Welcome!

This year we are celebrating 10 years of re:Invent. This is a special year. In 2019, we celebrated the same anniversary for DevOps at DevOpsDays, Ghent. That means DevOps is older than cloud. But they are inseparable for many.

The originators of the DevOps movement talk a lot about breaking down silos and collaboration. Over the years, we have discovered that practices and tools help a lot with this mission. Cloud made things much simpler and enabled innovation for builders, together with DevOps.

I’m Serhat Can, and in this DevOps guide for re:Invent, I’m sharing sessions that make builders’ lives simpler and sessions that foster collaboration and innovation.

Serhat Can
Principal Tech Evangelist
Atlassian
Breakout sessions
I have chosen sessions for DevOps builders. All DOP coded sessions are interesting too. I’ve tried to add more from other categories so you don’t miss them.

**DOP311**
Incorporating continuous resilience in your development ecosystem

Continuous is a key word in DevOps methodology. The speakers share many services to help streamline this continuous improvement and development mindset in this talk.

Today, resilience encompasses a broad range of considerations from infrastructure, application patterns, and data management to application building and monitoring. Additionally, after incorporating resilience, it is essential to maintain it in a continuous manner. In this session, explore various considerations for implementing processes designed to provide continuous improvement through a DevOps methodology. Review various services that can incorporate resilience in the development process in a nearly continuous manner.

**COP302**
Best practices for centralized operations management on AWS

AWS can get complex for newcomers. This session covers best practices for key concerns of DevOps professions like incident management and compliance management.

In this session, learn how to build, manage, and operate your mission-critical applications in a secure, automated, reliable, and cost-effective way. This session covers how you can use a single control plane across multiple AWS solutions to manage and govern resources on AWS, on premises, and in hybrid environments. Join this session to learn how to streamline application management, incident management, and compliance management to manage mission-critical applications and services better.
**Net305**  
**NetDevOps: A modern approach to AWS networking deployments**

Networking configuration changes can cause incidents if not automated. This session shows an example pipeline with IaC automation and a real-time example from GE.

Many organizations are moving from traditional monolithic data center networks to an agile application programming interface (API)-driven cloud network. As a result, customers are looking for an efficient and reliable way to make changes to their cloud network infrastructure. In this session, explore how you can adopt a DevOps pipeline-driven approach to deploy network configurations following best practices and using infrastructure as code. Also, learn from General Electric (GE) on how they adopted NetDevOps to accelerate their networking deployments.

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**COP202**  
**Improving cost visibility and allocation**

Cost is a key concern for companies of all sizes. DevOps teams are responsible for the visibility and management of provisioned resources and their costs. Yet, given there are multiple places to look for, cost management is complex. Watch this talk if you are also responsible for AWS costs.

Improve financial transparency and define a cost-allocation strategy tailored to meet the complex needs of your business. Join this session and learn how to organize cost and usage for even the most complex of organizations across dimensions specific to your workload. Through AWS products such as AWS Cost Explorer, AWS Cost & Usage Report, AWS Cost Categories, and AWS Application Cost Profiler, you can establish the necessary cost visibility and accountability within your organization and start running your IT shop like a business.

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**COP313**  
**Inside Amazon operations: Operations automated at scale**

Amazon presentations are always interesting and I find them really useful due to their scale in operations. If you want to learn how AWS deploys security agents to 1.2 million Amazon EC2 instances and manages them at scale, join this session.

In this session, learn about Amazon’s CloudRanger solution that uses AWS Systems Manager to automate operations, including the deployment of security agents to more than 1.2 million Amazon EC2 instances. CloudRanger agents collect telemetry on Amazon EC2 instances and take necessary action when issues are detected. Discover how Amazon handles incident management to enable faster resolution of critical application availability and performance issues, as well as new developments with the Systems Manager service.
AWS Proton was announced last year as a solution to simplify the deployment of applications. This session will get you up to speed on one of AWS's newest DevOps tools.

AWS Organizations, AWS Security Hub, AWS SSO, and AWS IAM Analyzer are all services that DevOps professionals need to know. Their features enable much easier and secure governance of AWS environments. Don’t miss this if you manage AWS accounts at any scale.

DevOps requires deep understanding of the fundamentals of networking. Any AWS architect should master the networking foundations of AWS, and this session is a great start.

AWS offers first-class tooling like IDE extensions and SDKs for the entire development lifecycle. In this session, get to know them more and learn how to use them more effectively.

DevOps is about breaking down silos. One of the ways to do this is to use the right tooling and practices and empower teams with shared services platforms. This session shows you how.

DevOps starts with CI/CD. Pipelines enable teams to continuously delivery value. Security should be part of your delivery pipelines at every stage. This talk shows you how to shift security left in practice.
Interactive sessions
Hands-on sessions are what makes AWS re:Invent great. I’ve tried to select ones that I think would be interesting for DevOps professionals.

**DOP201**
Provisioning, automating, and orchestrating IaC on AWS

I know many want to compare AWS CloudFormation and AWS CDK, learn when to use which one, and hear best practices for IaC on AWS. If you are looking for this kind of info, join this session.

This chalk talk answers your questions about infrastructure as code (IaC), including relevant AWS services and partner products. It covers topics like IaC patterns, the AWS Cloud Development Kit (AWS CDK) and AWS CloudFormation, augmentation of your CI/CD workflows with services like AWS Systems Manager, and how to select the right tools for the job. Join this talk and bring your questions.

**DOP306**
Implementing release management strategies for CI/CD

Zero downtime release and rollback strategies? I know you are already interested. Get hands-on knowledge for building the right CI/CD pipelines on AWS in this workshop.

This workshop guides you through building CI/CD pipelines with release-management best practices, including artifact management as well as zero-downtime release promotion and rollback mechanisms. Evaluate various rollback/roll forward strategies across compute types and assess the need for manual processes.
AWS offers tools like Amazon CloudWatch and AWS X-Ray for observability. Many companies use 3rd parties but in some cases, you don’t need to go elsewhere. If you have questions about that, ask them in this chalk talk.

In this chalk talk, learn how you can use Amazon CloudWatch to gain insights about the trends and patterns of your infrastructure performance in real time. Learn how to slice and dice your CloudWatch Container Insights metrics to help you gain actionable insights. Also, learn how to monitor blue-green deployments to stay away from downtimes. Lastly, discuss how to use metric querying to analyze and compare how your business is doing across different areas.

Compliance is a key concern for many SaaS companies. AWS offers solutions to build them into your dev pipelines. Ask your questions on compliance in this chalk talk.

This chalk talk dives deep into the importance of and mechanisms for meeting security and compliance requirements for your organization. Learn ways that you can enforce pre- and post-deployment standards, shift-left testing, and use of services like Amazon CodeGuru Reviewer, AWS CloudFormation Guard, and AWS Config for security static analysis and runtime compliance checks. Join this talk and bring your questions.

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Chaos engineering is a hot topic and AWS offered a native service last year. Learn more about AWS Fault Injection Simulator in this builders’ session. This interactive chalk talk is built for Java developers who want to improve their AWS skills with cool tips and tricks.

DevOps folks love the CLI. It is a powerful tool to manage your AWS infrastructure. Get hands-on and learn expert tricks in this workshop.

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This hands-on workshop teaches you how to manage Amazon EKS clusters using GitOps workflows. I’m pretty sure these buzzwords are hot topics in many enterprises. Don’t miss this if you work at one!

CDK Pipelines is a new construct that simplifies building CI/CD pipelines for safe deployment of changes. Learn more about this new feature with hands-on builders.

Security is a top concern among DevOps professionals. This workshop is your one-stop, hands-on class to learn about protecting your web apps built on AWS.
Other recommendations
TAKE CARE OF YOURSELF

re:Invent is the best place to network with people coming from all around the world. We sometimes (I know I did) try so hard to make the best out of our time that we stop caring about our health. Get your sleep. Drink so much water. And keep the masks on!

WORKSHOPS

I enjoy breakout sessions a lot. They require minimum interaction but they offer high-quality information. Yet, when I joined a workshop 2 years ago, I realized how powerful it is to learn from the builders of these products and get the chance to ask questions. My recommendation is to join at least one relevant workshop and get hands-on during re:Invent.
DevOps **Bootcamp**

**TNC208**

**Exam prep: AWS Certified Solutions Architect – Associate**

Develop your AWS skills with hands-on experience. Learn by doing with expert guidance, immersive exercises, and self-paced labs.

Choose a fundamental bootcamp, such as Exam Prep: AWS Certified Solutions Architect – Associate, which prepares you for your AWS Certification exam, or Developing Serverless Solutions, which gives developers exposure to and experience with best practices for building serverless applications using AWS Lambda and other services in the AWS serverless platform.
In addition to all the amazing breakout sessions at re:Invent, the AWS Modernization & DevOps Jam will allow you to actually use those AWS and Partner solutions that you have heard about to solve real-world scenarios in a fun and competitive event.

This jam provides an environment for you to try to improve applications and implement DevOps best practices. What are the limitations of the existing solution? How can you architect multiple AWS services together to improve it? Whether you are new to AWS or a cloud expert, join us to demonstrate your existing skills while learning new ones. Jams are structured to accommodate AWS users of all levels. Clues and AWS experts are available to help ramp up your application modernization and DevOps knowledge. A laptop is required to participate.
Adam Selipsky is the CEO of Amazon Web Services (AWS), the world’s most comprehensive and broadly adopted cloud platform. Having previously led AWS Marketing, Sales, and Support for 11 years, from 2005–2016, Selipsky helped launch and grow AWS from a startup into a multi-billion dollar business. Prior to rejoining AWS in 2021, Selipsky was most recently President and CEO of Tableau Software. He led Tableau through its acquisition by Salesforce, in what was the third-largest software industry acquisition at the time. Selipsky has also held various leadership roles at RealNetworks, and before that, was a Principal at strategy consulting firm Mercer Management Consulting. He has an AB in government from Harvard University and an MBA from Harvard Business School.
Peter DeSantis Keynote

Peter DeSantis is the Senior Vice President of AWS Global Infrastructure and Customer Support. In this role, he leads the AWS teams responsible for designing the data centers, servers, and network that underpin our AWS services and for deploying and operating this infrastructure worldwide as well as for the customer-facing organizations providing support for our AWS products.

Live stream sponsored by: stripe

Machine Learning Keynote

Swami Sivasubramanian is Vice President at AWS in charge of all Amazon AI and machine learning services. His team’s mission is “to put machine learning capabilities in the hands of every developer and data scientist.” Swami and the AWS AI and ML organization work on all aspects of machine learning, from ML frameworks (TensorFlow, Apache MXNet, and PyTorch) and infrastructure, to Amazon SageMaker (an end-to-end service for building, training, and deploying ML models in the cloud and at the edge), and finally AI services that make it easier for app developers to incorporate ML into their apps with no ML experience required.

Global Partner Summit Keynote

Join us for the Global Partner Summit keynote, presented by Doug Yeum, Head of AWS Partner Organization, Sandy Carter, Vice President, Worldwide Public Sector Partners and Programs, and Stephen Orban, General Manager of AWS Marketplace and Control Services. You’ll learn about cloud-powered innovation and the opportunity it creates for AWS Partners, as well as how AWS Partners use the AWS Cloud to build innovative solutions and services, differentiate their businesses, and enable customers in virtually every industry to transform their businesses.

Live stream sponsored by:
Leadership sessions
Leadership sessions*

**SPOTLIGHT SESSION**

All Builders Welcome

**LaDavia Drane**
Director, Inclusion, Diversity & Equity

**Francesca Vasquez**
Vice President, Technology

*Sessions are subject to change
Leadership sessions*

AWS Marketplace
Stephen Orban
General Manager, AWS Marketplace

AWS Public Sector
Max Peterson
Vice President, Worldwide Public Sector

AWS Public Sector Partners
Sandy Carter
Vice President, Worldwide Public Sector Partners and Programs

AWS Storage
Mai-Lan Tomsen-Bukovec
Vice President, Worldwide Public Sector Partners and Programs

AI/ML
Bratin Saha
Vice President, Machine Learning

*Sessions are subject to change
Leadership sessions*

Analytics
Rahul Pathak
Vice President, Analytics

Architecture
Brian Taptich
Vice President, AWS Worldwide Specialist Organization

Business Applications
Peter Hill
Vice President, Business Applications

Cloud Operations
Bill Vass
Vice President, Engineering – Storage, Automation, Streaming & Management

Compute
David Brown
Vice President, Amazon EC2

*Sessions are subject to change
Leadership sessions*

Containers
Deepak Singh
Vice President, Compute Services

Databases
Jeff Carter
Vice President, Relational Databases

Developer
Ken Exner
Director, AWS Developer Tools

Edge
Bill Vass
Vice President, Engineering – Storage, Automation, Streaming & Management

Enterprise and Migration
Todd Weatherby
Vice President, Professional Services

Live stream sponsored by: snyk

*Sessions are subject to change
Leadership sessions*

- **IoT**
  - Michael MacKenzie
    - General Manager, AWS IoT

- **Networking & Content Delivery**
  - David Brown
    - Vice President, Amazon EC2

- **Security, Compliance, and Identity**
  - Stephen Schmidt
    - Vice President and Chief Information Security Officer

- **Serverless**
  - David Richardson
    - Vice President, Serverless

- **Training & Certification**
  - Maureen Lonergan
    - Director of AWS Training and Certification

Live stream sponsored by:

*T Sessions are subject to change.
Choose the learning methods that work for you

**Breakout sessions**
Available from intermediate (200) through expert levels (400), so you can grow your skills, no matter where you are in your career. Select from any track, level, or available session type to tailor your re:Invent experience.

**Workshops**
Workshops are two-hour hands-on sessions where you work in teams to solve problems using AWS services. Workshops organize attendees into small groups and provide scenarios to encourage interaction, giving you the opportunity to learn from and teach each other.

**Chalk talks**
Chalk talks are a highly interactive content format with a small audience. Each begins with a short lecture (10–15 minutes) delivered by an AWS expert, followed by a 45- or 50-minute Q&A session with the audience.

**Builders’ sessions**
These are 60-minute small group sessions with up to six attendees per table, and one AWS expert, who is there to answer questions and provide guidance. It’s just you, your laptop, and the AWS expert.
Choose the learning methods that work for you

Training and Certification
Learn directly from AWS experts and get practical experience with real-world cloud scenarios. Skill up fast with a bootcamp, show your expertise by earning an AWS Certification, and practice your craft with one of our labs.

AWS DeepRacer
Developers of all skill levels can compete in virtual races during re:Invent for a chance to win prizes and glory! Tune in to AWS DeepRacer TV throughout re:Invent to catch the championship action.

Jams and GameDays
Test your skills in implementing AWS solutions by solving real-world problems in a gamified, risk-free environment. Take part in collaborative and interactive learning exercises—and win prizes!

Expo
Learn from AWS experts and partners. The Expo at The Venetian will be host to AWS Village, AWS Partner Network, AWS Marketplace, Builders' Fair, Developer Lounge, a demo theater, Jam Lounge, Startup Central, and sponsor booths.
Midnight Madness
Once again this year, we will be hosting an AWS-style pep rally to kick off the week and welcome our most dedicated fans. Midnight Madness provides a sneak peek into re:Invent, complete with the first product launch of re:Invent 2021.

Quirky
Experience Amazon's unique culture at one (or more!) of our Quirky events. Whether it's board games, bingo, or a sneak peek of one of your favorite Amazon TV shows, we've got something for everyone.

re:Play party
For our 10th annual re:Play party, we have an amazing lineup, featuring all the classic re:Play activities like dodgeball and office chair grand prix, and we have a very special musical headliner. Stay tuned for more information!

Restaurant receptions
Join the conversation at our vibrant restaurant receptions. Meet people from across the tech world and connect on topics of interest to you at a range of wonderful venues.
Reserved seating
Navigate to the session catalog

After logging in to the event portal, click on the side nav and click “Sessions”.

(Amazon Web Services website interface shown with a purple arrow pointing to the “Sessions” option in the navigation menu.)
When viewing the session catalog, there is a set of filters available on the left sidebar of the sessions catalog that shows a variety of filters you can use while browsing. Filters include: price, day of the week, difficulty level, session type, topic, AWS service, and industry.
At the top of the session catalog, there is a search bar where you can enter freeform text to search the full catalog. The search box searches through all of the displayed text fields of a session, including session ID, title, abstract, and level.
When viewing the session catalog, any session shown in the results has a star icon on it. Clicking that star will mark it as a favorite. To un-favorite it, simply click the star again.

15 years of AWS with Jeff Barr
BCA201

Amazon S3 and Amazon EC2 are turning 15 this year, and Jeff Barr, Vice President, have a chat with him about how AWS was born, how customers keep surprising us with their amazing projects. Along the way and shares lessons on how to best build on AWS. Last but not least, go...
Reserving a session

For events with reserved seating, when a session has available seats, the button on the session card will say “Reserve seat”.

For sessions with a price greater than zero, the button will say “Buy for <price>”. Clicking purchase will open up the purchase form where you can complete your transaction. Once the transaction is complete, that session will show on your reservations list.
RESERVED SEATING WALKTHROUGH

Waitlisting a session

When a session has no seats available, because the capacity has already been met, then the button will say “Join waitlist”. If you join a waitlist for a session, and a seat becomes available in that session, you may automatically be placed in that session and we will notify you via email.
Along the top of the catalog page, there are 3 tabs: 1) All sessions, 2) My favorites, and 3) My reservations. Clicking on “My favorites” will show you a list of only sessions you have favorited. Clicking on “My reservations” will show you a list of items you have reserved or waitlisted.
RESERVED SEATING WALKTHROUGH

Cancelling a reservation or waitlist

When viewing a session, in any tab, if you have reserved or waitlisted, you can cancel that action by simply clicking the button again. It will show a dropdown that says “Cancel reservation” or “Leave waitlist”.

Automating content moderation to improve digital safety
AIM307

The volume of user-generated content and third-party content has been exploding in social media, online forums, and other platforms. To keep up with the demand, companies need to find a way to review audio, image, video, and text content at scale for potential mod-moderation violations. This chalk talk provides hands-on experience to implement a multimodal AI content moderation solution that leverages Amazon Transcribe speech (Amazon Transcribe), and text (Amazon Comprehend).

Session type: Chalk Talk
Topics: Artificial Intelligence and Machine Learning
Session level: 300 - Advanced

BOA201

Amazon S3 and Amazon EC2 are turning 15 this year, and Jeff Barr, VP and Chief Evangelist at AWS, will take a look back at how much has changed since AWS was born, how the developer experience has evolved over the years, and how customers keep the community and shares lessons on how to best build on AWS. Last but not least, go back to the basics.

Session type: Breakout Session
Topics: None
Session level: 200 - Intermediate
RESERVED SEATING WALKTHROUGH

Viewing your calendar

In the main navbar on the left of the session catalog, you will see a link that says “My calendar”.

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RESERVED SEATING WALKTHROUGH

Viewing your calendar

If you navigate to the calendar, you will see all of your favorites, reserved seats, and waitlisted seats on the corresponding days that those sessions are scheduled.
Make a plan
Breakout sessions are lecture-style and one hour long. Sessions are delivered by AWS experts, customers, and partners, and they typically include 10–15 minutes at the end for Q&A.

Chalk talks are one hour long and contain expert-level content presented by AWS experts. The goal is to foster a technical discussion around real-world architecture challenges.

Workshops organize attendees into small groups and provide scenarios to encourage interaction, giving you the opportunity to learn from and teach each other.

These are 60-minute small group sessions with up to six attendees per table, and one AWS expert, who is there to answer questions and provide guidance.

**PRO TIP:**

Breakout sessions should make up the bulk of your plan. You can find customers directly speaking about their real-world experiences of using AWS products and services in sessions!
Building your agenda

💡 **PRO TIPS:**

- Make sure to watch the leadership sessions that are most relevant to your areas of interest to get the most strategic updates.
- Be sure to not miss out on all the keynotes, as that’s where you’ll catch the biggest AWS launches.
- re:Invent always tries to feature many customers directly speaking about their real-world experiences of using AWS products and services. You’ll find them in many breakout sessions, as well as keynotes.
- Think about topics that are currently mission critical to your team, and topics you’re interested in learning more about.
- Breakout sessions will be available to watch virtually, even if you are registered for in-person re:Invent.
- Make an extensive list of sessions to watch! Favorite lots of sessions so when reserved seating goes live, you have lots of options.
Got free time on your schedule?

There are many learning opportunities across the re:Invent campus in Las Vegas that require no reservation. Drop by the Expo, visit a content hub, or practice your craft in one of our labs.

**Expo**
Learn from AWS experts and partners. The Expo at The Venetian will be host to AWS Village, AWS Partner Network, AWS Marketplace, Builders’ Fair, Developer Lounge, a demo theater, Jam Lounge, Startup Central, and sponsor booths. Come by and see all that the Expo has to offer!

**Content hubs**
Breakout session repeats will take place all week in all re:Invent venues, along with overflow sessions in our content hubs (centralized overflow rooms in every venue). We will also stream live content to the content hubs as the sessions fill up.

**Labs**
Practice your craft in a live AWS sandbox environment. Try any of our 100+ self-paced labs on your own, or reserve time with an AWS expert who can coach and guide you. Whether you’re just starting out or honing your technical skills, learn by doing with labs.
Your re:Invent checklist

- Register for re:Invent / Book your hotel / Book your travel reservations / Upload your badge photo
- If attending in person, review the health measures in place for this year’s re:Invent
- Visit the re:Invent website to stay up to date on announcements
- Add all five keynotes to your agenda
  Pro Tip: This is where you’ll catch the biggest AWS launches
- Add your favorite leadership sessions to your agenda
- Get ready for reserved seating: favorite the learning sessions of interest to you
- Familiarize yourself with sponsors in the Expo, along with the Expo map
- If you’re attending with a team, connect with your colleagues to plan how to conquer the many hours of content
  Pro Tip: Don’t forget to find time to reconvene with your team and debrief on everyone’s learnings
- Check out the Play activities and add them to your agenda
- Watch all the How to re:Invent videos to prepare for the week
- Follow Amazon Web Services on Instagram, Facebook, LinkedIn, and Twitter
Useful resources
How to re:Invent
Everything you need to know about how to re:Invent. Insider tips, planning advice, and interviews with re:Invent experts. Stay tuned for more episodes on the road to re:Invent!

Health measures
The health and safety of our customers, partners, and employees remains our top priority. Review our updated COVID-19 vaccination requirements for attending re:Invent in Las Vegas.

FAQs
Get all the info you need on topics such as health and safety, registration, accessibility, and much more.
Thank you!