter.

Substitutions.
• sub → searches first pattern & replace it.
• gsub → similar to sub it replaces all occurences of matched substring.

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Rails -

- development framework web-based applications.
- Ruby on Rails or RoR.
- developed by David Heinemeier Hannson in early 2005 released in July 2004.
- developed under 10x times with Rails → typical Java framework

- Rails in based on MVC architecture
  i.e. Model View Controller.

- Model → data & constrains on data
- View → prepares & presents result or output.
- Controller → controls the application.
- ORM (Object-Relational Mapping) approach.
- downloading → Instant Rails or Ruby Stack.

- Ruby code can be embedded with template
  ↳ <%% and %%> markers.
- Result inserted
  ↳ <%%= and %%> markers

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Rails with AJAX -

- Asynchronous Javascript & XML.
- client side changes without reloading page.
- update just parts of itself
- update information on page.

EJB -

→ Enterprise Java Beans.
→ contains business logic & business data.
→ EJB components lie in EJB container.
→ EJB component is an EJB class.
→ EJB developer & class implements business logic.

Java Beans components	EJB components
• visible or invisible to users.	• are invisible to uses.
• Run locally	• are distributed components & always exist on servers.
• Beans → Activex Control	• can't be used Activex Control.
• described with properties, BeanInfo classes & customizers.	• described using Deployment Descriptor.

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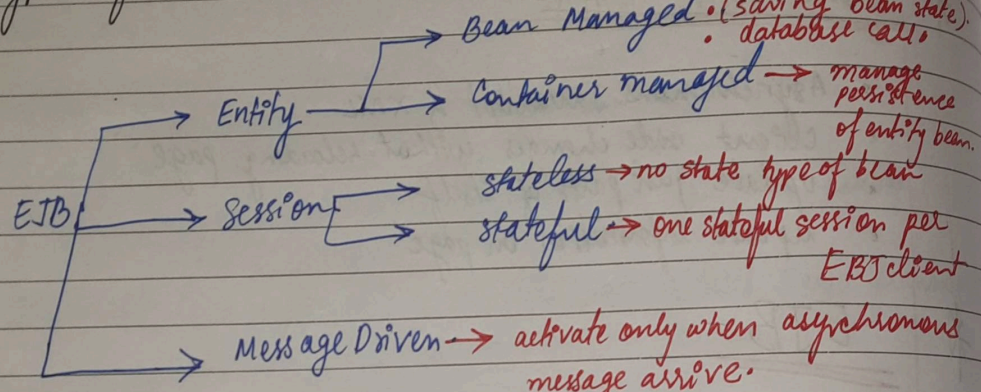
Types of EJB -



Entity	Session.
• Persistent	• Transient
• Records in database	• activites for database
• survive on server crash.	• can't survive on crash
• client - independant	• client - ~~independant~~ specific entities.

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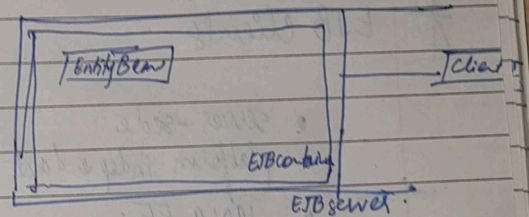
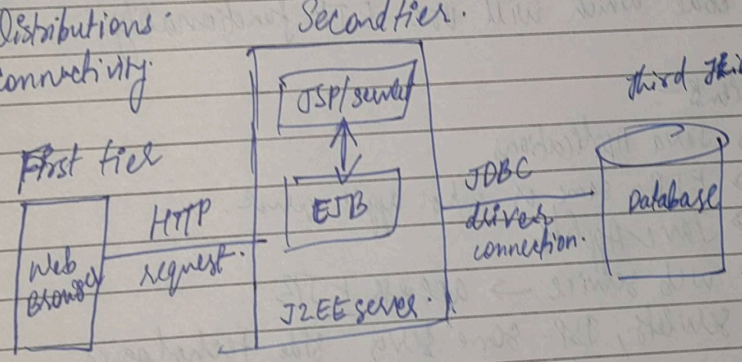
Benefits of EJB -

→ B2B e-commerce applications.
→ used in web-centric
→ large no. of clients involved.
→ customized as per deployment
→ such as transaction management & security.
→ portable access EJB servers
→ included in assembled application without source code.

Architecture of EJB

components.
↳ Security
↳ Transactions
↳ Messaging
↳ Persistence
↳ Distributions.
↳ Connectivity.





EBJ containes & services -

- Persistence
- Declarative Transactions
- Security
- Error Handling
- Componet framework for Business logic
- Scalability
- Portability
- Manageability

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* EJB Interfaces -

- Remote Interface
  - used by client that may be running different machine than bean.
  - Remote Method Interface (RMI) access to bean can be made.
- Local Interface
  - used by clients which is running on same machine of bean existing.

* EJB clients

- server-side
- platform independant Java Appln Programming Interface.
- Java EE.
- code which will use EJB functionality.

some clients -

- Java Applications
- EJBs same or another appln server
- Java Applets
- web service → access EJB
- servlets, JSP - some server side technologies.