# YPP

## YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

## Get International Jobs

### Who can do?

- Anybody can join this program who have basic knowledge of computers.
- People who want to change their career and interested to move further in the field of Information Technology.
- IT People who are looking the specialized training program of information Technology.
- Also Feasible for non-IT people who wants to come and work in Information Technology.

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**Invest in People the only Asset that Appreciates**

**Program is offered by**

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# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

There are number of students who are trying to establish their career in the field of Information Technology & Cyber Security.  Unfortunately they cannot be able to have a right guidelines and directions to establish their career and get appropriate job. The courses or curriculums that have been running usually in the schools, colleges and universities are obsolete and out of market. So industry is not accepting them after any sort of qualification when they completed their studies so far. As far as concerned respect to emerging technologies, which is bundling with industrial revolutions 4 and 5 their systemic methodologies are now entirely changed. They are working with most precise, effective, and robust result oriented techniques and methodologies. Therefore, to survive in the local or international market they need to understand the technology at all level and learn that how to deliver projects and its concerned work.

To finding the gaps on this issue, we can sorry to say that; right now it is a huge gap between the industry & Academia, and now this gap is so much broader or wider, and cannot be filled at this stage, because it takes too much time to upgrade and requires involvement of various stakeholders from public and private sector to redefine a new curriculum, where also need updated faculties who can deliver, which is impossible with recent scenarios.

So there is only one thing to fill this gap that we can enable our students who can be able to perform and knowing about recent and emerging technologies & methodologies.  So according to aforementioned problem Young Professional Program - IT & Cyber Security Leadership YPP has been designed, which develops the necessary skills to perform in the recent environment.

The research and gap analysis is done by Dr. Muhammed Shaheer Waqar (PhD, MS, MBA, MSc), who is also educationist as well as the consultant in the field of IT and Management and performing his duties for last 22 years.   This YPP is designed for all who are interested in the IT with have basic or minimal knowledge of Computers and its technology.  This program is also feasible for those who want to change their field and would like to work in the field of IT. So we can say that every person from any level can participate this program and get a good & appropriate job in the Global market

YPP-IT has 16 major subjects, where each subject differs in credit-hours. The content and courses shall be changed according to needs and requirement of industry by time to time.  But it is ensured that these courses will enhance the skills, knowledge of the candidates and help out to boost their career.

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# Program Benefits to:

## INDIVIDUALS

- Who are studying and seeking the skills with respect to Information Technology and its related technology.

## UNDER MATRICULATED, MATRICULATED, INTERMEDIATE

- Learn and develop IT Skills at any level of academics

## UNIVERSITY GRADUATES OR LAST YEAR CANDIDATES

- Final year students from any university can also join this YPP program

## PASSED CANDIDATE (GRADUATION)

- People who have completed their graduation, but cannot get appropriate job, so they may also join this program to enhance their skills and accredited certification.

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# Table of Content

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

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## Inauguration

The YOUNG PROFESSIONAL PROGRAM - IT & CYBER SECURITY LEADERSHIP will be inaugurated by a senior member of 3D-EDUCATORS.

## Program Structure

| | |
|---|---|
| Total Courses | 16 |
| One Credit Hour | 10 Learning Hours |
| Total Credits Required to complete the YPP | 25.2 Credit Hours |
| Per Course Certification | Possible |
| Total Hours | 252 Hours |
| Total Duration | One Year |
| Required Courses to Get Diploma | 12 |

## ENROLLMENT

Onetime enrollment is required to start the professional diploma of Young Professional Program IT Leadership, once candidate completes 12 courses then S/he is eligible for Diploma from Concerned Body or 3D EDUCATORS. Other courses are optional with accredited certificates.

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## FURTHER BENEFITS OF THE PROGRAM

- Organization's management required strategic IT Skills with Cyber Security Skills at all levels, this YPP encourage the IT People for betterment of the organization.

- Individuals like to increase their profile with better career, this program also give the clear and right direction to select the right pathways.

- The training & development culture introduced and increased at the all level of organization.

- The program helps to motivate teams and build their capabilities according to the requirement.

- It will boost the culture in the society to transfer skills from people to people.

- Stakeholders assure that work shall be completed in time and targets would also be achieved.

- New Projects emerged by the IT managers to increase productivity.

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## OTHER LEARNING ACTIVITIES:

| | |
|---|---|
| Practical Assignments for each Course | 1 |
| Learning Activities in each course | 1 |
| For Applying YPP Certification<br>Final Presentations Shall be given by Each<br>Trainee of at Least TWO HOURS | 1 |
| For Applying YPP<br>Question Answer Session one hour | 1 |
| One Final Project Submitted By Each<br>Trainee of In Hard and soft Form<br>(Two Copies) | 1 |

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## PROGRESSION OF THE PROGRAM

## YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

| | | |
|---|---|---|
| Total Credentials | = | 28.4 Credit Hours |
| One Credit Hours | = | 10 Learning hours |
| Completion of 12 Courses | = | Eligible for YPP Final Certification of IT Leadership |
| Final Assessment | | The criteria is to develop the provided assignments on the basis of course. |

## Awarding of Young Professional Managerial Leadership

Once the participants shall achieve 12 Courses Credits-hours \, then S/he will be able to apply to receive the Young Professional IT & CYBER SECURITY Leadership Program from concern Body or 3D EDUCATORS.

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## YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

### PROGAM HAS CONTAIN 16 COURSES IN IT

| S.No | Course ID | Course Name | Course Hours |
|------|-----------|-------------|--------------|
| 1 | YPP1013 | Cyber Security Fundamentals | 16 Hours |
| 2 | YPP1014 | Ethical Hacking | 24 Hours |
| 3 | YPP1015 | Search Engine Optimization | 16 Hours |
| 4 | YPP1016 | Social Media Marketing | 16 Hours |
| 5 | YPP1017 | Web Content Writing Skills | 16 Hours |
| 6 | YPP1018 | Front End Development | 64 Hours |
| 7 | YPP1019 | PHP/MySQL | 16 Hours |
| 8 | YPP1020 | React Native | 24 Hours |
| 9 | YPP1021 | SQL Fundamentals | 24 Hours |
| 10 | YPP1022 | Database Administration Oracle DBA Part 1 | 24 Hours |
| 11 | YPP1023 | Database Administration Oracle DBA Part 2 | 32 Hours |
| 12 | YPP1024 | Oracle Apex | 24 Hours |
| 13 | YPP1025 | System Administration – Windows | 32 Hours |
| 14 | YPP1026 | Routing & Switching | 32 Hours |
| 15 | YPP1027 | Linux Administration Part 1 | 16 Hours |
| 16 | YPP1028 | Linux Administration Part 2 | 16 Hours |
| Total  Hours | | | 284 Hours |

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# COURSE ID: YPP1013 - CYBER SECURITY FUNDAMENTALS

EXECUTIVE SUMMARY

Section 1: Cyber security Introduction and Overview
Topic 1—Introduction to Cyber security
Topic 2—Difference Between Information Security and Cyber security
Topic 3—Cyber security Objectives
Topic 4—Cyber security Roles
Topic 5—Cyber security Domains
Section 1—Knowledge Check

Section 2: Cyber security Concepts
Topic 1—Risk
Topic 2—Common Attack Types and Vectors
Topic 3—Policies and Procedures
Topic 4—Cyber security Controls
Section 2—Knowledge Check

Section 3: Security Architecture Principles
Topic 1—Overview of Security Architecture
Topic 2—The OSI Model
Topic 3—Defense in Depth

Topic 5—Isolation and Segmentation
Topic 6—Monitoring, Detection and Logging
Topic 7A—Encryption Fundamentals
Topic 7B—Encryption Techniques
Topic 7C—Encryption Applications
Section 3—Knowledge Check

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## COURSE ID: YPP1013 - CYBER SECURITY FUNDAMENTALS

Topic 4—Firewalls
Topic 5—Isolation and Segmentation
Topic 6—Monitoring, Detection and Logging
Topic 7A—Encryption Fundamentals
Topic 7B—Encryption Techniques
Topic 7C—Encryption Applications
Section 3—Knowledge Check

Section 4: Security of Networks, Systems, Applications and Data

Topic 1—Process Controls—Risk Assessments
Topic 2—Process Controls—Vulnerability Management
Topic 3—Process Controls—Penetration Testing
Topic 4—Network Security
Topic 5—Operating System Security
Topic 6—Application Security
Topic 7—Data Security
Section 4—Knowledge Check

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## COURSE ID: YPP1013 - CYBER SECURITY

Section 5: Incident Response

Topic 1—Event vs. Incident
Topic 2—Security Incident Response
Topic 3—Investigations, Legal Holds and Preservation
Topic 4—Forensics
Topic 5—Disaster Recovery and Business Continuity Plans
Section 5—Knowledge Check

Section 6: Security Implications and Adoption of Evolving Technology

Topic 1—Current Threat Landscape
Topic 2—Advanced Persistent Threats.
Topic 3—Mobile Technology—Vulnerabilities, Threats and Risk
Topic 4—Consumerization of IT and Mobile Devices
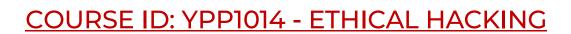Topic 5—Cloud and Digital Collaboration
Section 6—Knowledge Check

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# COURSE ID: YPP1014 - ETHICAL HACKING

1. Introduction to Ethical Hacking
2. Foot-printing & Reconnaissance Technology Brief
3. Scanning Networks
4. Services Enumeration using
5. Vulnerability Analysis Technology Brief Vulnerability
6. System Hacking Technology Brief System Hacking
7. Malware Threats Technology Brief
8. Sniffing
9. Social Engineering
10. Denial-of-Services
11. Session Hijacking
12. Evading IDS, Firewall and Honeypots
13. Hacking Web Servers Technology Brief Web server Concepts
14. SQL Injection Technology Brief SQL Injection Concepts
15. Hacking Wireless Networks Technology Brief Wireless Concepts
16. Hacking Mobile Platforms Technology Brief Mobile Platform Attack Vectors
17. IoT Hacking
18. Cloud Computing
19. Cryptography Technology Brief Cryptography Concepts

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# COURSE ID: YPP1015 - SEARCH ENGINE OPTIMIZATION

- Understanding the emerging landscape of SM

- Impact of Social media on customers

- How social media is impacting of marketing & businesses

- Application of Social Media

- Business Objective Achievements

- Know your target market

- Designing Social Media Communication Strategy and Plan

- Metrics of SM Effectiveness

- Guidelines for Social Media

- Best Practices in Social Media

- Do's and Don'ts for Social Media

- How to protect brand reputation online

- How to select media agency

- Case Studies

- Understanding the usage of different Tools in social media

- Technical Assistance for usage of Tools of Social Media

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# COURSE ID: YPP1016 - SOCIAL MEDIA MARKETING

- Understanding the emerging landscape of SM
- Impact of Social media on customers
- How social media is impacting of marketing & businesses
- Application of Social Media
- Business Objective Achievements
- Know your target market
- Designing Social Media Communication Strategy and Plan
- Metrics of SM Effectiveness
- Guidelines for Social Media
- Best Practices in Social Media
- Do's and Don'ts for Social Media
- How to protect brand reputation online
- How to select media agency
- Case Studies
- Understanding the usage of different Tools in social media
- Technical Assistance for usage of Tools of Social Media
- How to incorporate the different links of social media at your website
- Understand the technical codes related to social media

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# COURSE ID: YPP1017 - WEB CONTENT WRITING SKILLS

The ability to communicate effectively is important in professional life. This course develops skills in web content writing skills and short business documents, working cooperatively in teams, and presenting group projects. It also provides an overview of communication theory and an insight into the processes of professional communication. After completing this course, you will be able to:

- Understand the topic related to professional contexts
- How to understand the Topics of web and develop the content according to requirement
- Explain the communication process and barriers to successful communication.
- Analyze the requirements of different communicative tasks in terms of key purposes and audience expectations.
- Content Significance and worth of Web Page
- Structure ideas logically and persuasively, using appropriate supporting evidence.
- Keyword Analysis according to the webpage
- Produce wrote professional documents, memos, letters, problem solving reports, and executive summaries.
- Apply these principles to win your customers

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# COURSE ID: YPP1018 - FRONT END DEVELOPMENT

The following is a customized course, design with the goal to help developers:

- Introduction to Internet
- Working style of Internet and its connectivity
- Introduction to HTML
- Introduction Web 2.0, 3.0
- Introduction to Bootstrap
- Introduction to CSS (Cascading Style Sheets)
- Development of Menu Bar
- Word Press and its development features
- Node Js technologies
- JavaScript , Concepts of Native
- JQueries , validation of forms
- Angular JS
- Adobe Photoshop
- Adobe Illustrator
- Web Layouts and its features

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## COURSE ID: YPP1019 - PHP LANGUAGE WITH

The following is a customized course, design with the goal to help developers:

- An Introduction to PHP
- Getting Started With Variables
- Conditional Logic
- Working with HTML Forms
- Programming Loops
- Arrays in PHP
- String Manipulation
- Create your own Functions
- Security Issues
- Working with Files In PHP
- Date and Time Functions in PHP
- PHP and MySQL
- Manipulate a MySQL Database
- PHP User Authentication
- Project : ( Any Project ) or
- Build your own PHP Survey/Poll Application
- How to Build an Online Forum: the database

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## COURSE ID: YPP1020 - REACT NATIVE

The following document contains the outline of an example React Native Fundamentals workshop

### 1. Warm up

- Welcome
- Introductions
- Discuss React Native experience and preconceptions of attendees
- Present agenda

### 2. Introduction

In this section, we make a brief introduction to React Native. We set up machines for all the people that haven't done that yet. By the end, attendees can create a new project, run it and understand tools available.

- Describe React Native:
- Philosophy
- Available platforms
- Available APIs
- Available components
- Prerequisites
- Installation review (show installation instructions)
- Create an app with `react-native init` (mention Expo and Create React Native
- App command)
- Use `react-native run-IOS/Android` to run the app
- Demonstrate `Developer Menu`
- Small exercises to get people familiar

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# COURSE ID: YPP1020 - REACT NATIVE

- Bridge
- Prerequisites
- Installation review (show installation instructions)
- Create an app with `react-native init` (mention Expo and Create React Native
- App command)
- Use `react-native run-ios/android` to run the app
- Demonstrate `Developer Menu`
- Small exercises to get people familiar

## 3. Back to JavaScript

In this section, we go through latest ES6/ES7 features that were added, like import / export syntax or fat arrow functions. We also cover basics of React (or just refresh them for people already experienced), like component lifecycle and/or JSX. All these are run and live tested on an app set up in the previous section.

- List all `ES6` and `ES7` features (one per slide, w/o going into details)
- Explain how the code is transpiled
- Explain JSX
- React Component lifecycle
- Open discussion about other features
- Show how to overload Babel config
- A couple of exercises to make everyone comfortable with React / JavaScript

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# COURSE ID: YPP1020 - REACT NATIVE

## 4. Core components

In this section, we cover the basic components, like `` & ``.

- Describe all core components and their `props`
- A couple of exercises based on default `init` template:
- Add few buttons and test out handlers (with `bind` preferably)
- Add a bunch of different `<View />`s

## 5. Styling

In this section, we, describe `StyleSheet` API, how it implements flexbox and how's that different from CSS.

- Describe StyleSheet, what are available values, how it works
- Demonstrate `Flexbox`
- Mention that there are UI kits, but we are not going to use them as it's too advanced for now

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- Mention that there are cross-platform styling techniques, like styled-components one can
- use
- A bunch of exercises to get attendees more familiar with the styling, esp.:
- Flexbox and its properties - implement column/grid layout as presented on a slide
- <Text /> number of lines

## 6. Navigation

In this section, we demonstrate basic concepts of navigation. We also brief attendees into how's JS navigation different from fully native one. We list available alternatives as well what we will use throughout today.

- List available navigation solutions
- Brief readers into the one that was selected
- Make them aware of the API and how to think of the route hierarchy
- A couple of exercises working on current `init` template, e.g convert app to a stack, so we \
- can push a new route

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### 7. Lists

In this section, we describe lists and why they are so important in React Native. We describe available alternatives and list how's `` different than ` (and )` and when to use each.

- List available scroll solutions
- Explain when to use each
- Describe performance optimizations
- Warn about common pitfalls / issues
- As a demo task, one can create a view that has a list of contacts and each of them
- can be tapped to move to a new screen (with details)

### 8. Cross Platform APIs

We will discuss and implement the most used React Native APIs that work cross platform

### 9. IOS specific APIs

We will discuss and implement the most used iOS specific React Native APIs

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# COURSE ID: YPP1020 - REACT NATIVE

## 10. Android specific APIs

We will discuss and implement the most used Android specific React Native APIs

## 11. Persistence

In this section, we describe how persistence is done with React Native and how it can be achieved using other technologies.

- Demonstrate persistence using AsyncStorage
- Exercise attendees to persist stuff (literal, more advanced JSON)
- Demonstrate available APIs, like `multiSet` and when it's better to use what
- Mention other tools like `realm`

## 12. Animations

In this section, we will examine different approaches to animating elements within the app. specifically, we will check `Layout Animation` API and the better - `Animated`. We will briefly talk about performance concerns as well.

- Introduce Layout Animation
- Challenge attendees with simple animations
- Ask if they feel happy with it?
- Introduce `Animated` as a general solution to the problem
- Encourage them to animate few things on screen
- Perf. wise - mention native driver
- Do more tasks!

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## COURSE ID: YPP1020 - REACT NATIVE

- Introduce `Animated` as a general solution to the problem
- Encourage them to animate few things on screen
- Perf. wise - mention native driver
- Do more tasks!

## 13. Working with HTTP, network requests, and accessing restful services

Here we look at using both the fetch API as well as Axios for fetching and sending data, and using the returned data to update our application UI.

## 14. Data Architecture

In this section, we cover both MobX and Redux and talk about how and why they are useful in a React Native app

- Introduce Redux
- Set up a basic redux implementation
- Add Thunk middleware for asynchronous actions
- Fetching data and updating our redux store
- Discuss other asynchronous libraries such as Saga and Redux Promise Middleware
- Introduce MobX
- Set up a basic MobX implementation

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## COURSE ID: YPP1020 - REACT NATIVE

## 15. Application Deployment

In this section, we discuss various settings and configurations that the developer must use and understand to deploy the app to both the Google Play store as well as the Apple App store. We also discuss continuous deployment with CodePush.

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## COURSE ID: YPP1021 - SQL FUNDAMENTALS

### Database: Using SQL to Query Your Database

- Using SQL in Database
- Retrieving, Restricting and Sorting Data
- Using Single-Row Functions

### Database: Conversion Functions, Group Functions, and Joins

- Conversion Functions and Conditional Expressions
- Group Functions and Joins

### Database: Subqueries, Set Operators, and Data Manipulation

- Using Subqueries and Set Operators
- Manipulating Data

### Database: Using DDL, Views, Sequences, Indexes, and Synonyms

- Using DDL Statements to Create and Manage Tables
- Creating Other Scheme Objects

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# COURSE ID: YPP1022 DATABASE ADMINISTRATION Part 1

Exploring the Database Architecture

[ ] Explain the Memory Structures
[ ] Describe the Process Structures
[ ] Overview of Storage Structures

Preparing the Database Environment

[ ] Identify the tools for Administering an Database
[ ] Plan an Database installation
[ ] Install the software by using Universal Installer (OUI)

Creating an Database

[ ] Create a database by using the Database Configuration Assistant (DBCA)

Managing the Instance

[ ] Setting database initialization parameters
[ ] Describe the stages of database startup and shutdown
[ ] Using alert log and trace files
[ ] Using data dictionary and dynamic performance views

Configuring the Network Environment

[ ] Configure and Manage the Network
[ ] Using the Shared Server architecture

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# COURSE ID: YPP1022 DATABASE ADMINISTRATION Part 1

Managing Database Storage Structures

[ ] Overview of tablespace and datafiles
[ ] Create and manage tablespaces
[ ] Space management in tablespaces

Managing Data and Concurrency

[ ] Monitor and resolve locking conflicts

Managing Undo Data

[ ] Overview of Undo
[ ] Transactions and undo data
[ ] Managing undo

Implementing Database Security

[ ] Database Security and Principle of Least Privilege
[ ] Work with Standard Database Auditing

# COURSE ID: YPP1022 DATABASE ADMINISTRATION Part 1

Database Maintenance

[ ] Use and manage optimizer statistics
[ ] Use and manage Automatic Workload Repository (AWR)
[ ] Use advisory framework
[ ] Manage Alerts and Thresholds

Performance Management

[ ] Use Automatic Memory Management
[ ] Use Memory Advisors
[ ] Troubleshoot invalid and unusable objects

Intelligent Infrastructure Enhancements

[ ] Use the Enterprise Manager Support Workbench
[ ] Managing Patches

Backup and Recovery Concepts

[ ] Identify the types of failure that can occur in an database
[ ] Describe ways to tune instance recovery
[ ] Identify the importance of checkpoints, redo log files, and archived log files
[ ] Overview of flash recovery area
[ ] Configure ARCHIVELOG mode

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# COURSE ID: YPP1022 DATABASE ADMINISTRATION Part 1

Performing Database Backups

[ ] Create consistent database backups
[ ] Back up your database without shutting it down
[ ] Create incremental backups
[ ] Automate database backups
[ ] Manage backups, view backup reports and monitor the flash recovery area

Performing Database Recovery

[ ] Overview of Data Recovery Advisor
[ ] Use Data Recovery Advisor to Perform recovery (Control file, Redo log    file and Data file)

Moving Data

[ ] Describe and use methods to move data (Directory objects, SQL*Loader, External Tables)
[ ] Explain the general architecture of Data Pump
[ ] Use Data Pump Export and Import to move data between databases

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# COURSE ID: YPP1023 DATABASE ADMINISTRATION Part 2

Database Architecture and ASM

[ ] Describe Automatic Storage Management (ASM)
[ ] Set up initialization parameter files for ASM and database instances
[ ] Start up and shut down ASM instances
[ ] Administer ASM disk groups

Configuring for Recoverability

[ ] Configure multiple archive log file destinations to increase availability
[ ] Define, apply and use a retention policy
[ ] Configure the Flash Recovery Area
[ ] Use Flash Recovery Area

Performing User-Managed Backup and Recovery

[ ] Recover from a lost TEMP file
[ ] Recover from a lost redo log group
[ ] Recover from the loss of password file
[ ] Perform user-managed complete database recovery
[ ] Perform user-managed incomplete database recovery
[ ] Perform user-managed and server managed backups
[ ] Identify the need of backup mode
[ ] Back up and recover a control file

Using RMAN to Duplicate a Database

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[ ] Creating a duplicate database
[ ] Using a duplicate database

## Managing Memory

[ ] Implement Automatic Memory Management
[ ] Manually configure SGA parameters
[ ] Configure automatic PGA memory management

## Managing Database Performance

[ ] Use the SQL Tuning Advisor
[ ] Use the SQL Access Advisor to tune a workload
[ ] Understand Database Replay

## Space Management

[ ] Manage resumable space allocation
[ ] Describe the concepts of transportable tablespaces and databases
[ ] Reclaim wasted space from tables and indexes by using the segment shrink functionality

## Using the RMAN Recovery Catalog

[ ] Identify situations that require RMAN recovery catalog
[ ] Create and configure a recovery catalog
[ ] Synchronize the recovery catalog
[ ] Create and Use RMAN stored scripts
[ ] Back up the recovery catalog
[ ] Create and use a virtual private catalog

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Configuring Backup Specifications

[ ] Configure backup settings
[ ] Allocate channels to use in backing up
[ ] Configure backup optimization

Using RMAN to Perform Recovery

[ ] Perform complete recovery from a critical or noncritical data file loss using RMAN
[ ] Perform incomplete recovery using RMAN
[ ] Recover using incrementally updated backups
[ ] Switch to image copies for fast recovery
[ ] Restore a database onto a new host
[ ] Recover using a backup control file
[ ] Perform Disaster recovery

Performing Table space Point-in-Time Recovery

[ ] Identify the situations that require TSPITR
[ ] Perform automated TSPITR

Managing Resources

[ ] Understand the database resource manager
[ ] Create and use Database Resource Manager Components

Moving Data

[ ] Create a job, program, and schedule
[ ] Use a time-based or eventbased schedule for executing Scheduler jobs
[ ] Create lightweight jobs

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[ ] Use job chains to perform a series of related tasks

## Administering the Scheduler

[ ] Create Windows and Job Classes
[ ] Use advanced Scheduler concepts to prioritize jobs

## Using RMAN to Create Backups

[ ] Create image file backups
[ ] Create a whole database backup
[ ] Enable fast incremental backup
[ ] Create duplex backup and back up backup sets
[ ] Create an archival backup for long-term retention
[ ] Create a multisession, compressed and encrypted backup
[ ] Report on and maintain backups

## Monitoring and Tuning RMAN

[ ] Monitoring RMAN sessions and jobs
[ ] Tuning RMAN
[ ] Configure RMAN for Asynchronous I/O

## Using Flashback Technology

[ ] Restore dropped tables from the recycle bin
[ ] Perform Flashback Query
[ ] Use Flashback Transaction

## Additional Flashback Operations

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[ ] Perform Flashback Table operations
[ ] Configure, Monitor Flashback Database and Perform Flashback Database   operations
[ ] Set up and use a Flashback Data Archive


Diagnosing the Database

[ ] Set up Automatic Diagnostic Repository
[ ] Using Support Workbench
[ ] Perform Block Media Recovery

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## COURSE ID: YPP1024 APEX PROGRAMMING

- Installing APEX
- Apex Administration
- Apex users and schema management
- Apex architecture and layout
- Apex Data Workshop
- Apex SQL Workshop
- Learning the Apex Application Builder
- Application Deployment with Apex
- Apex Navigation
- Customizing Apex
- Creating Web Pages with Apex

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

## COURSE ID: YPP1025 – NETWORKING & SYSTEM ADMINISTRATION from Windows

By the End of this course you will be able to:

- Identify the steps to install and configure servers
- Identify the steps to install and administer Active Directory
- Identify the steps to configure Hyper-V
- Identify the steps to deploy and configure core network services
- Identify the steps to create and manage group policy

**Installing and Configuring Windows Server 2012 Installing and Configuring Windows Server 2012 Module 1**

Course Introduction

- Instructor Introduction
- Course Overview
- Prerequisites
- Certification
- Overview2

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# COURSE ID: YPP1025 – SYSTEM ADMINISTRATION WINDOWS

Installing and Configuring Windows Server 2022 Module 2 Best Course Practices

- Lab Setup
- Building Your Own Environment
- Presentation Types
- Chapter Review

Installing and Configuring Windows Server 2022 Module 3 Windows Server 2022 Installation

- Available Editions
- Requirements
- Server Manager Overview
- Best Practice Analyzer
- Installing Server 2012
- Performing a Windows Server 2012 Installation
- Windows Server 2012 Standard Configurations
- Server Manager Roles
- Remote Management Configuration
- Installation Review
- Chapter Review

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Installing and Configuring Windows Server 2022 Module 4 Windows Server 2022 CORE

- Introduction to Windows Server 2012 CORE
- Minimum Server Interface
- Server Core Management
- CORE Roles
- Installation Options
- Installing and Configuring Server CORE
- Chapter Review

Installing and Configuring Windows Server 2022 Module 5 Windows Server 2022 Server Manager

- Dashboard Overview
- Servers
- Roles and Features
- Server Manager Creation and Configuration
- Server Manager Toolbar
- Local Server Management
- Configuring Server Manager Toolbar
- Chapter Review

Installing and Configuring Windows Server 2022 Module 6 Server Manager PowerShell

- Server Core Management Tools
- Windows PowerShell ISE Tool3

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Installing and Configuring Windows Server 2022 Module 7 PowerShell Basics

- What is PowerShell
- Remoting
- Commands Cmdlets
- Server Administration
- Remote Server Administration
- PowerShell ISE
- Scripting
- More PowerShell Features
- Chapter Review

Installing and Configuring Windows Server 2022 Module 8 Windows Server 2022 Network DHCP

- Networking
- Network Components
- T CP/IPDHCP
- DHCP
- Installation
- IP and DHCP Tools
- DHCP Configuration
- Chapter Review

Installing and Configuring Windows Server 2022 Module 9 Windows Server 2022 Network Configuration IPv4

- IPv4 Basics

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- IPv4 Addressing
- IPv4 Sub netting
- Network Adapter Settings
- Network Settings through the GUI
- Network Settings from a Command Line
- Chapter Review

Installing and Configuring Windows Server 2022 Module 10 Windows Server 2022 Network Configuration IPv6

- IPv6 Basics
- IPv6 Addressing
- IPv6 Simplification and Equivalents
- IPv6 Network Configuration
- Transition Technologies
- Configuring ISATAP
- Chapter Review

Installing and Configuring Windows Server 2022 Module 11 Windows Server 2022 Network DNS

- DNS Basics
- Zone Records and Types
- Records
- Name Resolution4
- DNS Installation and Configuration
- DNS Query

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- DNS Tools
- Working with DNS Tools
- Chapter Review

Installing and Configuring Windows Server 2022 Module 12 Windows Server 2022 Hyper-V

- Basic Overview of Virtualization
- What is Server Virtualization?
- Desktop Virtualization
- Presentation Virtualization
- Application Virtualization
- USV Virtualization
- Cloud Computing
- System Requirements
- Installing the Hyper-V Role
- Installing Hyper-V
- Configuring Hyper-V
- Managing Virtual Networks
- Configuration Settings In Hyper-V

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Installing and Configuring Windows Server 2022 Module 13 Windows Server 2022 Active Directory Domain Services

- Active Directory Accounts
- Active Directory Administration
- Creating Active Directory User Account
- Active Directory Templates
- Creating a Template
- Command Line Tools
- PowerShell Scripting
- Adding Users and Groups In PowerShell
- Chapter Review

Installing and Configuring Windows Server 2022 Module 14 Windows Server 2022 AD Objects and Groups

- Groups
- Group Scope
- Default Groups
- Creating Groups
- AD DS Permissions
- AD DS Delegation
- Chapter Review

Installing and Configuring Windows Server 2022 Module 15 Windows Server 2022 Local Storage

- Active Directory Accounts
- Storage Basics

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- Drive Types
- Volumes5
- File System
- Creating Mounts and Links
- Chapter Review

Installing and Configuring Windows Server 2022 Module 16 Windows Server 2022 Storage Spaces

- Storage Spaces
- High Available Virtual Disk
- Advanced Configuration
- Advanced Storage Space Management
- Working with Storage Space
- Chapter Review

Installing and Configuring Windows Server 2022 Module 17 Windows Server 2022 Files Folders Shadow Copy

- NTFS Permissions
- File/Folder Permissions
- File/Folder Rights
- Effective Permissions
- File/Folder Creation and Configuration
- Shadow Copies
- Creating and Restoring Shadow Copies
- Chapter Review

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Installing and Configuring Windows Server 2022 Module 18 Windows Server 2022 Group Policy Object Basics

- Defining GPO
- GPO History
- Practical Application
- GPO Settings
- GPO Types
- GPO Overview
- Chapter Review

Installing and Configuring Windows Server 2022 Module 19 Windows Server 2022 GPO Central Store

- Storage of GPO
- Central Store
- Administrative Templates
- Multiple Local GPO
- Policy vs. Preference
- Managed vs. Unmanaged
- Creating a Central Store
- Chapter Review

Installing and Configuring Windows Server 2022 Module 20 Windows Server 2022 GPO Starter

- Building GPOs
- Available Settings6
- Export/Import

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- Delegation
- Creating GPOs and Using a Starter GPO
- Chapter Review

Installing and Configuring Windows Server 2022 Module 21 Windows Server 2022 GPO Secure

- Security
- Types
- Security Template Rights
- Monitor
- Implementing Server Security
- Auditing File System Access
- Chapter Review

Installing and Configuring Windows Server 2022 Module 22 Windows Server 2022 GPO Application and Firewall

- Application Restrictions
- Software Restriction Policy
- AppLocker
- Creating AppLocker Rules
- Windows Firewall
- Windows Firewall Advanced Security
- Chapter Review

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Installing and Configuring Windows Server 2022 Module 23 Windows Server 2022 Printing

- Network Printing
- Enhanced Point and Print
- V3 and V4 Drivers
- Printer Security
- Printer Pooling
- Branch Office Direct
- Installing and Configuring Printer Services
- Chapter Review

Administering Windows Server 2022 Administering Windows Server 2022 Module 1

Administering Windows Server 2022 Module 2 Windows Server 2022 Course Components

- Making the Best of the Course
- Lab Setup
- Building Your Own Environment
- Presentation Types
- Chapter Review

Administering Windows Server 2022 Module 3 Windows Server 2022 Active Directory Domain Services

- Domain Controller
- Virtual Domain Controller
- Deploying and Configuring
- Read Only Domain Controller (RODC)
- Installing RODC

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- Chapter Review

Administering Windows Server 2022 Module 4 Windows Server 2022 AD DS and DB Management

- Active Directory
- DS Administrative Center
- DS with PowerShell
- AD DS Database
- DC States
- Using Ntdsutil
- Recycle Bin
- Using Active Directory Recycle Bin
- Chapter Review

Administering Windows Server 2022 Module 5 Windows Server 2022 AD DS Account Creation

- User Accounts
- CSVDE Account Creation
- Command Line LDIFDE
- Command Line PowerShell
- Chapter Review8

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Administering Windows Server 2022 Module 6 Windows Server 2022 AD DS Account Management

- User Account Settings and Policies
- Password Policy
- Lockout Settings
- Password Policy and Account Lockout Settings
- Managing Service Accounts
- Managing Service Accounts Demonstration
- Chapter Review

Administering Windows Server 2022 Module 7 Windows Server 2022 Group Policy Object Creation

- Defining GPO
- Practical GPO Application
- GPO Types
- GPO Domain
- Implementing Group Policy
- Chapter Review

Administering Windows Server 2022 Module 8 Windows Server 2022 GPO Management

- Administrative Templates
- .adm Files
- Central Store
- Folder Redirection
- Scripts

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- Using Scripts and Folder Redirection
- Chapter Review

Administering Windows Server 2022 Module 9 Windows Server 2022 GPO Software

- Basic Software Deployment
- Microsoft Installer
- Deployment Methods
- Upgrades
- Managing Software with GPO
- Chapter Review

Administering Windows Server 2022 Module 10 Windows Server 2022 GPO Processing

- Basic Process
- Process Order
- Inheritance and/or Precedence
- Windows Management Instrumentation (WMI) Filters
- Slow Link No Link
- GPO Processing
- Chapter Review9

Administering Windows Server 2022 Module 11 Windows Server 2022 Data Fields

- Files
- File Server Resource Manager (FSRM)
- File Tasks

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- FSRM Configuration
- Chapter Review

Administering Windows Server 2022 Module 12 Windows Server 2022 Distributed File System

- File Sharing with DFS
- DFS Namespace
- DFS Replication
- Installing DFS
- Chapter Review

Administering Windows Server 2022 Module 13 Windows Server 2022 Security and Encryption

- Encrypting File System Basics
- EFS Process
- EFS Recovery
- Advanced Auditing
- EFS and Auditing Demonstration
- Chapter Review

Administering Windows Server 2022 Module 14 Windows Server 2022 Domain Name System

- DNS Overview
- Installing and Managing DNS
- Resource Records
- Zone Types
- Zone Transfers
- Creating Zones and Zone Transfers

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- DNS Management and Troubleshooting
- Monitoring and Troubleshooting

Administering Windows Server 2022 12 Module 15 Windows Server 2022 Access and Authentication

- Network Access
- Authentication vs. Authorization
- Network Policy and Access Roles
- Creating a Network Access Role
- Network Policy
- Policy Processing and Configuration
- Network Policy Configuration
- Chapter Review10

Administering Windows Server 2022 Module 16 Windows Server 2022 VPN and Direct Access

- Virtual Private Network
- Tunnel Protocols
- Authentication Methods
- Connection Manager Administration KIT
- Configuring a VPN Server
- Configuring a VPN Client
- Direct Access VS VPN
- DA Components
- Configuring Direct Access
- Chapter Review

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Administering Windows Server 2022 Module 17 Windows Server 2022 Network Policy Server

- NPS Overview
- Radius Server
- Radius Proxy
- Network Access Protection
- Connection Request
- Authentication
- Monitoring
- Installing, Configuring and Troubleshooting NPS
- Chapter Review

Administering Windows Server 2022 Module 18 Windows Server 2022 Network Access Protection

- NAP Overview
- Usage
- NAP Components
- NAP Policing
- System Health
- Remediation
- NAP Monitoring
- Implementing NAP
- Chapter Review

Administering Windows Server 2022 Module 19 Windows Server 2022 Windows Server Update Services

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- WSUS Overview
- WSUS Process
- Deployment Components
- WSUS Management
- WSUS Installation and Configuration
- Chapter Review

Administering Windows Server 2022 Module 20 Windows Server 2022 Windows Deployment Services

- WDS Overview
- WDS Components
- WDS Installation
- WDS Deployment
- WDS Administration
- Installing and Configuring WDS
- Chapter Review

Administering Windows Server 2022 Module 21 Windows Server 2022 Monitoring

- Performance Monitor
- Task Manager
- Resource Monitor
- Event Viewer
- Monitoring Tools
- Chapter Review

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

Administering Windows Server 2022 Module 22 Program Review Certification Overview

- Study Recommendations
- Exam Preparation
- Course Closing

Configuring Advanced Windows Server 2012 Services Configuring Advanced Windows Server 2012 Services Module 1

Configuring Advanced Windows Server 2022 Services Module 2 Windows Server 2022 Course Specifics

- Lab Setup
- Lab Layout
- Demonstration and Presentation Types

Configuring Advanced Windows Server 2022 Services Module 3 Windows Server 2022 Active Directory Domain Services

- Domain Tree
- Domain Forest
- Single Domain
- Multiple Domains
- Functional Level
- Upgrade Migrate
- Installing a Domain Controller
- Chapter Review12

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

Configuring Advanced Windows Server 2022 Services Module 4 Windows Server 2022 ADDS Domains and Forests

- Trust Relationships
- External Trust
- Forest Trust
- Realm Trust
- Shortcut Trust
- Authentication
- SID Filtering
- Name Suffix Routing
- Creating a Child Domain and Building a Trust

Configuring Advanced Windows Server 2022 Services Module 5 Windows Server 2022 ADDS Sites

- Active Directory Sites
- Implementing ADD
- SRV Records
- Locating Local DC
- ISTG
- Active Directory Site Setup

Configuring Advanced Windows Server 2022 Services Module 6 Windows Server 2022 ADDS Replication

- AD Parts

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- Types of Replication
- Conflicts
- Sysvol
- Site Topology and Site Links
- Group Membership Caching
- Tools
- Site Replication

Configuring Advanced Windows Server 2022 Services Module 7 Windows Server 2022 Networking DNS

- DNS Administration
- Management
- Queries
- Global Name Zone
- DNS Security
- DNS Advanced Configuration

Configuring Advanced Windows Server 2022 Services Module 8 Networking DHCP

- DHCP Basics
- Address Request
- Play Nice with DNS
- Scopes
- DHCP IPv
- Name Protection
- DHCP Failover
- DHCP Advanced Configuration

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Configuring Advanced Windows Server 2022 Services Module 9 Networking IPAM

- IPAM Basics
- Reason to Use IPAM
- Components
- Requirements
- Security
- Management and Monitoring

Configuring Advanced Windows Server 2022 Services Module 10 Data: Advanced File

- File and Storage Basics
- File Server Resource Manager
- File Classification
- New Options
- File Classification Configuration
- Enabling Data Reduplication IPAM Installation and Configuration

Configuring Advanced Windows Server 2022 Services Module 11 Windows Server 2022: Dynamic Access Control

- DAC Basics
- New vs Old
- Central Access Policy
- Implementing DAC
- Deploying DAC
- Implementation of Dynamic Access Control

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Configuring Advanced Windows Server 2022 Services Module 12 Windows Server 2022 Data: Storage

- Storage Basics
- iSCSI Parts
- iSCSI Security
- Branch Cache
- Configuring SCSI and iSCSI Storage
- Configuring Branch Cache

Configuring Advanced Windows Server 2022 Services Module 13 Business Continuity: Backups

- Backup Basics
- Server Backup
- Online Backup
- Recovery
- Data Protection Manager
- Implementing a Windows Server Backup14

Configuring Advanced Windows Server 2022 Services Module 14 Operating System Deployment

- Task Sequence Creation
- Task Sequence Deployment
- implementing an In-place Upgrade

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

Configuring Advanced Windows Server 2022 Services Module 15 High Availability Network Load Balancing

- Network Load Balancing Basics
- NLB Functionality
- NLB New Features
- NLB Deployment
- Additional NLB Configuration
- Planning for NLB
- Securing NLB
- NLB Cluster Setup
- Configuring NLB Cluster
- Host Availability

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Configuring Advanced Windows Server 2022 Services Module 16 High Availability Failover Clustering

- High Availability Basics
- HA New Features
- HA Components
- Features CSV
- Quorum (Modes)
- Failover Clustering
- Cluster Deployment Requirements
- Failover Cluster Setup and Configuration
- HA File Server Setup and Configuration
- Cluster Aware Updating

Configuring Advanced Windows Server 2022 Services Module 17 HA Hypervisor and VM

- HA Basics with Hyper-V
- Failover Clustering with Hyper-V
- New Features
- Migration
- SCCM
- Best Practices
- HV Replica
- Virtual Machine Cluster Setup
- Failover Cluster Configuration for Hyper-V

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

Configuring Advanced Windows Server 2022 Services Module 18 Access and Identity: Certificates

- Public Key Infrastructure Basics
- Components PKI Solution15
- AD CS New Features
- Certificate Templates
- Enrollment Types
- Certificate Revocation List
- Key Recovery
- Building a Root CA
- Deploying and Configuring an Enterprise Subordinate CA
- Managing Certificate Templates
- Certificate Revocation

Configuring Advanced Windows Server 2022 Services Module 19 Active Directory Federation Services

- AD FS Services
- Web Security Components
- AD FS New Features
- SSO
- Deployment
- AD FS Setup and Configuration
- Installing AD FS Role
- Installing AD FS for a Single Organization
- Configuring AD Claims Provider Trust Claims

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Configuring Advanced Windows Server 2022 Services Module 20 Active Directory Rights Management

- AD RMS Basics
- RMS Usage
- AD RMS Components
- Certificates/Licenses
- AD RMS Process
- AD RMS Deployment
- Rights Policy Templates
- Creating a Super User Group and Service Group
- Installing and Configuring AD RMS
- Build and Deploy a Policy Template
- Implementing RMS Trust Policies
- Anonymous Access Setup
- Creating a Rights Protected Document

Configuring Advanced Windows Server 2022 Services Module 21 Course Review

- Course Review
- Certification Overview
- Exam Preparation

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## COURSE ID: YPP1026 – ROUTING & SWTICHING

### Module 01
**Introduction to Networks**

- Networking Today
    i. Network Affects Our Lives
    ii. Network Components
    iii. Network Representations and Topologies
    iv. Common Types of Networks
    v. Internet Connections
    vi. Reliable Networks
    vii. Network Trends
    viii. Network Security
    ix. The IT Professional

- Basic Switch and End Device Configuration
    i. Cisco IOS Access
    ii. IOS Navigation
    iii. The Command Structure
    iv. Basic Device Configuration
    v. Save Configurations
    vi. Ports and Addresses
    vii. Configure IP Addressing
    viii. Verify Connectivity

- Protocol & Models
    i. The Rules
    ii. Protocols
    iii. Protocol Suits
    iv. Standards Organizations
    v. Reference Models
    vi. Data Encapsulation
    vii. Data Access

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

- Physical Layer
    i. Purpose of the Physical Layer
    ii. Physical Layer Characteristics
    iii. Copper Cabling
    iv. UTP Cabling
    v. Fiber-Optic Cabling
    vi. Wireless Media

- Number Systems
    i. Binary Number Systems
    ii. Hexadecimal Number Systems

- Data Link Layer
    i. Purpose of the Data Link Layer
    ii. Topologies
    iii. Data Link Frame

- Ethernet Switching
    i. Ethernet Frame
    ii. Ethernet MAC Address
    iii. The MAC Address Table
    iv. Switch Speeds and Forwarding Methods

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

- Network Layer
    i. Network Layer Characteristics
    ii. IPv4 Packet
    iii. IPv6 Packet
    iv. How a Host Routes
    v. Router Routing Tables

- Address Resolution
    i. MAC and IP
    ii. ARP
    iii. Neighbor Discovery

- Basic Router Configuration
    i. Configure Initial Router Settings
    ii. Configure Interfaces
    iii. Configure the Default Gateway

- IPv4 Addressing
    i. IPv4 Address Structure
    ii. IPv4 Unicast, Broadcast and Multicast
    iii. Types of IPv4 Addresses
    iv. Network Segmentation
    v. Subnet and IPv4 Network

- IPv6 Addressing
    i. IPv4 Issues
    ii. IPv6 Address Representation
    iii. IPv6 Address Types
    iv. GUA and LLA Static Configuration
    v. Dynamic Addressing for IPv6 GUAs
    vi. Dynamic Addressing for IPv6 LLAs
    vii. IPv6 Multicast Addresses
    viii. Subnet an IPv6 Network

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

- ICMP
    i. ICMP Messages
    ii. Ping and Traceroute Testing

- Transport Layer
    i. Transportation of Data
    ii. TCP Overview
    iii. UDP Overview
    iv. Port Numbers
    v. TCP Communication Process
    vi. Reliability and Flow Control
    vii. UDP Communication

- Application Layer
    i. Application, Presentation and Session
    ii. Peer-to-Peer
    iii. Web and Email Protocols
    iv. IP Addressing Services
    v. File Sharing Services

- Network Security Fundamentals
    i. Security Threats and Vulnerabilities
    ii. Network Attacks
    iii. Network Attack Mitigation
    iv. Device Security

- Build a Small Network
    i. Devices in a Small Network
    ii. Small Network Applications and Protocols
    iii. Scale to Larger Networks
    iv. Verify Connectivity
    v. Host and IOS Commands
    vi. Troubleshooting Methodologies
    vii. Troubleshooting Scenarios

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## Module 02
### Switching, Routing & Wireless Essentials

- Basic Device Configuration
    i. Configure a Switch with Initial Settings
    ii. Configure Switch Ports
    iii. Secure Remote Access
    iv. Basic Router Configuration
    v. Verify Directly Connected Networks

- Switching Concepts
    i. Frame Forwarding
    ii. Switching Domains

- VLANs
    i. Overview of VLANs
    ii. VLAN in a Multi-Switched Environment
    iii. VLAN Configuration
    iv. VLAN Trunks
    v. Dynamic Trunking Protocol

- Inter-VLAN Routing
    i. Inter-VLAN Routing Operation
    ii. Router-on-a-Stick Inter-VLAN Routing
    iii. Inter-VLAN Routing using Layer 3 Switches
    iv. Troubleshooting Inter-VLAN Routing

- STP
    i. Purpose of STP
    ii. STP Operations
    iii. Evolution of STP

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- DHCPv4 Configuration
    i. DHCPv4 Concepts
    ii. Configure a Cisco IOS DHCPv4 Server
    iii. Configure a DHCPv4 Client

- SLAAC and DHCPv6
    i. IPv6 Global Unicast Address Assignment
    ii. SLAAC
    iii. DHCPv6
    iv. Configure DHCPv6 Server

- FHRP Concepts
    i. First Hop Redundancy Protocol
    ii. HSRP

- LAN Security Concepts
    i. Endpoint Security
    ii. Access Control
    iii. Layer 2 Security Threats
    iv. MAC Address Table Attack
    v. LAN Attacks

- Switch Security Configuration
    i. Implement Port Security
    ii. Mitigate VLAN Attacks
    iii. Mitigate DHCP Attacks
    iv. Mitigate ARP Attacks
    v. Mitigate STP Attacks

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

- WLAN Concepts
    i. Introduction to Wireless
    ii. Components of WLANs
    iii. WLAN Operation
    iv. CAPWAP Operation
    v. Channel Management
    vi. WLAN Threats
    vii. Secure WLANs

- WLAN Configuration
    i. Remote Site WLAN Configuration
    ii. Configure a Basic WLAN on the WLC
    iii. Configure a WPA2 Enterprise WLAN on the WLC
    iv. Troubleshoot WLAN Issues

- Routing Concepts
    i. Path Determination
    ii. Packet Forwarding
    iii. Basic Router Configuration Review
    iv. IP Routing Table
    v. Static and Dynamic Routing

- IP Static Routing
    i. Static Routes
    ii. Configure IP Static Routes
    iii. Configure IP Default Static Routes
    iv. Configure Floating Static Routes
    v. Configure Static Host Routes

- Troubleshoot Static and Default Routes
    i. Packet Processing with Static Routes
    ii. Troubleshoot IPv4 Static and Default Route Configuration

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## Module 03
### Enterprise Networking, Security & Automation

- Single-Area OSPFv2 Concepts
    i. OSPF Features and Characteristics
    ii. OSPF Packets
    iii. OSPF Operation

- Single-Area OSPFv2 Configuration
    i. OSPF Router ID
    ii. Point-to-Point OSPF Networks
    iii. Multiaccess OSPF Networks
    iv. Modify Single-Area OSPFv2
    v. Default Route Propagation
    vi. Verify Single-Area OSPFv2

- Network Security Concepts
    i. Current State of CyberSecurity
    ii. Threat Actors
    iii. Malware
    iv. Common Network Attacks
    v. IP Vulnerabilities and Attacks
    vi. TCP and UDP Vulnerabilities
    vii. IP Services
    viii. Network Security Best Practices
    ix. Cryptography

- ACL Concepts
    i. Purpose of ACLs
    ii. Wildcard Masks in ACLs
    iii. Guidelines for ACL Creation
    iv. Types of IPv4 ACLs

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

- ACLs for IPv4 Configuration
    i. Configure Standard IPv4 ACLs
    ii. Modify IPv4 ACLs
    iii. Secure VTY Ports with a standard IPv4 ACL
    iv. Configure Extended IPv4 ACLs

- NAT for IPv4
    i. NAT Characteristics
    ii. Types of NAT
    iii. NAT Advantages and Disadvantages
    iv. Static NAT
    v. Dynamic NAT
    vi. PAT
    vii. NAT64

- WAN Concepts
    i. Purpose of WANs
    ii. WAN Operations
    iii. Traditional WAN Connectivity
    iv. Modern WAN Connectivity
    v. Internet-Based Connectivity

- VPN and IPsec Concepts
    i. VPN Technology
    ii. Types of VPNs
    iii. IPsec

- QoS Concepts
    i. Network Transmission Quality
    ii. Traffic Characteristics
    iii. Queuing Algorithms
    iv. QoS Models
    v. QoS Implementation Techniques

# YOUNG PROFESSIONAL IT & CYBER SECURITY LEADERSHIP PROGRAM

- Network Management
    i. Device Discovery with CDP
    ii. Device Discovery with LLDP
    iii. NTP
    iv. SNMP
    v. Syslog
    vi. Router and Switch File Management
    vii. IOS Image Management

- Network Design
    i. Hierarchical Design
    ii. Scalable Networks
    iii. Switch Hardware
    iv. Router Hardware

- Network Troubleshooting
    i. Network Documentation
    ii. Troubleshooting Process
    iii. Troubleshooting Tools
    iv. Symptoms and Causes of Network Problems
    v. Troubleshooting IP Connectivity

- Network Virtualization
    i. Cloud Computing
    ii. Virtualization
    iii. Virtual Network Infrastructure
    iv. Software-Defined Networking
    v. Controllers

- Network Automation
    i. Automation Overview
    ii. Data Formats
    iii. APIs
    iv. REST
    v. Configuration Management Tools
    vi. IBN and Cisco Management Centre

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# COURSE ID: YPP1027 – Linux Administration Part 1

Course content summary

- ✓ Introduction to the command line
- ✓ Managing physical storage
- ✓ Install and configure software components and services
- ✓ Establishing network connections and firewall access
- ✓ Monitoring and managing processes
- ✓ Managing and securing files
- ✓ Administrating users and groups
- ✓ Accessing Linux file systems
- ✓ Installing and using virtualized systems
- ✓ Reviewing the system log files and journal

Course Outline

- ✓ Access the command line
- ✓ Manage files from the command line
- ✓ Get help in Red Hat Enterprise Linux
- ✓ Create, view, and edit text files
- ✓ Manage local Linux users and groups
- ✓ Control access to files with Linux file system permissions
- ✓ Monitor and manage Linux processes
- ✓ Control services and daemons
- ✓ Configure and secure "OpenSSH" service

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- ✓ Analyze and store logs
- ✓ Manage Red Hat Enterprise Linux networking
- ✓ Archive and copy files between systems
- ✓ Install and update software packages
- ✓ Access Linux file systems
- ✓ Use virtualized systems

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# COURSE ID: YPP1028 – Linux Administration Part 2

Red Hat System Administration II (RH134)

Course content summary

- ✓ Installation using Kick start
- ✓ Manage file systems and logical volumes
- ✓ Manage scheduled jobs
- ✓ Access network file systems
- ✓ Manage SELinux
- ✓ Control firewalling
- ✓ Troubleshooting
- ✓ Automate installation with Kickstart
- ✓ Use regular expressions with grep
- ✓ Create and Edit text files with vim
- ✓ Schedule future Linux tasks
- ✓ Manage priority of Linux processes
- ✓ Control access to files with access control lists (ACL)
- ✓ Manage SELinux security
- ✓ Connect to network-defined users and groups
- ✓ Add disks, partitions, and file systems to a Linux system
- ✓ Manage logical volume management (LVM) storage
- ✓ Access networked attached storage with network file system (NFS)
- ✓ Access networked storage with SMB

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✓ Control and troubleshoot the Red Hat Enterprise Linux boot process
✓ Limit network communication with firewall

Skill Sets Gained After Taking This Course

After taking this course you would be able to perform the following tasks:

- Understand and use essential tools for handling files, directories, command-line environments, and documentation.
- Operate running systems, including booting into different run levels, identifying processes, starting and stopping virtual machines, and controlling services.
- Configure local storage using partitions and logical volumes.
- Create and configure file systems and file system attributes, such as permissions, encryption, access control lists, and network file systems.
- Deploy, configure, and maintain systems, including software installation, update, and core services.
- Manage users and groups, including use of a centralized directory for authentication.
- Manage security, including basic firewall and "SELinux" configuration.

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## TERMS & CONDITIONS

### WITHDRAWAL FROM THE YOUNG PROFESSIONAL PROGRAM - YPP
Students are not allowed to withdraw from the YPP. If a student cannot continue the YPP fee will be forfeited.

### CONDUCT AND DISCIPLINE
A disciplinary action, leading to rustication, will be taken against students whose conduct is found objectionable at any time during the course of study. Reference will be made to 3D Educators code of conduct.

### EVALUATION AND GRADING
The performance of students is evaluated through continuous observation of a student's performance in the CERTIFICATION/DIPLOMA/YPP – class participation, submission of assignments, quizzes and exercises.
The student will be examined through exams conducted by 3D. Total marks for passing the CERTIFICATION/DIPLOMA/YPP will be 70 out of a total of 100.
Students who do not meet the attendance or any other eligibility criteria will not be allowed to appear in the final examination.

The following grading plan will be applicable for the CERTIFICATION/DIPLOMA:

| A | B+ | B | C+ | C | F |
|---|----|----|----|----|----|
| 87-100 | 81-86 | 72-80 | 66-71 | 60-65 | Below 60 |

Students who are unable to appear for the final exam are required to submit a written application stating the reason for not appearing for the exam. 3D EDUCATORS and their partners reserves the right to approve or deny such applications. If approved, the student will be allowed to sit for the exam within one month. Failure to do so, the student will be resubmit the examination fee and sit the future schedule exam. Without passing of the exams no certification will be awarded.

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## ONLINE LIVE CLASSES FACILITY AVAILABLE

- Instructor Led Training
- Real Time Presentations
- Interactive Classes
- Complete Notes and Other Stuff shall be provided through our Secure Student Login Member's Area
- For Online Live Classes, you may please download the Admission Form through our website http://www.3deducators.com. Fill it properly and attached the required document along with Picture and send back to info@3deducators.com with scanned fee submitted voucher in the bank.
- For Pakistan you may submit the fee at any MCB Branch with the title of "3D EDUCATORS-TRAINERS & CONSULTANTS".
- If you are outside Pakistan then you may transfer via Bank to Bank or any western union, Fast Track, Money Gram or else International Transfer Body.
- After Admission, if you don't have GMAIL Account then you are requested to kindly make one GMAIL Account and shared it info@3deducators.com. Then further correspondence shall be made by our institute official.
- Extra Bandwidth Charges shall be incurred.

## DISTANCE NOT MATTER

You can join in the live classes Sessions of 3D EDUCATORS – TRAINERS & CONSULTANTS from anywhere of the world.

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## PRECAUTIONARY MEASURES

- During Classes, you are requested to make sure that you are in isolated room, where no noise should be there except your voice.

- Kindly Switch Off your Cell Phone during the class, because it will disturb the quorum of class.

- If you have taken the admission in the course online lonely, then ethically it is recommended and suggested that you alone in the class.

- Recording of Lectures are not allowed at your end.

This world is emerging and growing in the 21st Century very rapidly because of latest and remarkable technologies and its advancement. Due to advancement of technology, we 3D EDUCATORS offer Live Interactive class sessions

3D EDUCATORS believe on Information Technology and its systems. Now you can also avail this facility at your home.

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