

Fundamentals of PSCAD and General Applications

The Professional's Power Systems Transient Simulator



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Chambers

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Course Benefits

PSCAD X4 introduces the new era of toolsets for the simulation of electric power systems, distribution systems and power electronic systems. This course is designed to familiarize users with the general operation of PSCAD Version X4. With numerous hands-on examples, users will be able to develop proficiency with PSCAD X4 and its applications. While this course is aimed at new and novice users, these 2 days of the course can be quite informative for most PSCAD users.

Modern power, distribution and electronic systems are becoming increasingly complex. Traditional single frequency based study and design software is unable to deliver the precision needed to confidently deliver the best engineering solution. This course will help increase your engineering skills in this rapidly developing and competitive world.

Course Outline: Two Days

9:00 AM – 5:00 PM (all days)

1. PSCAD Student edition installation
2. Introduction to PSCAD
3. Project Tree and Message Tree
4. Master Library
5. On-line Help System
6. Loading and Running a Case
7. Building a New Case: Hands-on Tutorial
8. Measuring and Plotting Voltage, Current, etc.
9. Use of Sliders, Switches, Buttons and Dials
10. Data Arrays
11. Advanced plot features
12. Fast Fourier Analysis using FFT block
13. Component Workshop: Creating graphics and connections, writing dynamics scripts, writing FORTRAN subroutines, C and MATLAB interface.
14. Hierarchical Modeling: Page Module, X Nodes, Wired/Wireless Exports and Imports, Global Constants
15. Custom Library: Components, .obj, .lib and .f files
16. Documentation: Sticky notes, Annotations, File references
17. Reporting and Printing: Features and Strategies

18. Batch Processing: Multiple Run Component
19. COMTRADE file generation for protection studies
20. Source Representation
21. Transformers
22. Transmission Lines and Cables
23. Electric Machines: Synchronous, Induction and DC
24. Controls: Overview of the controls library
25. Advance Features: Discussion - Interpolation: How and when to use it.
 - Chatter (Numerical Oscillation): Detection and Removal
 - Optimal Ordering: Advantages
26. Other Transient Simulation Issues
27. Demonstrations of Advanced Examples: HVDC, SVC, UPFC, SSR, Wind Energy Systems, Fuel Cell Systems, etc. Brief demonstration and discussions only. There is no time for workshops on these topics.

Computer Requirements

Please bring your own laptop for the hands-on workshop. The latest version of PSCAD Student Edition will be installed on your computer. We will also install a PSCAD Professional Edition Trial.

Recommended minimum system requirements:

- Microsoft Windows 95, 98, 2000, Me, NT, XP, Vista, Windows 7
- Pentium, 256 MB RAM, 100 MB Disc Space, CD ROM Drive, 1024x768 Screen
- TCP/IP protocol.

Course fee:

Educational User: Rs. 5,000 + Service Tax

Commercial User: Rs. 10,000 + Service Tax

We will provide tutorial notes with tutorial examples. The participants are required to bring their own laptop. Lunches are provided on site. Hotel accommodations and local travel are the responsibility of the participant.

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Enrollment

(Please fill out a separate form for each participant and fax, email or mail it to Nayak Power Systems)

Name	
Title	
Company	
Mailing Address	
Phone	
Fax	
Email	

Payment:

- A minimum enrolment is required. Students will be notified two weeks prior to commencement if the course is cancelled.
- All prices are in Rupees
- All prices do not include any applicable taxes - Terms of payment: net 30 days from date of invoice
- Acceptable forms of payment are: Bank Draft, Money Order, Wire Transfer, Check.
- NO ONSITE REGISTRATION!