# How to Become a CCIE v2

Passing the elite level and world's toughest certification from Cisco Systems, tips from someone who has done it three timesBy Himawan Nugroho, CCIE#8171 (R&S, Security, SP)I was digging through my own blog archive and found that my first post about How to Become a CCIE is quite old and need to get updated. In fact, I'm thinking to modify it in such a way so the same principle should be applied to any CCIE tracks, and even to any top level certification from other vendor. Without any intention to re-invent my own writing, I just put the updates and I tried to make it short this time. So if you'd like to read more about my experience taking the lab 3 times, I suggest you to read the original version and all related posts, starting with the summary of my journey.Btw, in case you haven't noticed I'm trying to learn how to sell by using marketing hypes, hence the words "elite level", "world's toughest" and "from someone who has done it three times" yeah, right.**1. You still need to ask yourself "what's the point?"** It's still a very tough challenge. It's still a long and tiring process. You will spend lots of efforts and money to get it. You still need to sacrifice your spare time and social life. So you should have at least one good reason why you want to do CCIE. And don't try to fake the reason. No one can give you the answer and I bet no one other than you really cares what it is. But it's important for you because this might be the only thing that can keep you going, that can wake you up from your laziness, that can make you come out from your frustration in the middle of your journey.Once you know and believe in your reason, then decide which track you want to pursuit. Follow your heart, do only the track you like. Continue with collecting the information about that specific track: read the CCIE blueprint for both written and lab exam. Read Networkers slides to get a brief picture about the exam format and sample of the question (Yes they have a session for this, I remember I read and listened to the presentation conducted by CCIE SP proctors).**2. Use the mid-level certification**Now the step for all CCIE tracks are very clear and they all have mid-level certification (except CCIE storage). So if you want to take CCIE in Routing & Swithing you should learn CCNP. For CCIE Service Provider you should start with CCIP. For Voice it's CCVP. And for Security it's CCSP (the new Security lab doesn't require extensive knowledge of routing & switching anymore, you may check its blueprint v2). Remember, using this mid-level certification doesn't mean you have to pass it.If you are one of the guys who wrote me email to say that certification is useless, want to take CCIE just to prove how good you are, doesn't want to waste time with CCNA, CCNP/IP/SP/VP then it's fine. Don't take the exam but you can still utilize the resources to plan your study. The base knowledge for CCIE is already covered in the mid-level certification. So do the obvious and follow the flow: read the books for the mid-level of track you want to pursuit even you don't have to take the exam. Passing the mid-level exam is important just as a review to ensure you have really understood the material covered by the certification. And you may want to get your knowledge to some extend to be certified by Cisco that can be considered a reward in your journey even you haven't completed it.**3. A new way to build your home lab**Practice extensively in the lab is still the key to pass CCIE. But for certain tracks, R&S and SP, you can practice CCIE lab without having any real equipments. I have built a step-by-step guidance to do this with dynamips. Dynamips is a very popular emulator for Cisco IOS and now some people have released several front-end interface such as dynagen or GNS3 to make it easier to setup and build the topology. It's an emulator to provide real router environment that can trick the real Cisco IOS so it will boot in normal PC. So it's still need the real Cisco IOS software, and please don't ask me to send you this.Many people still wrote me email asking this question: is it possible to pass CCIE only with dynamips? Yes, it is. I have seen some of my friends did this. In fact, I did all my practice for CCIE SP only with (censored), something similar as dynamips. Censored = internal info to Cisco employees heheh. I'm planning to take the top level certification from other vendor (guess who :)) using a similar emulator only. I want to do it just to utilize my spare time, to prove my point here, and obviously for fun.You may still require to build home lab, or rent it online, for other CCIE tracks. **4. Passing written test still doesn't prove anything**This is still the same point as my original post. You can read the written exam blueprint and compare it with the lab. Take the written test and feel its coverage. Then setup your lab after that, start doing the workbook, and feel the difference. For some tracks, studying for written test doesn't add any value for the lab preparation. For me, I don't count the step to pass written test as part of my checklist to pass the lab. After you pass written exam, you are eligible to register for the lab. And that's what it's all about. Passing written test doesn't mean you are half-CCIE. It doesn't mean you are 20% or even 10% ready to take the lab. I count it as Step 0. From the written test you should start practicing in the lab and build the percentage of your progress. Use the lab blueprint as your guidance. Once you cover 100% in the list then you may be ready for your first attempt. Well, this is not always the case. I covered only 80% and passed in my first attempt. But don't count on my experience!So my point here is: never count passing written test as part of your CCIE lab preparation. Just look at it as administrative step required to register for the lab.**5. Read, read and read, then practice**I won't list all the books that I read to prepare for all my CCIE labs. They are just so many of them! And sometime you just need to read few chapters from one book. The must-read book list is different for every track and may not updated. But you can start by checking on the book list from CCIE website. If you think it's still too much, then I suggest you to again use the Lab Exam Blueprint as your

guidance. Read about one scope of technology at a time. Read from CCO, since this is Cisco certification so it always makes sense to check the configuration guide and technical tips from their website. Material from Networkers (slides with sound) is still a good resource, and I think you can get this from Networkers Online. Google is always our best friend. And you may be interested to subscribe for online books library such as Safari Books online. Check the list of their books first before you pay! The benefit of reading from a website like Safari is they provide a google-seach to find specific topic you want to read from several books.**6. Fast and Furious may not the trend anymore**Indeed you still need the speed in typing. I guess it will be difficult to pass CCIE if you still use only two fingers to type and always look at your keyboard when you do so. There is just not enough time! But it was a different experience when I did my R&S and Security with my SP lab. In the first two, there are many independent technology that I can skip to come back later on if I don't know the answer. So my strategy at that time was to answer all questions that I know the obvious answers first. Then I went back to answer some of the questions that I'm not too sure about it. And the rest of the time was to answer all questions that I have no clue, and I used to depend on Documentation CD or restricted CCO documentation websites to find the answers. So normally I tried to complete 70-80% of the lab before lunch, since I know I need to spend many hours to read from documentation CD.But in SP, it was a different story. Many topics are connected to another topics, many topics are built based on another topics as underlying protocol, and all decision we make to answer one topic may affect our answer for the topic we build on top of it. So the strategy that works for me at that time was "do it once, and do it right". I needed to make sure I had answered the question correctly before I moved to the next question (unless it's independent feature that I can skip). Even I can type IOS command quite fast but at that time I had only 1 hour left to re-check my work. And documentation CD is not our best friend anymore in SP lab. There is no time to read it and actually to be able to build a working topology all topics covered in the lab must be understood thoroughly, unless it's related to features or enhancements. **7. Join the community**There is no doubt about this. Learn from others' experience and share your own experience. Check the archive for all previous discussions. Answer the questions in the forum in order to get the answers for your questions to the forum. Build a healthy discussion forum! Respect each other and always think those people who are willing to answer are not getting paid for that so don't be rude and push to get answers (unless you join a commercial forum or the forum that is created by vendor to answer your questions related to the product/workbook you purchase from them).Same as what I wrote in my original post, it would be good if you can build a small discussion forum in your area that can meet offline. It's always better to have someone to share your frustration or listening for someone's experience to boost the spirit while having coffee together. CCIE is a one-man-journey type of experience but as I said in the original post, I was happy just to know there were others out there who might be doing the same thing and facing the same challenges. You are not the only one, even you are alone who must open the door, Neo.**8. Asking the right question is an art**Try to ask some silly questions or obvious questions that any CCIE lab proctors are not allowed to answer are not recommended. They are there in the lab to clarify the question, and sometime they can provide you hints to the answer. So use this chance wisely because you don't want the proctors mark your face in his brain as someone who asks him the answer for CCIE lab. More into that, I think it's really good to build a culture on how to ask a question effectively. I received many emails asked me how to become a CCIE even now still working on CCNA? That's easy, pass your CCNA first! Or I have seen some people throw one line question to the forum: how can I configure MPLS VPN? Why don't you spend a little bit of your time to read the website, use google, RTFM, try it in your lab and when you are really stuck you can send your specific question with all required information such as the config and topology.Learn how to ask effectively.We all definitely need this even for the life outside CCIE lab.**9. Understand the lab question**I was not born in english-speaking country. And even I have spent 6 years working overseas, with English as daily business language, it was still difficult for me to understand some of the lab question. For my CCIE SP lab all the questions were straight forward. I went to the proctor only because I found some vague words and since I know how to ask I could even get the hints after I clarified the words with the proctor. So they are there in the lab to help you to clarify the questions. But that's all.And I found out when some lab questions are so confusing, it's better to sit back and look at the topology as a whole and a unit. So try to understand what we are trying to build in the lab from helicopter view, not from the device or configuration perspective. For example, when I did my SP lab I looked at the drawing, read the questions, tried to understand what kind of network I have to build with all traffic flow and policy then it became easier for me when I worked on each question to put the configuration.**10. Skeptical attitude might the one you need the most**Trust no one, trust no solution. Don't trust the configuration guide in Cisco website. Don't believe what people say or write in the forum. Don't trust the configuration and solution written in Ciscopress books. Don't even trust the solution from the vendor for those CCIE workbooks that you must pay for it!I'm not saying that all those resources are bad and should not be trusted. What I'm trying to say here is you should not trust any solution unless you prove it in your lab. It may work in the book but not in your case because you use different IOS. You may read it and think you have already understood the technology but then when it doesn't work in the lab only you realize there is a missing part that you need to discover. And some people either make a typo in

their solution or answer it with one way because of some consideration that you may not able to see.So never stop asking: Why? How come it's possible? Why the solution use that way? What if I answer it with this way? How to prove the concept really works? What if I add this on top of that? How to answer this question if I modify or add with that requirement? And so on.**11. CCIE is nothing but a mind game**You still need to read lots of books. You still need to practice extensively. You still need to make the strategy and plan your study accordingly. But on top of that, you really need the right mindset and attitude to pass. Other than being skeptical and consistently test the solution in the lab, you must be positive most of the time. You should believe you can achieve your target if you really spend efforts in doing so. Avoid unnecessary discussion and long debate about why you need to become a CCIE (you should do that in Step 1 above). Leave your discussion group if they keep telling you it's very difficult to pass CCIE and you won't be able to make it because you don't have what it takes to pass. Or they say you don't have same opportunity as the others who can pass. Everyone has the same chance to pass. During my journey I have proved that it's not a matter of time, nor it's a matter of support from the company or how many resources you have. It's all about the mindset.And other than being positive, you should develop ability to be adaptable as well, to make you ready for any surprises in the lab. You should know how to analyze a problem and use the right approach to solve it. This is required to ensure you can understand the requirements in the lab and choose the right method to answer. You need to be able to make decision and handle situation under pressure within limited amount of time. And you don't risk your life in taking this CCIE anyway! So relax, try your best to be prepared, extremely prepared, but in the end if you make mistakes and fail, you lose nothing but the cost to take the lab. On the other side you will definitely learn something from your failure and gain more than what you lose.So again, Everyone has the same chance to pass.If someone tells you the otherwise, ask him to talk to me.**12. Enjoy every moment of it**What's the point to do something if you don't enjoy it? Again, this is the reason why Step 1 is very crucial. It's very important to follow your heart. Because pursuing CCIE requires you to be focus and consistent, so it will be difficult if you don't know why you want to do this in the first place. You must sacrifice your spare time and social life so it's really important for those around who care to you to be part of the game. Discuss your plan with them and try to still make some contact with other human beings when you are not geeking out in the lab. I remember when I did my security I still spent some time with my family to go to the beach, even my mind was in Firewall-ACL-to-allow-BGP-traffic-with-NAT and IDS-fine-tuning-to-send-alert-only-after-certain-hits. I sacrificed my sleep to gain extra time to study. I sacrificed my lunch. I sacrificed my time that I normally used to chit chat with colleagues. But I still had fun doing my lab since at the same time I played the Matrix or the Simpsons next to my hyperterminal. And not to mention all those Linkin Park songs that I used to play over and over continuously.And when you are preparing for CCIE, be in the moment. Make a 6-months study plan but do one thing at the time. If you haven't passed the written then do this as Step 0. If you haven't setup the lab then start reading documentation about the emulator or search for the hardware on ebay. If you must deal with busy schedule at work, try to have fun by read CCIE material in between your busy time or steal some time by locking yourself inside the toilet and read in there (I'm still doing this until now!). Feel every aspect of the journey. Be grateful when you have even a very short time to make progress in your study. And always try to enjoy every moment of it.Okay, let's say you pass. You may ask: now what?Don't ask me. Ask yourself.CCIE is just the beginning of a bigger journey. There are several other CCIE tracks to chase or other exciting things to do in life such as working in large scale project where you have to use all your technical skills along with your ability to handle much complex situation. But frankly speaking, until now I still haven't found another journey that could offer such tense atmosphere, learning experience, wide coverage of technology within short time, and fun all together outside CCIE. All the time was just for me and my lab.As I wrote in my own post after I passed my 3rd lab: CCIE was the only time when the world makes sense.Have fun, everyone.