

openSAP Invites Episode 28

Learn Automation Techniques with Red Hat Enterprise Linux (RHEL) Ansible Automation Framework for SAP Software Solutions

Transcript

Antonio: [00:00:09] Welcome to openSAP Invites. I'm your host, Antonio Soto. Today, I'm very excited to welcome two guests from Red Hat. Ricardo Garcia and Markus Koch. Ricardo, Markus, and I will focus on a versatile and invaluable toolset called Red Hat Ansible Automation platform and how it can help SAP bases, administrators and systems engineers automate IT infrastructure, administrative workflows, particularly with SAP software solutions. As a project manager with the openSAP team, we worked closely with Ricardo and Markus to deliver openSAP course titled Red one PC SAP Landscape Automation with Ansible and Red Hat Enterprise Linux. This course has reached almost 3200 learners so far and is currently available in self-paced learning mode and our openSAP Learning platform at openSAP. Make sure you check it out, folks. If you're not already familiar with Red Hat Ansible, you will soon learn how versatile and invaluable it can be for IT organizations to have implemented SAP software solutions like SAP CC, SAP BW, S/4HANA and SAP HANA database platform on prem or private cloud to administer automation of IT. Infrastructure tasks such as server patching, security fixes, subscription management, Red hat insights and the SAS that makes sure that all the Red Hat Enterprise Linux hosts are compliant with Red Hats and other vendors recommendations like SAP in accordance with their respective customer policies.

Antonio: [00:02:06] Ricardo Garcia is a principal portfolio architect at Red Hat that creates solutions, combining the different products of Red Hat's portfolio. One of his focuses are SAP workloads, since he has a long background as SAP basis engineer and solutions architect. Ricardo joined Red Hat in October 2019, initially being part of the services team as an architect focused on SAP workloads, providing solutions for customers involving automation and integration technologies. Currently, he works in the

portal and the Portfolio Architecture Team, creating reference architectures with all the products of Red Hat's portfolio. Markus Koch joined Red Hat in October of 2010, and since 2017 he works as a partner enablement management manager. My apologies in the EMEA partner team helping our partners to understand, sell and implement SAP solutions with Red Hat products. He joined as a pre-sales consultant for Red Hat Global Accounts managed out of Germany, helping his customers build ITL compliant data center operations. He is a co-founder of the SAP Ansible Automation Project. Previous experience in his career includes roles with Sun Microsystems and EMC. He has been helping customers build ITEL compliant operations of their data centers and worked on solutions to better integrate, automate and manage SAP systems. As part of the Red Hat infrastructure. Hello, Ricardo. Hello, Markus. Welcome to openSAP Invites.

Ricardo: [00:03:52] Hi, Antonio. Thanks for having us here.

Markus: [00:03:54] Thanks, Antonio. It's a pleasure to be here with you.

Antonio: [00:03:57] It is great to have you both here for this podcast. Thank you so much for taking the time, the opportunity to be here with us at openSAP. I know many in our audience know you from the openSAP course on SAP Landscape Automation with Ansible and Red Hat Enterprise Linux. As I mentioned during the introduction, it currently has reached over 3000 learners. Impressive for an administrator system engineering course. It's great to be able to use the openSAP platform to reach out. Many engage learners. But you know, before we begin our discussion on the ins and outs of Red Hat Ansible, it would be great if our listeners can get to know you a bit, get to know a little bit of your background in history with this Red Hat Ansible solution. This can serve as an icebreaker per se. I'll start with you, Markus. Markus. How are you first introduced to Red Hat Ansible?

Markus: [00:05:00] Oh, yeah. Thanks, Antonio. When Red Hat acquired Ansible in 2015, I was asked to provide training to a global system integrator partner on how to install SAP Hana platform on Red Hat Enterprise Linux. This was a great opportunity to obtain a great first look of this new product, the Hands of automation framework. So I managed to create something useful it just one day. So I procured Ansible playbooks that created and verified my SAP training environment because I use GitHub right from the beginning to store the playbooks. A colleague of mine was able to utilize those

playbooks to create a demo. I made them more modular and flexible by turning those playbooks into roles. Half a year later, a partner consultant worked to improve these roles and asked me to use these for a customer project. And since that time, more and more people started using and improving these Ansible playbooks and roles to deploy SAP software. Red Hat productized the roles and the rest is history.

Antonio: [00:06:20] Thanks, Markus. It's great to know that your initial exposure to this product was a positive one, where you were able to be productive rather quickly one day. Very nice. It's hard nowadays to take software products and become quickly productive with the multiple layers of complexity that's always involved. What about you, Ricardo? How were you first introduced to Red Hat Ansible?

Ricardo: [00:06:46] I have been on a SAP basis administrator for many years, and one of the tasks that I found particularly cumbersome were system refreshes. This is because there are so many tasks involved and they vary from customer to customer. So aside from the fact that they have to be done out of business hours, which is not specifically good for basis guys. So one day an automation team that worked with me mentioned that it was cool automation technology called Ansible by Red Hat. They asked me what I would like to automate if I could make my life easier. So without hesitating, I responded that it would be system refreshers for sure. So we sat down together in detail to the automation team, all the tasks that would need to be automated. And after some time, they came up with these really cool playbooks. I started using them and they saved me so much time and errors that I was really amazed and very grateful to them. Since then, I decided to learn Ansible myself because of all the possibilities that it presented.

Antonio: [00:07:41] Great summary, Ricardo and Markus, thank you for sharing your experiences with us. I gather, based on both of your experiences, that it is indeed refreshing to find automation software that can be put to use fairly easily and quickly. Having some background myself in SAP Business Objects administration, I'm right with you as one always thirsts for simplicity of managing SAP systems, particularly on the very time consuming maintenance workflows like patching and bug fixes. Let's begin our discussion now about this versatile automation solution called Red Hat Ansible in more detail. So I'll begin with you, Markus. What is Ansible in a nutshell, and what is the unique value of this solution when compared to other automation solutions out there?

Markus: [00:08:34] Well, Ansible is an open source solution with a very large community. It allows for modular approach to automation of IT infrastructure workflows so that it can be enhanced and extended with plugins to full strategic automation platform. First, the system integration hurdle is pretty low as no additional agents or software which may violate existing infrastructure security requirements need to be installed. It piggybacks on existing security configurations. Most importantly, an admin who can program, let's say BASH or Perl or any other programming language can be productive with Ansible in just a few hours. Specifically for SAP software installation and maintenance when compared to other automation solutions Ansible provides unique value. Because Red Hat provides dedicated collections, collections are a packaging format that extends the Ansible functionality on certain technologies such as SAP, but also something like Cisco switches, OEM servers, clouds, etc. And currently there are more than 130 certified and fully supported collections available. We have 30 more than 35,000 contributors that are providing their own collections on the community platform at [Galaxy.Ansible.com](https://galaxy.ansible.com).

Antonio: [00:10:16] Very interesting. Red Hat Ansible automation seems to be versatile, particularly to sap solutions that are installed on it. Infrastructure is comprised of generally well-known network topology devices and technologies. Riccardo I'll turn to you now. I understand that Ansible is available in a variety of versions. What are the differences between using the free version of Ansible and Ansible automation platform?

Ricardo: [00:10:42] Before I answer that question, let me make your audience aware of the ASAP Linux Lab GitHub organization. This is a place where everyone in engineering teams and everyone creating content for automation for SAP can contribute. They also can ask questions, submit five feature requests and add code for new functionalities. So please feel free to review the list of links that will be shared on the open invites on the episode page where you will find relevant links to this organization. Now coming back to your question, Antonio. It is important to distinguish the free version of Ansible, which is Ansible core and Ansible automation platform. The free version of Ansible comes with a variety of so-called collections that are unsupported and can be used at customers own risk. Ansible core is shipped and supported with RHEL, but only contains a minimum of built-in roles and modules. It is just enough to run the red Hat system you rose from the Clai or Red Hat satellite. On the other hand, Ansible automation platform allows access

to this more than 130 collections that Markus has just mentioned, and they are certified and fully supported Ansible collections. And this Ansible automation platform adds a very granular layer of security in the form of role-based access control, ensuring that only the right teams will have access to the playbooks and roles that they need in order to do their job. Required credentials are stored encrypted and do not need to be exposed to the users, which is another great advantage. Approval workflows can enhance self-service processes within organizations as well, and it also has a very easy to use and complete graphical interface with dashboards to document and track all the executions of automation.

Antonio: [00:12:24] Great. Thank you, Ricardo, for illuminating us on the important distinctions between the various versions offered of Ansible. Again, coming from the world of analytics and business intelligence, it's great for me to hear that Ansible comes with a built-in reporting and analysis portfolio consisting of useful automation dashboards. Markus Let's extend our discussion on the Ansible automation platform version. What specifically are the elements that comprise the entire platform for automation?

Markus: [00:12:57] Well, Ansible automation platform is a key component of the entire platform for automation. It allows for orchestration of many enterprise-wide automation activities. It comes with Red Hat smart management, which allows for the administration of the entire lifecycle of rail service, such as patching security fixes, subscription management, Red Hat Insights. And last but not least, there's software as a service that makes sure that our rail hosts are compliant with red hats and other vendors Recommendations like SAP. Based on their respective customer policies. So meanwhile, there's also service added for malware detection. So it's a very it's very important that this is the foundation of the anti or that the foundation of the entire platform is Red Hat Enterprise Linux.

Antonio: [00:14:07] Great. Can it be used by Red Hat customers only? Markus.

Markus: [00:14:12] And no, no, no. Ansible can be used with all major OS vendors on bare metal and with virtualisation technologies such as VMware. It also supports most network devices offered by various vendors and nonetheless, Ansible automation

platform must be installed on Red Hat, Enterprise, Linux or OpenShift Hybrid Cloud Container Platform.

Antonio: [00:14:42] Thanks for the clarification, Markus. I'll continue with you, Ricardo, for my next question. Can you describe some use cases where automation can help for the day to day management of SAP systems once they have been migrated or newly deployed?

Ricardo: [00:15:00] Sure the spectrum of use cases for the day to day administration of ACP hosts, what we call day two operations is very broad. The best thing is that customers can develop their own Ansible playbooks. Apart from using the support roles from Red Hat, they can customize them to their needs and to the ACP landscapes. For example, their SAP is for Hanna their SAP Hanna database platform, their ICC or their SAP BW deployments to name a few workflows that are especially helpful. Ansible can be used to automate SAP system refreshes. So here I go back to my inception or my introduction to Ansible, which, as I said, tend to be quite long with lots of tasks. Another good example is to schedule and perform stop starts for SAP landscapes that normally have a lot of systems, applications and dependencies, or of course patching and upgrades at OS DB or SAP kernel level.

Antonio: [00:15:56] Thanks, Ricardo again for reinforcing the notion that Red Hat Ansible can be greatly beneficial and effective within the various SAP software landscapes. Markus You mentioned Ansible, the ability to help orchestrate end to end deployments. This orchestration may involve many complex interdependencies to a company's servers networks by different application teams that may be involved. How do you deal with the proverbial too many cooks in the kitchen problem?

Markus: [00:16:27] Well, as long as the process and the dependencies are properly described or documented with an Ansible, each team or entity can develop an automation for particular step. The dependencies can then be modelled in the orchestration module of the automation platform as of all, then ensures that all automation steps are always synchronized.

Antonio: [00:16:54] That's great to hear, Markus. Sounds to me like metadata modelling to the rescue. This is a great feature indeed, to help with complexity of

orchestration across many teams and applications. Riccardo is creating automation for all these teams or entities very time consuming, especially if they have automated most of their tasks already with something different.

Ricardo: [00:17:20] No, it is actually easy because Ansible has about 130 collections that we have mentioned before for different vendors, for applications, for security, for network devices. And those collections make the development of new automation steps very straightforward. So very often collections from NetApp, IBM, Cisco and of course for SAP and other software vendors are provided existing integrations, for example, with scripts or with vendor. Proprietary automation can be called directly from Ansible, and the automation result is returned for further evaluation. So nothing has to be rewritten to use Ansible. So all this makes it quite easy to adapt previous existing automation to Ansible.

Antonio: [00:18:04] That is awesome. It's great to know I can reuse my existing scripts and easily integrate them to Ansible. This next question is for both of you. What is your overall impression of the ultimate impact of implementing Red Hat Ansible automation platform to the individual teams and the entire organization or enterprise as a whole?

Markus: [00:18:27] Um, yeah, but when you automate, automation teams save time and are more productive. They eliminate repetitive tasks, make fewer mistakes and errors. This can help improve the teams, cross collaboration and overall stakeholder job satisfaction as it enables a company to overcome complexity, which leaves more time and resources for effective management of the core innovation across lines of businesses. It can also be used to increase accountability and compliance. Another key aspect is that it helps eliminate silos because an automation platform is the single source of truth where all the automation used in a company resides so that all the teams can share and benefit from all the content. Always was clearly defined governance policies established by a role based access control.

Antonio: [00:19:36] Thank you, Markus. Anything that you can add to this, Riccardo?

Ricardo: [00:19:40] Yeah, of course. Antonio, I would like to add some interesting statistics, since figures are normally very appealing, and they are related to the benefits of Red Hat Ansible automation platform and come from some studies conducted by

IDC. So by the usage, by using Ansible automation platform, you have detected a 318% increase in the return of investment in five years, 29 million increase in yearly revenue, 61% more efficiency in IT teams, 99% less unplanned downtime, which is really, really interesting. 24% faster go to market and 24% more efficient security teams.

Antonio: [00:20:25] Sold. Thank you for supplying these very illuminating stats. So where can our listeners learn more about Red Hat Ansible automation platform? Either of you can answer this one.

Ricardo: [00:20:40] I can showcase some resources for beginners and maybe Markus can discuss some resources for experts. For beginners, I would recommend a self-paced. The self-paced training labs that live on Red Hat resources. This is a good starting point for admins to get their hands dirty with Ansible. Then I will mention the openSAP course about Red Hat automation for SAP that Markus and I recorded. That's another good starting point to learn Ansible in this case in conjunction with SAP collections. Another good resource for beginners would be a reference architecture or a portfolio architecture that we have published. It's about smart management for SAP and then another article that is a blog post about managing SAP workloads on Azure with automation. You can look for links to these resources in the file section of the openSAP Invites Episode page.

Markus: [00:21:34] Yeah. And, and they're also on the SAP blog pages. There are a good series named deploying our SAP S/4HANA system using the rat portfolio. This is a complete blog series step by step on how to use the Ansible collections for SAP. And if you want to get deeper into it, Ricardo mentioned it earlier, visit the SAP Linux Lab GitHub organization. This is the place to collaborate with the engineering teams for the SAP collections, ask questions, file feature requests, and be an active member of this community. Look for these as well. In the file section of the openSAP Invites Episode page.

Antonio: [00:22:30] All right. We now come to the final question of the podcast episode, folks. This one is for either of you again. We have discussed several topics for evolving Red Hat Ansible automation platform. To summarize for our listeners, what are 2 to 3 key takeaways from this podcast episode listeners should remember about Ansible?

Ricardo: [00:22:56] Okay, I'll go first. For me, one of the main takeaways of this conversation is that Ansible can automate almost any kind of workloads in the whole application lifecycle, like patching and security fixes, especially on CCP related infrastructure. While it might be installed on or OpenShift, as Markus said, it can integrate well from a heterogeneous topology standpoint with other operating systems like Microsoft. And this is very important.

Markus: [00:23:24] And I like to add that it saves time and money due to the modularity of the enterprise solution, and it enables a company to overcome the complexity, which leaves more time and resources for effective management and core innovations across the line of businesses. And the last point it is easy to adopt and learn. Please see the supplied list of links available in the openSAP invites episode page to those resources. Sources that can get help can help you get started or continue your knowledge acquisition.

Antonio: [00:24:10] Fantastic discussion, gentlemen. Markus, Ricardo, I want to thank you very much for participating in this podcast. It has been a real pleasure for me, partnering with you and your team. Thank you.

Ricardo: [00:24:27] It's been a great pleasure, Antonio. Thanks again for having us.

Antonio: [00:24:31] Thank you for listening to openSAP Invites. I'd also like to thank my producer behind the scenes, Miguel Caroli. If you've enjoyed this episode, please share rate and leave a review. Also, be sure to check out openSAP Free Learning offering of massive open online courses, Microlearning and Podcasts on openSAP.com. This episode concludes the openSAP Invites Podcast series. After running this show for almost three years, it's time to say goodbye. Thank you for listening to our openSAP Invites. I hope you took some valuable information from our episodes that you can apply to your business or professional life. Thank you to our guests who were on the show and made this a great learning journey for all of us. And thank you to the entire openSAP podcast team, our media production, the hosts and the publishing team. Take care and keep on learning with podcasts on openSAP.

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