



FEU INSTITUTE OF TECHNOLOGY  
COLLEGE OF ENGINEERING • COLLEGE OF COMPUTER STUDIES

# ITSE333A ABAP

## Lesson 9: Web Dynpro

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# Agenda

1. Objectives of Web Dynpro
2. Web Dynpro and MVC
3. Web Dynpro Component
4. Views
5. Controllers
6. Window
7. Exercise: Create a flight data application



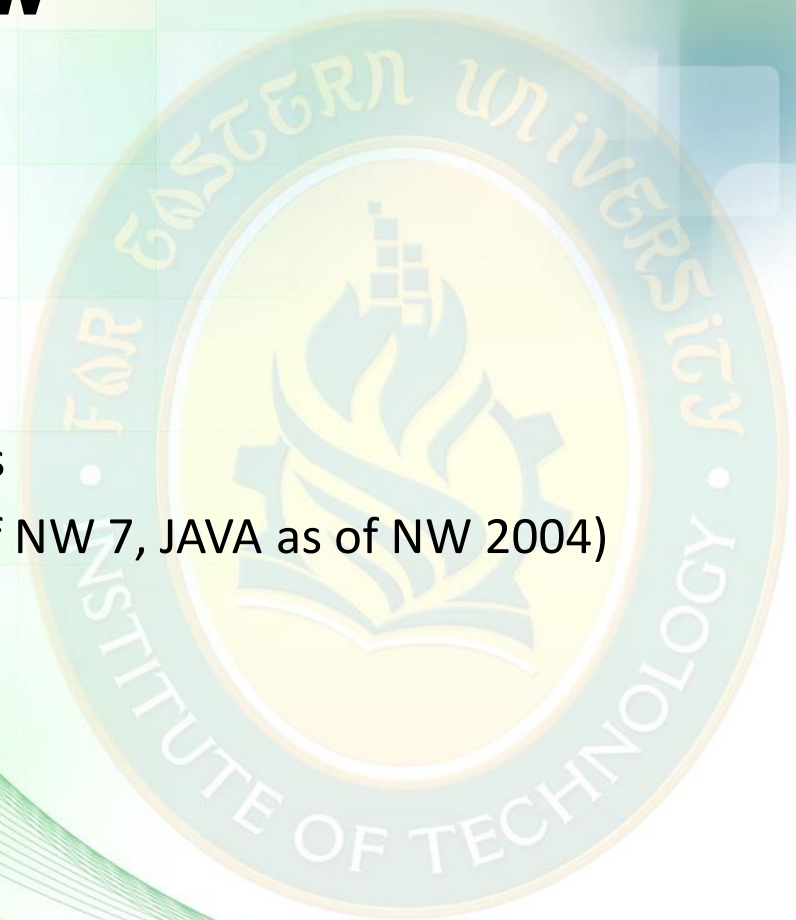




# Overview

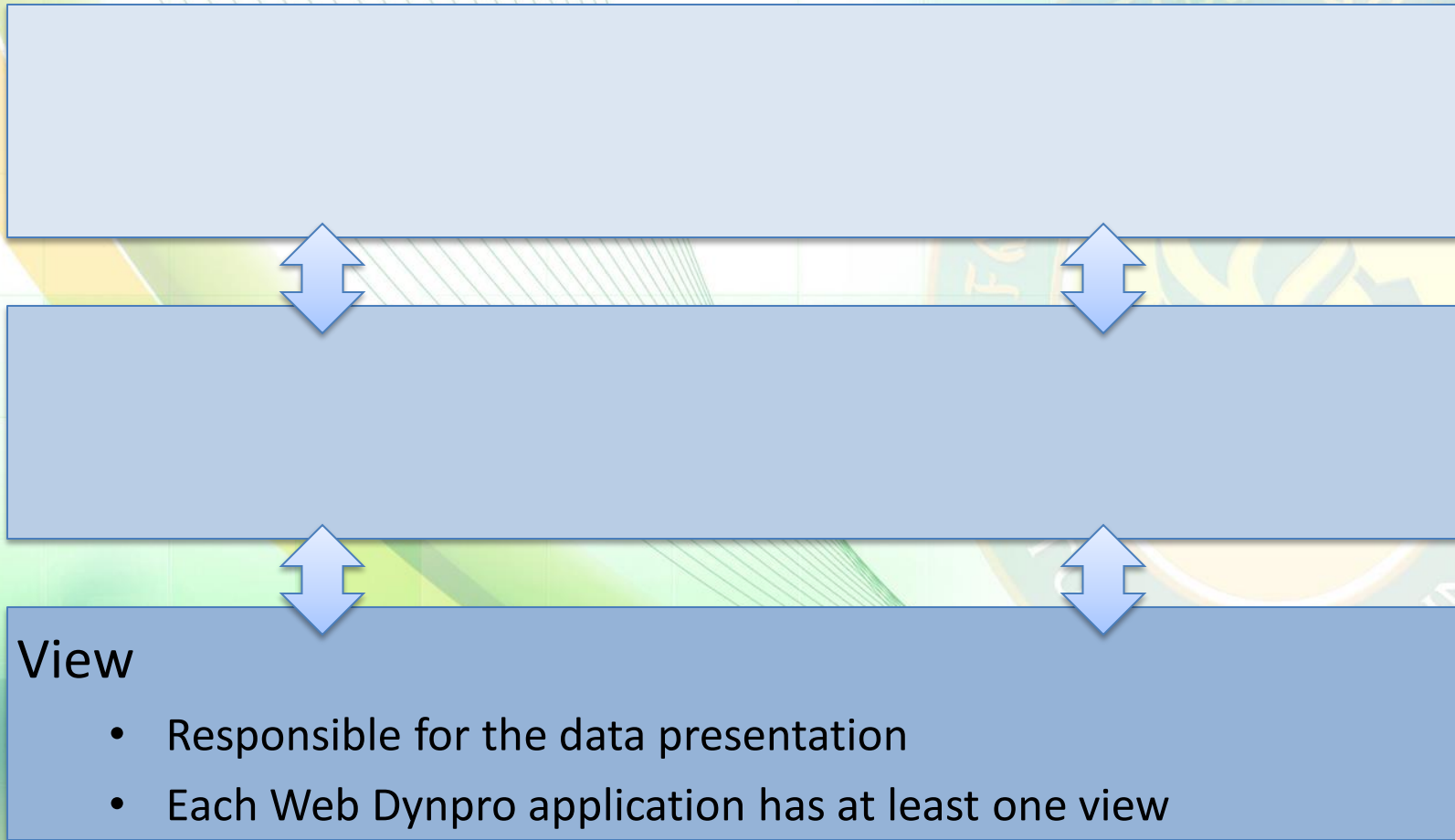
## Objectives of Web Dynpros:

- Model based UI development
- Future proof UI declaration
- Central implementation of UI standards
- Support of major platforms (ABAP as of NW 7, JAVA as of NW 2004)





# MVC architecture

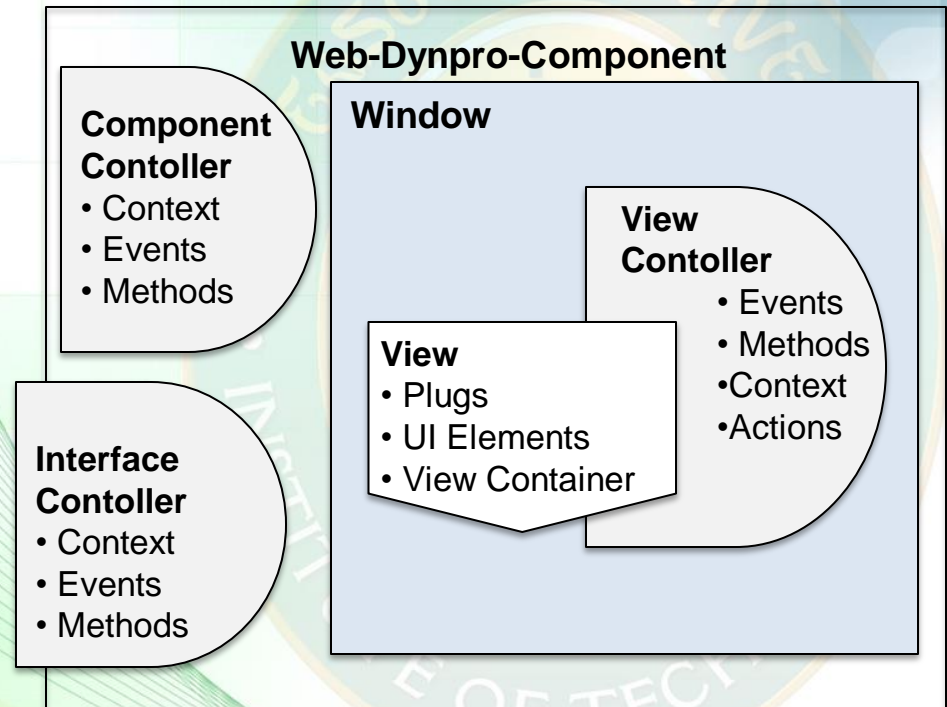






# Web Dynpro Component

- **Window**
  - One or more views
  - Navigation links
- **View**
  - UI elements
  - Plugs enable navigation between views
- **View Controller**
  - Processing user input
  - Access context data
- **Component Controller**
  - Visible for all component controllers
- **Interface Controller**
  - Visible for all component controllers
  - Also visible outside the component



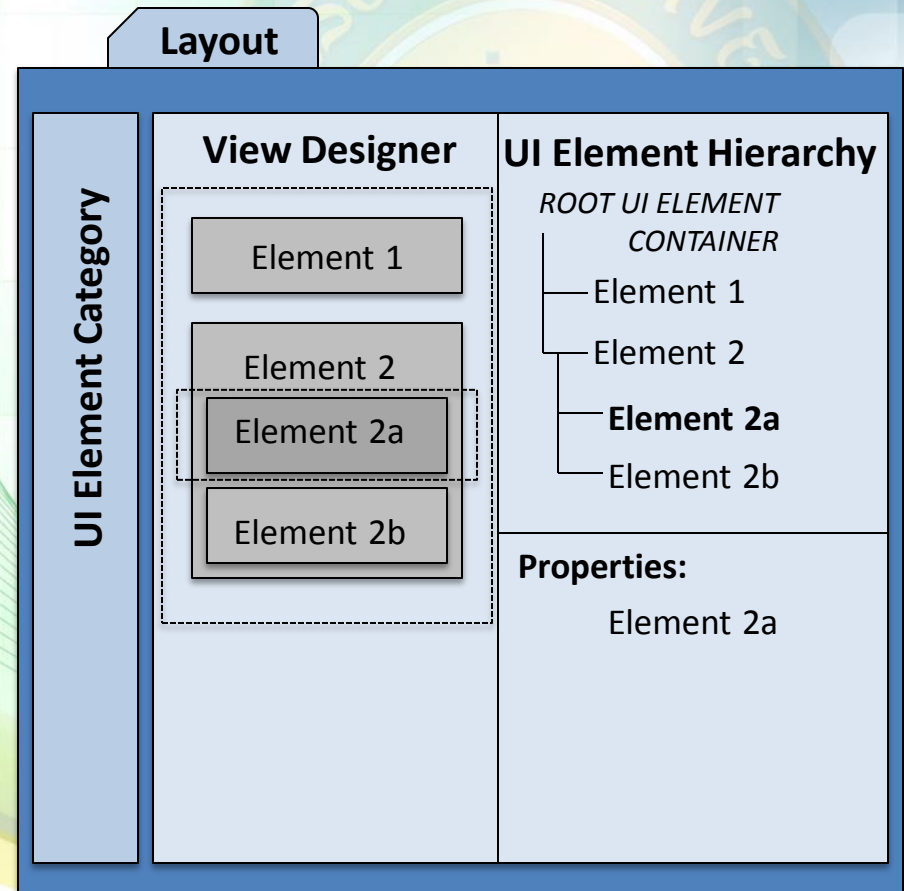
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# Web Dynpro View

- Smallest visible unit of a Web Dynpro application
- Include different UI elements, like tables, textfields, or input fields
- View Designer enables drag & drop of UI elements
- UI Element Hierarchy determines order and nesting of UI elements
- UI Element properties and actions are listed in the properties table



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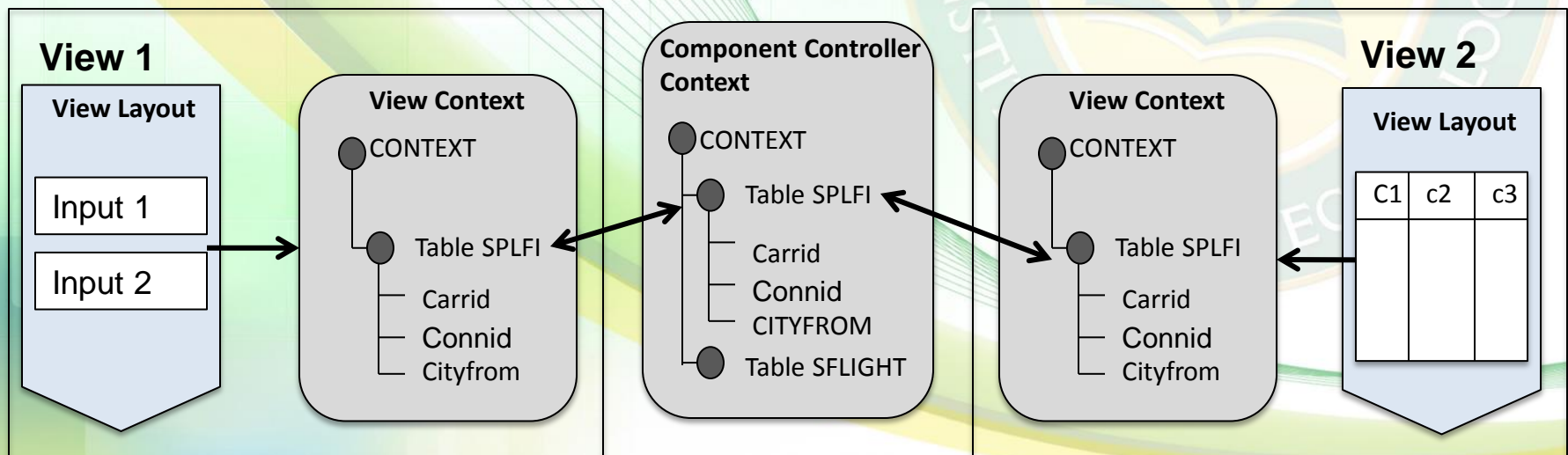
[http://help.sap.com/saphelp\\_nw70/helpdata/en/7c/3545415ea6f523e10000000a155106/frameset.htm](http://help.sap.com/saphelp_nw70/helpdata/en/7c/3545415ea6f523e10000000a155106/frameset.htm)





# View Context and Data Binding

- View context structures and stores application data of a view
- Hierarchical data structure, using CONTEXT as root node
- Context attributes include name and data type of attribute
- UI properties are linked to context elements by data binding
- Data binding of a UI element property is set up in the view layout
- Data transfer between views is realized by the global context





# View Controller - Event Handler

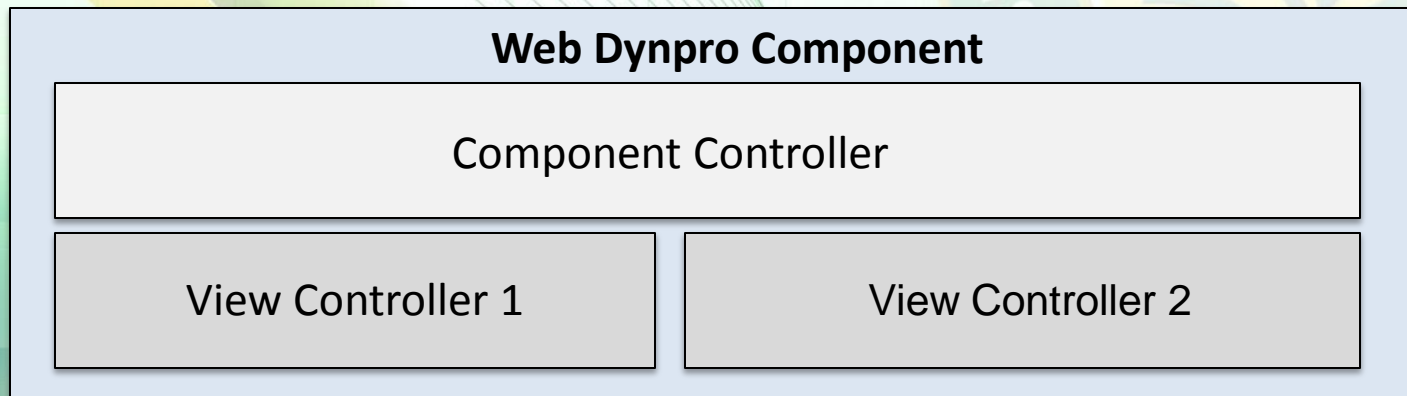
- UI elements (e.g. Button) can contain actions
- Actions are triggered by user activities (e.g. click on Button)
- Actions are processed by the event handler of the view controller
- Each action is linked to exactly one event handler method
- Event handler methods have the prefix ONACTION followed by the action name defined within an UI element





# Component Controller

- Each Web Dynpro component contains exactly one component controller
- Contains context, events, and methods
- Visible for all views of a component
- Context mapping = Link between view context node and component controller context node





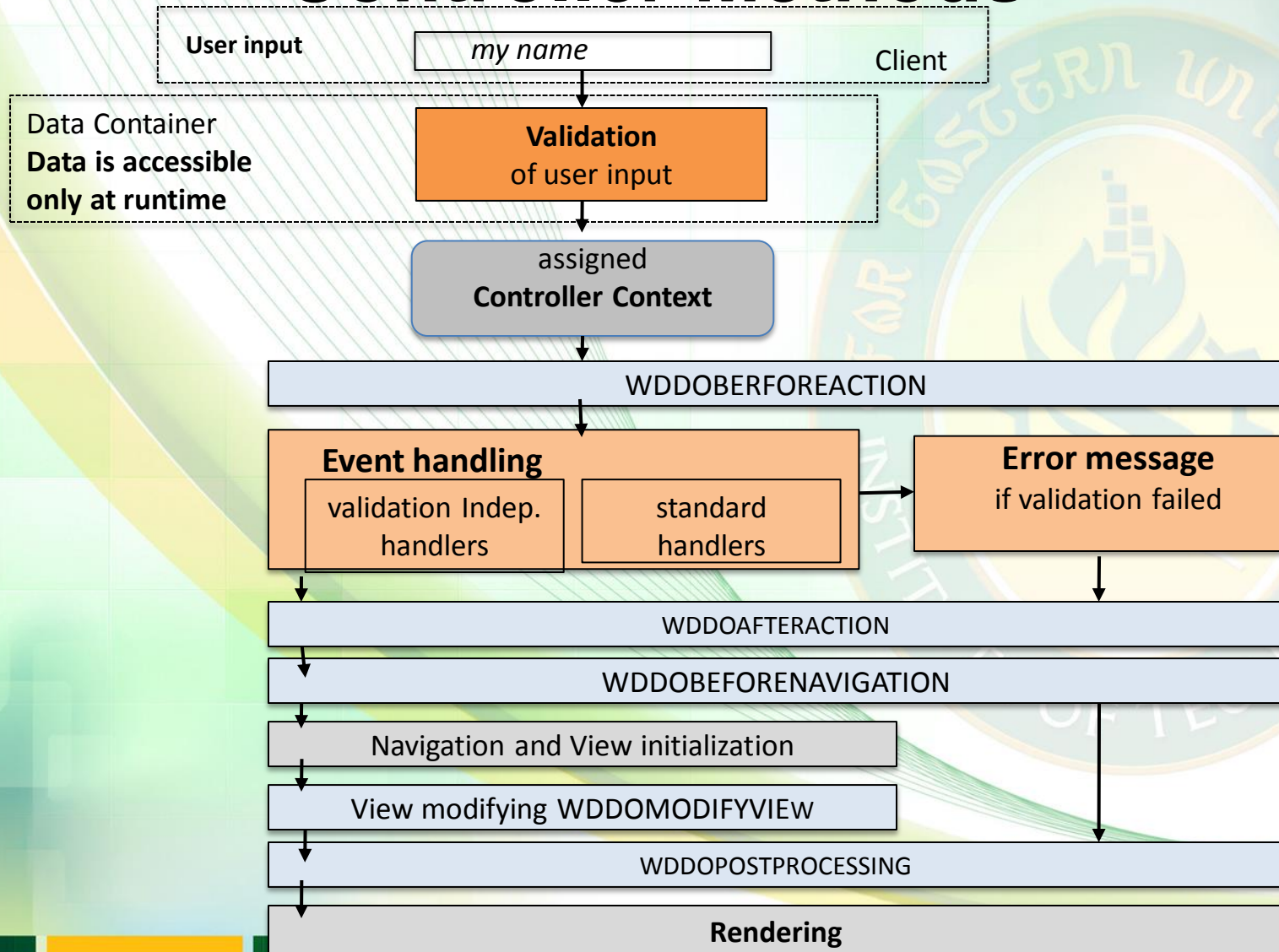
# Controller Methods

| Method               | Description   | Availability         |
|----------------------|---|----------------------|
| WDDOEXIT             | Cleanup method of the controller  | All controllers      |
| WDDOINIT             | Initialization method of the controller, runs the first time the controller is called | All controllers      |
| WDDOBEFOREACTION     | Implement own validations before an action is triggered                               | View controller      |
| WDDOAFTERACTION      | Called for all visible views at the time an action is executed                        | View controller      |
| WDDOBEFORENAVIGATION | Error handling before the navigation through the application                          | Component controller |
| WDDOPOSTPROCESSING   | Handling of errors that occurred during the context validation                        | Component controller |
| WDDOMODIFYVIEW       | Method for modifying the view before rendering  | View controller      |





# Controller Methods





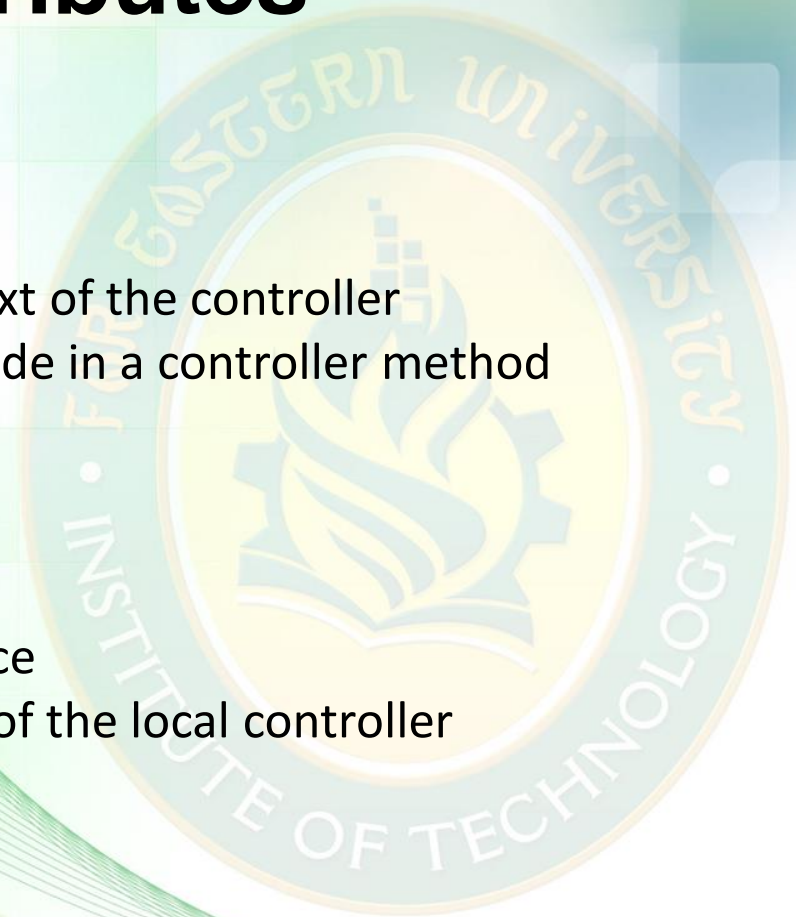
# Controller Attributes

## WD\_CONTEXT

- Reference to the root node of the context of the controller
- Used to edit the content of a context node in a controller method

## WD\_THIS

- Reference to the local controller interface
- Used to access methods and attributes of the local controller interfaces

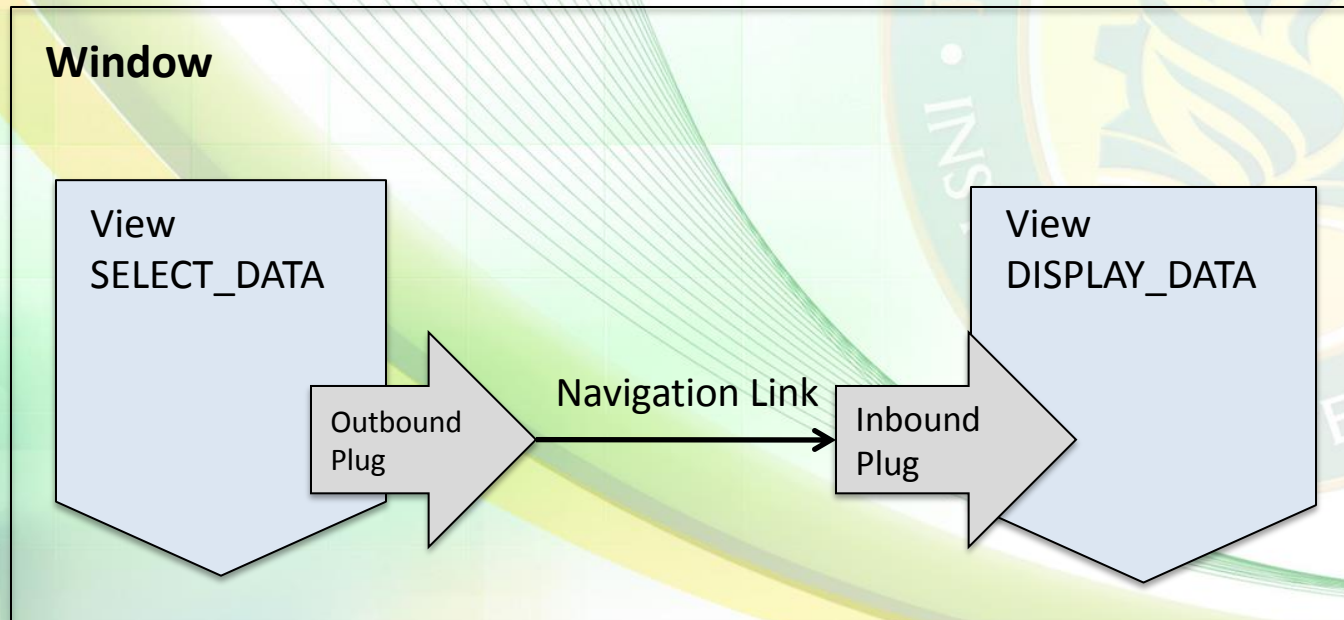






# Web Dynpro Window

- Web Dynpro component includes at least one window
- Navigation between views can be set up in the window
- To set up navigation between two views, you must create an **inbound plug** for one view and an **outbound plug** for the other view.

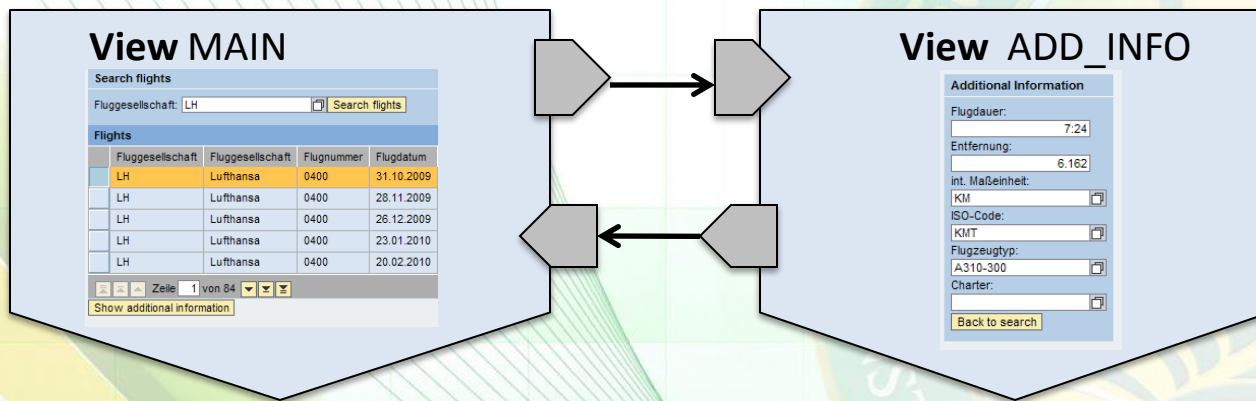




# Exercise: Flight data application

## Web Dynpro Component

### Window



## Component Controller

### Context

- BAPI\_FLIGHT\_GETLIST
  - IMPORTING
    - Airline
  - CHANGING
    - Flight\_List
    - Additional\_Info

### Controller Methods

- EXECUTE\_BAPI\_FLIGHT\_GETLIST
- GET\_ADD\_INFO (Supply Function)