



# DevNet Developer Environment Summary

2.3.1

## What did I learn in this module?



DevNet gives developers a starting point for all Cisco APIs, including API documentation, education, and developer support. Part of your certification includes understanding the large number of online resources available for products that are relevant for developers, either in terms of application development or automation. These include DevNet Learning Labs, DevNet video courses, DevNet Sandbox, DevNet Exchanges, and extensive DevNet Support.

There are also DevNet events such as the DevNet Zone at Cisco Live, and DevNet Express.

2.3.2

## Module 2: The DevNet Developer Environment Quiz



1. What type of learner should take the DevNet Associate course?

☒ Topic 2.1.0 - The DevNet Associate course is designed for anyone interested in networking, software development, or the combination of the two.

- ☐ only new software developers
- ☐ anyone that does not like working in teams and is a software developer
- ☒ anyone interested in network automation and programmability
- ☐ only new network engineers

## 2. What is contained within a DevNet Sandbox?

☒ Topic 2.2.0 - The Cisco DevNet Sandbox is a preconfigured environment already installed with Cisco platforms. A development environment can also be set up on a local computer to continue practice and reinforce learning.

- ☐ a collection of self-paced tutorials using REST APIs
- ☐ instructor-led videos focusing on hands-on exercises
- ☐ a collection of Cisco developer API documentation
- ☒ a preconfigured environment already installed with Cisco platforms

## 3. Which two DevNet resources are available online? (Choose two.)

☒ Topic 2.2.0 - There are two DevNet resources that are available online 24 hours a day, 7 days a week: Code Exchange and Automation Exchange.

- ☐ DevNet Zone
- ☐ API Tokens
- ☒ Automation Exchange
- ☐ Python Exchange
- ☒ Code Exchange

## 4. Which DevNet resource would a developer use if the developer is using a Cisco API and needs help understanding the error message received?

☒ Topic 2.2.0 - DevNet support provides multiple ways to support developers using Cisco APIs. There are community forums, knowledge bases, Webex Teams, and case-based tickets for a fee.

- ☐ DevNet Sandbox
- ☐ DevNet Learning Labs
- ☒ DevNet Support
- ☐ Code Exchange

## 5. What is Cisco DevNet?

☒ Topic 2.1.0 - Cisco DevNet is a developer program that includes online resources, an interactive developer community, developer tools, discussion forums, learning labs, and a production-like development and testing sandbox environment.

- ☐ a Cisco-proprietary virtual network

- ☐ a way to create networks using software alone
- ☒ a developer program
- ☐ a vendor-neutral type of virtual networking

6. What is required in order to ensure that clients are able to talk to applications that are outside a local system?

☒ Topic 2.1.0 - Without a network, clients are unable to talk to applications that are outside the local system.

- ☐ a script
- ☐ an API
- ☒ a network
- ☐ an application

7. What is the purpose of the Cisco DevNet Learning Labs?

☒ Topic 2.2.0 - The Cisco DevNet Learning Labs provide tutorials over a wide range of topics including programming, engineering technologies, APIs, and model-driven programmability.

- ☒ They provide self-paced tutorials including coding.
- ☐ They allow participants to add their own Python labs.
- ☐ They allow participants to add their own labs as long as the labs relate to any type of coding.
- ☐ They provide a space for game development, interaction, and learning based on coding.

8. What is a requirement when creating a Cisco DevNet account for accessing educational resources, such as Learning Labs and the DevNet Sandbox?

☒ Topic 2.2.0 - The Cisco DevNet site provides free access to additional educational resources, such as Learning Labs and the DevNet Sandbox after a user has created a DevNet account. A DevNet account can be created using an existing online identity or by creating a new Cisco account for DevNet membership.

- ☒ The account must be created using an existing online identity or via a new Cisco account.
- ☐ The account must be registered using a Cisco email address.
- ☐ The account holder must share personally created code before access is allowed.
- ☐ The account must contain a purchased license.

9. Which DevNet event is provided by Cisco partners and Cisco offices?

✓ Topic 2.3.0 - DevNet Express events are organized and offered by Cisco partners and Cisco local offices.

- ☒ DevNet Express
- ☐ DevNet Hackathon
- ☐ DevNet Learn In
- ☐ DevNet Codearama

10. Which website provides the entry point for Cisco DevNet?

✓ Topic 2.2.0 - The Cisco DevNet website of developer.cisco.com is the central resource for all the Cisco developer tools and documentation.

- ☐ devnet.com
- ☐ cisco.com
- ☒ developer.cisco.com
- ☐ talosintelligence.com

Check

Show Me

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2.3.3

## Want more?



Among the various online resources DevNet provides, they also organize local in-person events all over the world. For example, the DevNet Create conference brings together like-minded people from the tech community to discuss new programmable infrastructure innovations and APIs. DevNet Express events are organized by local Cisco partners and Cisco offices. The DevNet Zone is part of the Cisco Live conferences.

### Learning Labs

**Note:** The Learning Labs are **not** a required part of this DEVASC course. Nevertheless, we are glad you want to try a DevNet Learning Lab! One note of caution, it is easy to spend a **lot** of time in these labs. Be

sure to balance your time in a learning lab with your studies in this course.

## Prerequisites

You must have a DevNet account to access Learning Labs and you must have an internet connection.

**Step 1.** Go to [developer.cisco.com/learning](https://developer.cisco.com/learning) and log in.

**Step 2.** Click the Tracks link for the largest collections of Labs, or choose the Modules link for a shorter collection of Labs. Tracks contain Modules and Modules contain Labs. For example, start a Learning Lab by clicking one of the Modules, such as Automating Webex Teams (Python).

Good luck and have fun!

2.3.4

## DEVASC Project – Introduction



In addition to learning great technical skills, it is also critical for you to develop other skills that can be used in the workplace. One way to do that is through classroom projects and activities that simulate the skills and awareness needed to participate in a real-world workplace. In this course, you will find a project to support learning those needed skills.

## Introduction

This project leverages a project-based methodology to develop technical skills and soft skills in a fun and meaningful way. The project consists of five project activities that you will complete in teams. You will build your work team, organize your efforts, and create and test software applications. You will present your work to others and provide feedback to other teams and team members.

Students who build their learning skills (learning how to learn) are much better prepared for today's increasingly complex work environment than those who do not. Learning how to learn is one of the "21st Century Skills". Other 21st Century Skills include:

- Creativity and Innovation
- Critical Thinking and Problem Solving
- Communication
- Collaboration

Competencies that are required in the new job market are rapidly changing. The old way of having highly-skilled professionals in one specific domain, or the other extreme of having a broad-area generalist without deep knowledge in any specialty, is not efficient anymore. New jobs within modern organizations require a multidisciplinary skillset which provides a combination of the previous two types of professionals.

During the project activities in this course, you will work as a team to collaboratively:

- Evaluate a customer problem and requirements
- Perform the initial research
- Design a solution
- Create a prototype
- Test, evaluate, and modify the solution
- Evaluate, iterate and improve the solution
- Deliver a final presentation of your solution and reflect on what you have learned

## The Scenario

The scenario for these projects may vary, including the type of industry, the tasks involved, and the team roles. There are three scenarios in this project; however, your instructor may choose to use a different scenario, or allow teams to create their own scenarios.

## Student Outcomes

Technical skills:

- Use the latest concepts and skills in software design and development to create an application.
- Collaborate remotely with other team members using communication software and a version control system.
- Create a system to integrate and deploy new features and enhancements in an iterative manner.
- Iteratively develop a solution with rapid prototyping techniques.
- Create processes to deploy applications in an automated environment.
- Create code using software development and design best practices.
- Use network programming and automation to address customer requirements.

Soft skills:

- Apply critical thinking and problem-solving skills in a realistic work-like environment.
- Use ideation techniques such as brainstorming.
- Use presentation tools to propose project details.
- Work together in multidisciplinary teams to accomplish team goals.

Other relevant outcomes:

- Create a group of products that can be shared with potential employers.
- Develop networking relationships.

## Project Activities

During the span of this course, you will work on one project that will involve several Project Activities, including:

1. Forming teams to work collaboratively on the project.

2. Creating an Agile team.
3. Using version control software to collaborate as a team to develop an application.
4. Using DevOps methodology to add features to your application.
5. Creating an automated process that employs network programmability and automation.

## Rubric/Deliverable

Throughout this project, teams will document their results in the **DEVASC Project Rubrics**. The rubric for this activity is linked below. There are other tasks and questions within this project to help you through this process, however these may not need to be recorded in the rubric. All deliverables that you are responsible for will be noted in this project as "**Rubric/Deliverable**."

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## Project Activity 1: Team Formation



In this activity, you will complete the following tasks:

- Choose a facilitator and a recorder.
- Conduct an ice-breaker activity.
- Discuss effective teamwork.
- Choose a role for each team member.

### 1. Choose Facilitator and Recorder

There are several methods of forming teams. Although there are some differences, most agree that the first step in forming a successful team involves a period of getting acquainted.

To begin, you will select two people to help facilitate the team formation process. These people will only have these roles for this activity. Later, you will choose new roles as part of an agile team.

Choose two team formation roles:

- A **facilitator** to make sure everyone has a chance to speak and contribute during this process, and that no one person is dominating the discussions.
- A **recorder** to take notes and summarize this process in the rubric.

Take a few minutes as a team to review the **DEVASC Project Rubric** for this activity. Rubric documents will be used throughout the project to help you record your process and prepare for your presentations. The recorder will document this information in the rubric sheet for this activity.

The role of the facilitator is to lead the team during the following parts of the activity:

1. Asking the ice-breaker questions

2. Discussing the requirements of the project
3. Discussing teamwork
4. Highlighting each person's skills and background

**Note:** The facilitator and recorder should participate in the activities with the other team members.

## 2. Ice-breaker Activity

As an "ice-breaker", the facilitator will ask each of you to introduce yourself and choose a question such as:

- What is your favorite hobby?
- What is your favorite thing to do by yourself?
- What was the first concert you ever attended?
- What crazy activities do you dream of trying someday?
- What is your idea of fun?

### **Rubric/Deliverable:**

1. Decide on a team name and enter the team member names into the rubric.
2. Record the questions that were asked, and the team member's answers in the rubric.

## 3. Discuss Effective Teamwork

The facilitator should read the following paragraph about teamwork out loud to the team:

**Teamwork is generally defined as a group of people working together to achieve a common goal. A more refined definition is:**

**"A group of people work together cohesively, towards a common goal, creating a positive working atmosphere, and supporting each other to combine individual strengths and differences to enhance team performance." – Article: Define Teamwork, The Happy Manager**

Please take a moment to read the list below and reflect on how you will participate as a team member in the project. Discuss what each of these means in the context of daily interaction of project teams.

The following attitudes are shared by successful teams:

- Willingness to help each other
- Sharing a common vision
- Positive attitudes
- Support and encouragement
- Consensus building
- Open communications
- Effective conflict resolution

The facilitator should ask each team member to say what working in a team means to them.



## 4. Highlight Each Member's Skills and Background

As a team member (including the facilitator and the recorder) you should find a role that is the right fit for you. Briefly discuss your skillsets, including technical and "soft" skills. The success of any project relies as much on good facilitation and organization, as it does the combination of technical knowledge and skills of the team members.

- What do you enjoy working on?
- What do you enjoy learning about?

**Rubric/Deliverable:** For each team member, briefly record each person's skillsets and interests.

The **Rubric/Deliverables** for this section were:

1. Team name
2. Team members, interests and skillsets
3. Answers to Ice-breaker questions

The recorder should complete these items in the rubric document for this activity.

 Project Activity 1 - Team Formation Rubric