

# Amazon Windows AMIs



# Amazon Windows AMIs: Reference

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# Amazon Windows AMI reference

Amazon provides a set of publicly available Amazon Machine Images (AMIs) that contain software configurations specific to the Windows platform.

You can quickly start building and deploying your applications with Amazon EC2 by using these AMIs. First choose the AMI that meets your specific requirements, and then launch an instance using that AMI. You retrieve the password for the administrator account and then log in to the instance using Remote Desktop Connection, just as you would with any other Windows Server.

In general, the Amazon Windows AMIs are configured with the default settings used by the Microsoft installation media. However, Amazon does apply some customizations. For example, the Amazon Windows AMIs come with the following software and drivers:

- EC2Launch v2 (Windows Server 2022)
- EC2Launch v1 (Windows Server 2016 and 2019)
- EC2Config (through Windows Server 2012 R2)
- Amazon Systems Manager
- Amazon CloudFormation
- Amazon Tools for Windows PowerShell
- Network drivers (SRIOV, ENA, Citrix PV)
- Storage drivers (NVMe, Amazon PV, Citrix PV)
- Graphics drivers (NVidia GPU, Elastic GPU)
- Spot instance hibernation

With the Windows fast launch feature, you can configure pre-provisioned snapshots to launch instances up to 65% faster. For more information, see [Configure Windows fast launch for your Windows Server AMI](#) in the *Amazon EC2 User Guide*.

To view changes to each release of the Amazon Windows AMIs, including SQL Server updates, see the [Amazon Windows AMI version history](#).

## Specialized Amazon Windows AMIs

You can use specialized Amazon Windows AMIs to create instances for your database and compliance hardening use cases as follows.

## SQL Server AMIs

Some Amazon Windows AMIs include an edition of Microsoft SQL Server (SQL Enterprise Edition, SQL Server Standard, SQL Server Express, or SQL Server Web). Launching an instance from a Windows AMI with Microsoft SQL Server enables you to run the instance as a database server. Alternatively, you can launch an instance from any Windows AMI and then install the database software that you need on the instance.

To discover available SQL Server license-included AMIs, see [Find a SQL Server license-included AMI](#) in the *Microsoft SQL Server on Amazon EC2 User Guide*.

## STIG Hardened AMIs

STIG Hardened EC2 Windows Server AMIs are pre-configured with over 160 required security settings to help ensure that the instances that you launch follow the latest guidelines for STIG compliance. For more information, see [STIG Hardened AmazonWindows Server AMIs](#).

## STIG Hardened AmazonWindows Server AMIs

Security Technical Implementation Guides (STIGs) are the configuration standards created by the Defense Information Systems Agency (DISA) to secure information systems and software. DISA documents three levels of compliance risk, known as categories:

- **Category I** — The highest level of risk. It covers the most severe risks, and includes any vulnerability that can result in a loss of confidentiality, availability, or integrity.
- **Category II** — Medium risk.
- **Category III** — Low risk.

Each compliance level includes all STIG settings from lower levels. This means that the highest level includes all applicable settings from all levels.

To ensure that your systems are compliant with STIG standards, you must install, configure, and test a variety of security settings. STIG Hardened EC2 Windows Server AMIs are pre-configured with over 160 required security settings. Amazon EC2 supports the following operating systems for STIG Hardened AMIs:

- Windows Server 2022
- Windows Server 2019

- Windows Server 2016
- Windows Server 2012 R2

The STIG Hardened AMIs include updated Department of Defense (DoD) certificates to help you get started and achieve STIG compliance. STIG Hardened AMIs are available in all commercial Amazon and GovCloud (US) Regions. You can launch instances from these AMIs directly from the Amazon EC2 console. They are billed using standard Windows pricing. There are no additional charges for using STIG Hardened AMIs.

You can find the STIG Hardened EC2 Windows Server AMIs in the Community AMIs when you launch an instance, as follows.

### Launch an EC2 instance with a STIG Hardened Windows Server AMI

1. Open the Amazon EC2 console at <https://console.amazonaws.cn/ec2/>.
2. Choose **Instances** from the navigation pane. This opens a list of your EC2 instances in the current Amazon Web Services Region.
3. Choose **Launch instances** from the upper right corner above the list. This opens the **Launch an instance** page.
4. To find a STIG Hardened AMI, choose **Browse more AMIs** on the right side of the **Application and OS Images (Amazon Machine Image)** section. This displays an advanced AMI search.
5. Select the **Community AMIs** tab, and enter part or all of one of the following name patterns in the search bar. Our AMIs indicate that they are "provided by Amazon."

#### Note

The date suffix for the AMI (*YYYY.MM.DD*) is the date when the latest version was created. You can search for the version without the date suffix.

### Name patterns for STIG Hardened AMI names

- Windows\_Server-2022-English-STIG-Full-*YYYY.MM.DD*
- Windows\_Server-2022-English-STIG-Core-*YYYY.MM.DD*
- Windows\_Server-2019-English-STIG-Full-*YYYY.MM.DD*
- Windows\_Server-2019-English-STIG-Core-*YYYY.MM.DD*

- [Windows\\_Server-2016-English-STIG-Full-YYYY.MM.DD](#)
- [Windows\\_Server-2016-English-STIG-Core-YYYY.MM.DD](#)
- [Windows\\_Server-2012-R2-English-STIG-Full-YYYY.MM.DD](#)
- [Windows\\_Server-2012-R2-English-STIG-Core-YYYY.MM.DD](#)

The following sections list the STIG settings that Amazon applies to Windows Operating Systems and components.

## Topics

- [Core and base operating systems](#)
- [Microsoft .NET Framework 4.0 STIG Version 2 Release 2](#)
- [WindowsFirewall STIG Version 2 Release 1](#)
- [Internet Explorer \(IE\) 11 STIG Version 2 Release 3](#)
- [Microsoft Edge STIG Version 1 Release 6](#)
- [Microsoft Defender STIG Version 2 Release 4](#)
- [Version history](#)

## Core and base operating systems

STIG Hardened EC2 AMIs are designed for use as standalone servers, and have the highest level of STIG settings applied.

The following list contains STIG settings that apply for STIG Hardened Windows AMIs. Not all settings apply in all cases. For example, some STIG settings might not apply to standalone servers. Organization-specific policies can also affect which settings apply, such as a requirement for administrators to review document settings.

For a complete list of Windows STIGs, see the [STIGs Document Library](#). For information about how to view the complete list, see [STIG Viewing Tools](#).

### Windows Server 2022 STIG Version 1 Release 1

This release includes the following STIG settings for Windows operating systems:

V-254247, V-254265, V-254269, V-254270, V-254271, V-254272, V-254273, V-254274, V-254276, V-254277, V-254278, V-254285, V-254286, V-254287, V-254288, V-254289,

V-254290, V-254291, V-254292, V-254293, V-254300, V-254301, V-254302, V-254303, V-254304, V-254305, V-254306, V-254307, V-254308, V-254309, V-254310, V-254311, V-254312, V-254313, V-254314, V-254315, V-254316, V-254317, V-254318, V-254319, V-254320, V-254321, V-254322, V-254323, V-254324, V-254325, V-254326, V-254327, V-254328, V-254329, V-254330, V-254331, V-254332, V-254333, V-254334, V-254335, V-254336, V-254337, V-254338, V-254339, V-254341, V-254342, V-254344, V-254345, V-254346, V-254347, V-254348, V-254349, V-254350, V-254351, V-254352, V-254353, V-254354, V-254355, V-254356, V-254357, V-254358, V-254359, V-254360, V-254361, V-254362, V-254363, V-254364, V-254365, V-254366, V-254367, V-254368, V-254369, V-254370, V-254371, V-254372, V-254373, V-254374, V-254375, V-254376, V-254377, V-254378, V-254379, V-254380, V-254381, V-254382, V-254383, V-254431, V-254432, V-254433, V-254434, V-254435, V-254436, V-254438, V-254439, V-254442, V-254443, V-254444, V-254445, V-254446, V-254449, V-254450, V-254451, V-254452, V-254453, V-254454, V-254455, V-254456, V-254459, V-254460, V-254461, V-254462, V-254463, V-254464, V-254465, V-254466, V-254467, V-254468, V-254469, V-254470, V-254471, V-254472, V-254473, V-254474, V-254475, V-254476, V-254477, V-254478, V-254479, V-254480, V-254481, V-254482, V-254483, V-254484, V-254485, V-254486, V-254487, V-254488, V-254489, V-254490, V-254493, V-254494, V-254495, V-254497, V-254499, V-254500, V-254501, V-254502, V-254503, V-254504, V-254505, V-254507, V-254508, V-254509, V-254510, V-254511, and V-254512

## **Windows Server 2019 STIG Version 2 Release 5**

This release includes the following STIG settings for Windows operating systems:

V-205625, V-205626, V-205627, V-205628, V-205629, V-205630, V-205631, V-205632, V-205633, V-205634, V-205635, V-205636, V-205637, V-205638, V-205639, V-205640, V-205641, V-205642, V-205643, V-205644, V-205645, V-205646, V-205647, V-205648, V-205649, V-205650, V-205651, V-205652, V-205653, V-205654, V-205655, V-205656, V-205657, V-205658, V-205659, V-205660, V-205661, V-205662, V-205663, V-205664, V-205665, V-205666, V-205667, V-205668, V-205669, V-205670, V-205671, V-205672, V-205673, V-205674, V-205675, V-205676, V-205677, V-205678, V-205679, V-205680, V-205681, V-205682, V-205683, V-205684, V-205685, V-205686, V-205687, V-205688, V-205689, V-205690, V-205691, V-205692, V-205693, V-205694, V-205695, V-205696, V-205697, V-205698, V-205699, V-205700, V-205701, V-205702, V-205703, V-205704, V-205705, V-205706, V-205707, V-205708, V-205709, V-205710, V-205711, V-205712, V-205713, V-205714, V-205715, V-205716, V-205717, V-205718, V-205719, V-205720, V-205721, V-205722, V-205723, V-205724, V-205725, V-205726, V-205727, V-205728,



V-205729, V-205730, V-205731, V-205732, V-205733, V-205734, V-205735, V-205736, V-205737, V-205738, V-205739, V-205740, V-205741, V-205742, V-205743, V-205744, V-205745, V-205746, V-205747, V-205748, V-205749, V-205750, V-205751, V-205752, V-205753, V-205754, V-205755, V-205756, V-205757, V-205758, V-205759, V-205760, V-205761, V-205762, V-205763, V-205764, V-205765, V-205766, V-205767, V-205768, V-205769, V-205770, V-205771, V-205772, V-205773, V-205774, V-205775, V-205776, V-205777, V-205778, V-205779, V-205780, V-205781, V-205782, V-205783, V-205784, V-205785, V-205786, V-205787, V-205788, V-205789, V-205790, V-205791, V-205792, V-205793, V-205794, V-205795, V-205796, V-205797, V-205798, V-205799, V-205800, V-205801, V-205802, V-205803, V-205804, V-205805, V-205806, V-205807, V-205808, V-205809, V-205810, V-205811, V-205812, V-205813, V-205814, V-205815, V-205816, V-205817, V-205818, V-205819, V-205820, V-205821, V-205822, V-205823, V-205824, V-205825, V-205826, V-205827, V-205828, V-205829, V-205830, V-205832, V-205833, V-205834, V-205835, V-205836, V-205837, V-205838, V-205839, V-205840, V-205841, V-205842, V-205843, V-205844, V-205845, V-205846, V-205847, V-205848, V-205849, V-205850, V-205851, V-205852, V-205853, V-205854, V-205855, V-205858, V-205859, V-205860, V-205861, V-205862, V-205863, V-205865, V-205866, V-205867, V-205868, V-205869, V-205870, V-205871, V-205872, V-205873, V-205874, V-205875, V-205876, V-205877, V-205882, V-205883, V-205884, V-205885, V-205886, V-205887, V-205888, V-205890, V-205892, V-205893, V-205894, V-205895, V-205896, V-205897, V-205898, V-205899, V-205900, V-205901, V-205902, V-205903, V-205904, V-205906, V-205907, V-205908, V-205909, V-205910, V-205911, V-205912, V-205913, V-205914, V-205915, V-205916, V-205917, V-205918, V-205919, V-205920, V-205921, V-205922, V-205923, V-205924, V-205925, V-214936, and V-236001

## **Windows Server 2016 STIG Version 2 Release 5**

This release includes the following STIG settings for Windows operating systems:

V-224828, V-224832, V-224833, V-224834, V-224835, V-224850, V-224851, V-224852, V-224853, V-224854, V-224855, V-224856, V-224857, V-224858, V-224859, V-224866, V-224867, V-224868, V-224869, V-224870, V-224871, V-224872, V-224873, V-224874, V-224877, V-224878, V-224879, V-224880, V-224881, V-224882, V-224883, V-224884, V-224885, V-224886, V-224887, V-224888, V-224889, V-224890, V-224891, V-224892, V-224893, V-224894, V-224895, V-224896, V-224897, V-224898, V-224899, V-224900, V-224901, V-224902, V-224903, V-224904, V-224905, V-224906, V-224907, V-224908, V-224909, V-224910, V-224911, V-224912, V-224913, V-224914, V-224915, V-224916, V-224917, V-224918, V-224919, V-224920, V-224922, V-224924, V-224925, V-224926,

V-224927, V-224928, V-224929, V-224930, V-224931, V-224932, V-224933, V-224934, V-224935, V-224936, V-224937, V-224938, V-224939, V-224940, V-224941, V-224942, V-224943, V-224944, V-224945, V-224946, V-224947, V-224948, V-224949, V-224951, V-224952, V-224953, V-224954, V-224955, V-224956, V-224957, V-224958, V-224959, V-224960, V-224961, V-224962, V-224963, V-225010, V-225013, V-225014, V-225015, V-225016, V-225017, V-225018, V-225019, V-225020, V-225021, V-225022, V-225023, V-225024, V-225025, V-225028, V-225029, V-225030, V-225031, V-225032, V-225033, V-225034, V-225035, V-225038, V-225039, V-225040, V-225041, V-225042, V-225043, V-225044, V-225045, V-225046, V-225047, V-225048, V-225049, V-225050, V-225051, V-225052, V-225053, V-225054, V-225055, V-225056, V-225057, V-225058, V-225060, V-225061, V-225062, V-225063, V-225064, V-225065, V-225066, V-225067, V-225068, V-225069, V-225070, V-225071, V-225072, V-225073, V-225074, V-225076, V-225077, V-225078, V-225079, V-225080, V-225081, V-225082, V-225083, V-225084, V-225085, V-225086, V-225087, V-225088, V-225089, V-225091, V-225092, V-225093, and V-236000

### **Windows Server 2012 R2 MS STIG Version 3 Release 5**

This release includes the following STIG settings for Windows operating systems:

V-225574, V-225573, V-225572, V-225571, V-225570, V-225569, V-225568, V-225567, V-225566, V-225565, V-225564, V-225563, V-225562, V-225561, V-225560, V-225559, V-225558, V-225557, V-225556, V-225555, V-225554, V-225553, V-225552, V-225551, V-225550, V-225549, V-225548, V-225547, V-225546, V-225545, V-225544, V-225543, V-225542, V-225541, V-225540, V-225539, V-225538, V-225537, V-225536, V-225535, V-225534, V-225533, V-225532, V-225531, V-225530, V-225529, V-225528, V-225527, V-225526, V-225525, V-225524, V-225523, V-225522, V-225521, V-225520, V-225519, V-225518, V-225517, V-225516, V-225515, V-225514, V-225513, V-225512, V-225511, V-225510, V-225509, V-225508, V-225507, V-225506, V-225505, V-225504, V-225503, V-225502, V-225501, V-225500, V-225499, V-225498, V-225497, V-225496, V-225495, V-225494, V-225493, V-225492, V-225491, V-225490, V-225489, V-225488, V-225487, V-225486, V-225485, V-225484, V-225483, V-225482, V-225481, V-225480, V-225479, V-225478, V-225477, V-225476, V-225475, V-225474, V-225473, V-225472, V-225471, V-225470, V-225469, V-225468, V-225467, V-225466, V-225465, V-225464, V-225463, V-225462, V-225461, V-225460, V-225459, V-225458, V-225457, V-225456, V-225455, V-225454, V-225453, V-225452, V-225451, V-225450, V-225449, V-225448, V-225447, V-225446, V-225445, V-225444, V-225443, V-225442, V-225441, V-225440, V-225439, V-225438, V-225437, V-225436, V-225435, V-225434, V-225433, V-225432, V-225431, V-225430, V-225429, V-225428, V-225427, V-225426, V-225425, V-225424, V-225423,

V-225422, V-225421, V-225420, V-225419, V-225418, V-225417, V-225416, V-225415, V-225414, V-225413, V-225412, V-225411, V-225410, V-225409, V-225408, V-225407, V-225406, V-225405, V-225404, V-225402, V-225401, V-225400, V-225399, V-225398, V-225397, V-225396, V-225395, V-225394, V-225393, V-225392, V-225391, V-225390, V-225389, V-225388, V-225387, V-225386, V-225385, V-225384, V-225383, V-225382, V-225381, V-225380, V-225379, V-225378, V-225377, V-225376, V-225375, V-225374, V-225373, V-225372, V-225371, V-225370, V-225369, V-225368, V-225367, V-225366, V-225365, V-225364, V-225363, V-225362, V-225361, V-225360, V-225359, V-225358, V-225357, V-225356, V-225355, V-225354, V-225353, V-225352, V-225351, V-225350, V-225349, V-225348, V-225347, V-225346, V-225345, V-225344, V-225343, V-225342, V-225341, V-225340, V-225339, V-225338, V-225337, V-225336, V-225335, V-225334, V-225333, V-225332, V-225331, V-225330, V-225329, V-225328, V-225327, V-225326, V-225325, V-225324, V-225319, V-225318, V-225317, V-225316, V-225315, V-225314, V-225313, V-225312, V-225311, V-225310, V-225309, V-225308, V-225307, V-225306, V-225305, V-225304, V-225303, V-225302, V-225301, V-225300, V-225299, V-225298, V-225297, V-225296, V-225295, V-225294, V-225293, V-225292, V-225291, V-225290, V-225289, V-225288, V-225287, V-225286, V-225285, V-225284, V-225283, V-225282, V-225281, V-225280, V-225279, V-225278, V-225277, V-225276, V-225275, V-225274, V-225273, V-225272, V-225271, V-225270, V-225269, V-225268, V-225267, V-225266, V-225265, V-225264, V-225263, V-225262, V-225261, V-225260, V-225259, V-225258, V-225257, V-225256, V-225255, V-225254, V-225253, V-225252, V-225251, V-225250, V-225249, V-225248, V-225247, V-225246, V-225245, V-225244, V-225243, V-225242, V-225241, V-225240, and V-225239

## Microsoft .NET Framework 4.0 STIG Version 2 Release 2

The following list contains STIG settings that apply to Windows operating system components for STIG Hardened EC2 AMIs. The following list contains STIG settings that apply for STIG Hardened Windows AMIs. Not all settings apply in all cases. For example, some STIG settings might not apply to standalone servers. Organization-specific policies can also affect which settings apply, such as a requirement for administrators to review document settings.

For a complete list of Windows STIGs, see the [STIGs Document Library](#). For information about how to view the complete list, see [STIG Viewing Tools](#).

### .NET Framework on Windows Server 2019, 2016, and 2012 R2 MS

V-225238

## WindowsFirewall STIG Version 2 Release 1

The following list contains STIG settings that apply to Windows operating system components for STIG Hardened EC2 AMIs. The following list contains STIG settings that apply for STIG Hardened Windows AMIs. Not all settings apply in all cases. For example, some STIG settings might not apply to standalone servers. Organization-specific policies can also affect which settings apply, such as a requirement for administrators to review document settings.

For a complete list of Windows STIGs, see the [STIGs Document Library](#). For information about how to view the complete list, see [STIG Viewing Tools](#).

### WindowsFirewall on Windows Server 2019, 2016, and 2012 R2 MS

V-241989, V-241990, V-241991, V-241992, V-241993, V-241994, V-241995, V-241996, V-241997, V-241998, V-241999, V-242000, V-242001, V-242002, V-242003, V-242004, V-242005, V-242006, V-242007, and V-242008

## Internet Explorer (IE) 11 STIG Version 2 Release 3

The following list contains STIG settings that apply to Windows operating system components for STIG Hardened EC2 AMIs. The following list contains STIG settings that apply for STIG Hardened Windows AMIs. Not all settings apply in all cases. For example, some STIG settings might not apply to standalone servers. Organization-specific policies can also affect which settings apply, such as a requirement for administrators to review document settings.

For a complete list of Windows STIGs, see the [STIGs Document Library](#). For information about how to view the complete list, see [STIG Viewing Tools](#).

### IE 11 on Windows Server 2019, 2016, and 2012 R2 MS

V-46473, V-46475, V-46477, V-46481, V-46483, V-46501, V-46507, V-46509, V-46511, V-46513, V-46515, V-46517, V-46521, V-46523, V-46525, V-46543, V-46545, V-46547, V-46549, V-46553, V-46555, V-46573, V-46575, V-46577, V-46579, V-46581, V-46583, V-46587, V-46589, V-46591, V-46593, V-46597, V-46599, V-46601, V-46603, V-46605, V-46607, V-46609, V-46615, V-46617, V-46619, V-46621, V-46625, V-46629, V-46633, V-46635, V-46637, V-46639, V-46641, V-46643, V-46645, V-46647, V-46649, V-46653, V-46663, V-46665, V-46669, V-46681, V-46685, V-46689, V-46691, V-46693, V-46695, V-46701, V-46705, V-46709, V-46711, V-46713, V-46715, V-46717, V-46719, V-46721, V-46723, V-46725, V-46727, V-46729, V-46731, V-46733, V-46779, V-46781, V-46787, V-46789, V-46791, V-46797, V-46799, V-46801, V-46807, V-46811, V-46815, V-46819, V-46829, V-46841, V-46847, V-46849, V-46853, V-46857, V-46859, V-46861, V-46865, V-46869,

V-46879, V-46883, V-46885, V-46889, V-46893, V-46895, V-46897, V-46903, V-46907, V-46921, V-46927, V-46939, V-46975, V-46981, V-46987, V-46995, V-46997, V-46999, V-47003, V-47005, V-47009, V-64711, V-64713, V-64715, V-64717, V-64719, V-64721, V-64723, V-64725, V-64729, V-72757, V-72759, V-72761, V-72763, V-75169, V-75171, and V-97527

## Microsoft Edge STIG Version 1 Release 6

The following list contains STIG settings that apply to Windows operating system components for STIG Hardened EC2 AMIs. The following list contains STIG settings that apply for STIG Hardened Windows AMIs. Not all settings apply in all cases. For example, some STIG settings might not apply to standalone servers. Organization-specific policies can also affect which settings apply, such as a requirement for administrators to review document settings.

For a complete list of Windows STIGs, see the [STIGs Document Library](#). For information about how to view the complete list, see [STIG Viewing Tools](#).

## Microsoft Edge on Windows Server 2022

V-235720, V-235721, V-235723, V-235724, V-235725, V-235726, V-235727, V-235728, V-235729, V-235730, V-235731, V-235732, V-235733, V-235734, V-235735, V-235736, V-235737, V-235738, V-235739, V-235740, V-235741, V-235742, V-235743, V-235744, V-235745, V-235746, V-235747, V-235748, V-235749, V-235750, V-235751, V-235752, V-235754, V-235756, V-235758, V-235759, V-235760, V-235761, V-235763, V-235764, V-235765, V-235766, V-235767, V-235768, V-235769, V-235770, V-235771, V-235772, V-235773, V-235774, and V-246736

## Microsoft Defender STIG Version 2 Release 4

The following list contains STIG settings that apply to Windows operating system components for STIG Hardened EC2 AMIs. The following list contains STIG settings that apply for STIG Hardened Windows AMIs. Not all settings apply in all cases. For example, some STIG settings might not apply to standalone servers. Organization-specific policies can also affect which settings apply, such as a requirement for administrators to review document settings.

For a complete list of Windows STIGs, see the [STIGs Document Library](#). For information about how to view the complete list, see [STIG Viewing Tools](#).

## Microsoft Defender on Windows Server 2022

V-213426, V-213427, V-213429, V-213430, V-213431, V-213432, V-213433, V-213434, V-213435, V-213436, V-213437, V-213438, V-213439, V-213440, V-213441, V-213442,

V-213443, V-213444, V-213445, V-213446, V-213447, V-213448, V-213449, V-213450, V-213451, V-213452, V-213453, V-213455, V-213464, V-213465, and V-213466

## Version history

The following table provides version history updates for STIG settings that are applied to Windowsoperating systems and Windowscomponents.

| Date          | AMIs   | Details  |
|---------------|--|--|
| 04/24/20<br>3 | Windows Server 2022 STIG Version 1<br>Release 1<br><br>Microsoft Edge STIG Version 1 Release 6<br><br>Microsoft Defender STIG Version 2<br>Release 4   | Added support for Windows Server 2022, Microsoft Edge, and Microsoft Defender.       |
| 03/01/20<br>3 | Windows Server 2019 STIG Version 2<br>Release 5<br><br>Windows Server 2016 STIG Version 2<br>Release 5<br><br>Windows Server 2012 R2 MS STIG<br>Version 3 Release 5<br><br>Microsoft .NET Framework 4.0 STIG<br>Version 2 Release 2<br><br>WindowsFirewall STIG Version 2 Release<br>1<br><br>Internet Explorer 11 STIG Version 2<br>Release 3 | AMIs released for 2022 Q4 with updated versions where applicable, and applied STIGs. |
| 07/21/20<br>2 | Windows Server 2019 STIG Version 2 R4<br><br>Windows Server 2016 STIG Version 2 R4   | AMIs released with updated versions where applicable, and applied STIGs.             |

| Date       | AMIs   | Details  |
|------------|--|--|
|            | <p>Windows Server 2012 R2 MS STIG<br/>Version 3 R3</p> <p>Microsoft .NET Framework 4.0 STIG<br/>Version 2 R1</p> <p>WindowsFirewall STIG Version 2 R1</p> <p>Internet Explorer 11 STIG V1 R19</p>  |  |
| 12/15/2011 | <p>Windows Server 2019 STIG Version 2 R3</p> <p>Windows Server 2016 STIG Version 2 R3</p> <p>Windows Server 2012 R2 STIG Version 3 R3</p> <p>Microsoft .NET Framework 4.0 STIG<br/>Version 2 R1</p> <p>WindowsFirewall STIG Version 2 R1</p> <p>Internet Explorer 11 STIG V1 R19</p> | AMIs released with updated versions where applicable, and applied STIGs. |
| 6/9/2021   | <p>Windows Server 2019 STIG Version 2 R2</p> <p>Windows Server 2016 STIG Version 2 R2</p> <p>Windows Server 2012 R2 STIG Version 3 R2</p> <p>Microsoft .NET Framework 4.0 STIG<br/>Version 2 R1</p> <p>WindowsFirewall STIG V1 R7</p> <p>Internet Explorer 11 STIG V1 R19</p>        | Updated versions where applicable, and applied STIGs.                    |

| Date     | AMIs   | Details   |
|----------|--|---|
| 4/5/2021 | Windows Server 2019 STIG Version 2 R 1<br>Windows Server 2016 STIG Version 2 R 1<br>Windows Server 2012 R2 STIG Version 3 R 1<br>Microsoft .NET Framework 4.0 STIG Version 2 R 1<br>WindowsFirewall STIG V1 R 7<br>Internet Explorer 11 STIG V1 R 19 | Updated versions where applicable, and applied STIGs. |
| 9/18/202 | Windows Server 2019 STIG V1 R 5<br>Windows Server 2016 STIG V1 R 12<br>Windows Server 2012 R2 STIG Version 2 R 19<br>Internet Explorer 11 STIG V1 R 19<br>Microsoft .NET Framework 4.0 STIG V1 R 9<br>WindowsFirewall STIG V1 R 7                    | Updated versions and applied STIGs.                   |
| 12/6/201 | Server 2012 R2 Core and Base V2 R17<br>Server 2016 Core and Base V1 R11<br>Internet Explorer 11 V1 R18<br>Microsoft .NET Framework 4.0 V1 R9<br>WindowsFirewall STIG V1 R17  | Updated versions and applied STIGs.                   |



| Date      | AMIs   | Details          |
|-----------|--|------------------|
| 9/17/2011 | Server 2012 R2 Core and Base V2 R16<br>Server 2016 Core and Base V1 R9<br>Server 2019 Core and Base V1 R2<br>Internet Explorer 11 V1 R17<br>Microsoft .NET Framework 4.0 V1 R8 | Initial release. |

## Ports and Protocols for Amazon Windows AMIs

The following tables list the ports, protocols, and directions by workload for Amazon Windows Amazon Machine Images (AMIs).

### Contents

- [AllJoyn Router](#)
- [Cast to Device](#)
- [Core Networking](#)
- [Delivery Optimization](#)
- [Diag Track](#)
- [DIAL Protocol Server](#)
- [File and Printer Sharing](#)
- [File Server Remote Management](#)
- [ICMP v4 All](#)
- [Microsoft Edge](#)
- [Microsoft Media Foundation Network Source](#)
- [Multicast](#)
- [Remote Desktop](#)
- [WindowsDevice Management](#)
- [WindowsFeature Experience Pack](#)
- [WindowsFirewall Remote Management](#)

- [WindowsRemote Management](#)

## AllJoyn Router

| OS                  | Rule                     | Description                                    | Port                       | Protocol | Direction |
|---------------------|--------------------------|--|----------------------------|----------|-----------|
| Windows Server 2016 | AllJoyn Router (TCP-In)  | Inbound rule for AllJoyn Router traffic [TCP]  | Local: 9955<br>Remote: Any | TCP      | In        |
| Windows Server 2019 | AllJoyn Router (TCP-In)  | Inbound rule for AllJoyn Router traffic [TCP]  | Local: 9955<br>Remote: Any | TCP      | In        |
| Windows Server 2022 | AllJoyn Router (TCP-Out) | Outbound rule for AllJoyn Router traffic [TCP] | Local: Any<br>Remote: Any  | TCP      | Out       |
|                     | AllJoyn Router (UDP-In)  | Inbound rule for AllJoyn Router traffic [UDP]  | Local: Any<br>Remote: Any  | UDP      | In        |
|                     | AllJoyn Router (UDP-Out) | Outbound rule for AllJoyn Router traffic [UDP] | Local: Any<br>Remote: Any  | UDP      | Out       |

## Cast to Device

| OS                  | Rule                         | Description                                   | Port                       | Protocol | Direction |
|---------------------|------------------------------|---|----------------------------|----------|-----------|
| Windows Server 2016 | Cast to Device functionality | Inbound rule for the Cast to Device functiona | Local: 2177<br>Remote: Any | TCP      | In        |

| OS   | Rule   | Description   | Port                           | Protocol | Direction |
|--|--|---|--------------------------------|----------|-----------|
| Windows Server 2019<br><br>Windows Server 2022 | (qWave-TCP-In)                               | lity to allow use of the Quality Windows Audio Video Experience Service. [TCP 2177]   |                                |          |           |
|  | Cast to Device functionality (qWave-TCP-Out) | Outbound rule for the Cast to Device functionality to allow use of the Quality Windows Audio Video Experience Service. [TCP 2177] | Local: Any<br><br>Remote: 2177 | TCP      | Out       |
|  | Cast to Device functionality (qWave-UDP-In)  | Inbound rule for the Cast to Device functionality to allow use of the Quality Windows Audio Video Experience Service. [UDP 2177]  | Local: 2177<br><br>Remote: Any | UDP      | In        |

| OS | Rule  | Description   | Port                               | Protocol | Direction |
|----|---|---|------------------------------------|----------|-----------|
|    | Cast to Device functionality (qWave-UDP-Out)        | Outbound rule for the Cast to Device functionality to allow use of the Quality Windows Audio Video Experience Service. [UDP 2177] | Local: Any<br><br>Remote: 2177     | UDP      | Out       |
|    | Cast to Device SSDP Discovery (UDP-In)              | Inbound rule to allow discovery of Cast to Device targets using SSDP  | Local: Ply2Disc<br><br>Remote: Any | UDP      | In        |
|    | Cast to Device Streaming Server (HTTP-Streaming-In) | Inbound rule for the Cast to Device server to allow streaming using HTTP. [TCP 10246]   | Local: 10246<br><br>Remote: Any    | TCP      | In        |

| OS | Rule  | Description   | Port  | Protocol | Direction |
|----|---|---|---|----------|-----------|
|    | Cast to Device Streaming Server (RTCP-Streaming-In) | Inbound rule for the Cast to Device server to allow streaming using RTSP and RTP. [UDP]                     | Local: Any<br>Remote: Any                     | UDP      | In        |
|    | Cast to Device Streaming Server (RTP-Streaming-Out) | Outbound rule for the Cast to Device server to allow streaming using RTSP and RTP. [UDP]                    | Local: Any<br>Remote: Any                     | UDP      | Out       |
|    | Cast to Device Streaming Server (RTSP-Streaming-In) | Inbound rule for the Cast to Device server to allow streaming using RTSP and RTP. [TCP 23554, 23555, 23556] | Local: 235, 542, 355, 523, 556<br>Remote: Any | TCP      | In        |

| OS | Rule                                | Description   | Port                       | Protocol | Direction |
|----|-------------------------------------|---|----------------------------|----------|-----------|
|    | Cast to Device UPnP Events (TCP-In) | Inbound rule to allow receiving UPnP Events from Cast to Device targets | Local: 2869<br>Remote: Any | TCP      | In        |

## Core Networking

Windows Server 2016, 2019, and 2022

| OS  | Rule                                | Definition  | Port | Protocol | Direction |
|---|-------------------------------------|---|------|----------|-----------|
| Windows Server 2016<br>Windows Server 2019<br>Windows Server 2022 | Destination Unreachable (ICMPv6-In) | Destination Unreachable error messages are sent from any node that a packet traverses which is unable to forward the packet for any reason except congestion. |      | ICMPv6   | In        |
|   | Destination Unreachable Fragmenta   | Destination Unreachable Fragmenta   |      | ICMPv4   | In        |

| OS | Rule                             | Definition  | Port | Protocol | Direction |
|----|----------------------------------|---|------|----------|-----------|
|    | Fragmentation Needed (ICMPv4-In) | Fragmentation Needed error messages are sent from any node that a packet traverses which is unable to forward the packet because fragmentation was needed and the don't fragment bit was set. |      |          |           |

| OS | Rule  | Definition   | Port                     | Protocol | Direction |
|----|---|--|--------------------------|----------|-----------|
|    | Core Networking - DNS (UDP-Out)               | Outbound rule to allow DNS requests. DNS responses based on requests that match this rule are permitted regardless of source address. This behavior is classified as loose source mapping. | Local: Any<br>Remote: 53 | UDP      | Out       |
|    | Dynamic Host Configuration Protocol (DHCP-In) | Allows DHCP (Dynamic Host Configuration Protocol) messages for stateful auto-configuration.  | Local: 68<br>Remote: 67  | UDP      | In        |



| OS | Rule   | Definition  | Port                      | Protocol | Direction |
|----|--|---|---------------------------|----------|-----------|
|    | Dynamic Host Configuration Protocol (DHCP-Out)           | Allows DHCP (Dynamic Host Configuration Protocol) messages for stateful auto-configuration.                     | Local: 68<br>Remote: 67   | UDP      | Out       |
|    | Dynamic Host Configuration Protocol for IPv6 (DHCPV6-In) | Allows DHCPV6 (Dynamic Host Configuration Protocol for IPv6) messages for stateful and stateless configuration. | Local: 546<br>Remote: 547 | UDP      | In        |

| OS | Rule  | Definition  | Port                      | Protocol | Direction |
|----|---|---|---------------------------|----------|-----------|
|    | Dynamic Host Configuration Protocol for IPv6 (DHCPV6-Out) | Allows DHCPV6 (Dynamic Host Configuration Protocol for IPv6) messages for stateful and stateless configuration. | Local: 546<br>Remote: 547 | UDP      | Out       |
|    | Core Networking - Group Policy (LSASS-Out)                | Outbound rule to allow remote LSASS traffic for Group Policy updates.   | Local: Any<br>Remote: Any | TCP      | Out       |
|    | Core Networking - Group Policy (NP-Out)                   | Core Networking - Group Policy (NP-Out)   | Local: Any<br>Remote: 445 | TCP      | Out       |
|    | Core Networking - Group Policy (TCP-Out)                  | Outbound rule to allow remote RPC traffic for Group Policy updates.   | Local: Any<br>Remote: Any | TCP      | Out       |

| OS | Rule  | Definition  | Port                          | Protocol | Direction |
|----|---|---|-------------------------------|----------|-----------|
|    | Internet Group Management Protocol (IGMP-In)                    | IGMP messages are sent and received by nodes to create, join, and depart multicast groups.                        |                               | 2        | In        |
|    | Core Networking - Internet Group Management Protocol (IGMP-Out) | IGMP messages are sent and received by nodes to create, join, and depart multicast groups.                        |                               | 2        | Out       |
|    | Core Networking - IPHTTPS (TCP-In)                              | Inbound TCP rule to allow IPHTTPS tunneling technology to provide connectivity across HTTP proxies and firewalls. | Local: IPHTTPS<br>Remote: Any | TCP      | In        |

| OS | Rule                                | Definition  | Port                          | Protocol | Direction |
|----|-------------------------------------|---|-------------------------------|----------|-----------|
|    | Core Networking - IPHTTPS (TCP-Out) | Outbound TCP rule to allow IPHTTPS tunneling technology to provide connectivity across HTTP proxies and firewalls.                      | Local: Any<br>Remote: IPHTTPS | TCP      | Out       |
|    | IPv6 (IPv6-In)                      | Inbound rule required to permit IPv6 traffic for ISATAP ( Intra-Site Automatic Tunnel Addressing Protocol) and 6to4 tunneling services. |                               | 41       | In        |

| OS | Rule                                | Definition   | Port | Protocol | Direction |
|----|-------------------------------------|--|------|----------|-----------|
|    | IPv6 (IPv6-Out)                     | Outbound rule required to permit IPv6 traffic for ISATAP (Intra-Site Automatic Tunnel Addressing Protocol) and 6to4 tunneling services.              |      | 41       | Out       |
|    | Multicast Listener Done (ICMPv6-In) | Multicast Listener Done messages inform local routers that there are no longer any members remaining for a specific multicast address on the subnet. |      | ICMPv6   | In        |

| OS | Rule                                 | Definition   | Port | Protocol | Direction |
|----|--------------------------------------|--|------|----------|-----------|
|    | Multicast Listener Done (ICMPv6-Out) | Multicast Listener Done messages inform local routers that there are no longer any members remaining for a specific multicast address on the subnet. |      | ICMPv6   | Out       |
|    | Multicast Listener Query (ICMPv6-In) | An IPv6 multicast-capable router uses the Multicast Listener Query message to query a link for multicast group membership.                           |      | ICMPv6   | In        |

| OS | Rule                                  | Definition   | Port | Protocol | Direction |
|----|---------------------------------------|--|------|----------|-----------|
|    | Multicast Listener Query (ICMPv6-Out) | An IPv6 multicast-capable router uses the Multicast Listener Query message to query a link for multicast group membership. |      | ICMPv6   | Out       |

| OS | Rule                                  | Definition   | Port | Protocol | Direction |
|----|---------------------------------------|--|------|----------|-----------|
|    | Multicast Listener Report (ICMPv6-In) | The Multicast Listener Report message is used by a listening node to either immediately report its interest in receiving multicast traffic at a specific multicast address or in response to a Multicast Listener Query. |      | ICMPv6   | In        |



| OS | Rule                                   | Definition   | Port | Protocol | Direction |
|----|--|--|------|----------|-----------|
|    | Multicast Listener Report (ICMPv6-Out) | The Multicast Listener Report message is used by a listening node to either immediately report its interest in receiving multicast traffic at a specific multicast address or in response to a Multicast Listener Query. |      | ICMPv6   | Out       |

| OS | Rule                                     | Definition  | Port | Protocol | Direction |
|----|--|---|------|----------|-----------|
|    | Multicast Listener Report v2 (ICMPv6-In) | Multicast Listener Report v2 message is used by a listening node to either immediately report its interest in receiving multicast traffic at a specific multicast address or in response to a Multicast Listener Query. |      | ICMPv6   | In        |

| OS | Rule                                      | Definition  | Port | Protocol | Direction |
|----|---|---|------|----------|-----------|
|    | Multicast Listener Report v2 (ICMPv6-Out) | Multicast Listener Report v2 message is used by a listening node to either immediately report its interest in receiving multicast traffic at a specific multicast address or in response to a Multicast Listener Query. |      | ICMPv6   | Out       |

| OS | Rule   | Definition   | Port | Protocol | Direction |
|----|--|--|------|----------|-----------|
|    | Neighbor Discovery Advertisement (ICMPv6-In) | Neighbor Discovery Advertisement messages are sent by nodes to notify other nodes of link-layer address changes or in response to a Neighbor Discovery Solicitation request. |      | ICMPv6   | In        |

| OS | Rule  | Definition   | Port | Protocol | Direction |
|----|---|--|------|----------|-----------|
|    | Neighbor Discovery Advertisement (ICMPv6-Out) | Neighbor Discovery Advertisement messages are sent by nodes to notify other nodes of link-layer address changes or in response to a Neighbor Discovery Solicitation request. |      | ICMPv6   | Out       |
|    | Neighbor Discovery Solicitation (ICMPv6-In)   | Neighbor Discovery Solicitations are sent by nodes to discover the link-layer address of another on-link IPv6 node.  |      | ICMPv6   | In        |

| OS | Rule   | Definition  | Port | Protocol | Direction |
|----|--|---|------|----------|-----------|
|    | Neighbor Discovery Solicitation (ICMPv6-Out) | Neighbor Discovery Solicitations are sent by nodes to discover the link-layer address of another on-link IPv6 node.   |      | ICMPv6   | Out       |
|    | Packet Too Big (ICMPv6-In)                   | Packet Too Big error messages are sent from any node that a packet traverses which is unable to forward the packet because the packet is too large for the next link. |      | ICMPv6   | In        |

| OS | Rule                          | Definition  | Port | Protocol | Direction |
|----|-------------------------------|---|------|----------|-----------|
|    | Packet Too Big (ICMPv6-Out)   | Packet Too Big error messages are sent from any node that a packet traverses which is unable to forward the packet because the packet is too large for the next link. |      | ICMPv6   | Out       |
|    | Parameter Problem (ICMPv6-In) | Parameter Problem error messages are sent by nodes when packets are incorrectly generated.  |      | ICMPv6   | In        |

| OS | Rule                              | Definition   | Port | Protocol | Direction |
|----|-----------------------------------|--|------|----------|-----------|
|    | Parameter Problem (ICMPv6-Out)    | Parameter Problem error messages are sent by nodes when packets are incorrectly generated.         |      | ICMPv6   | Out       |
|    | Router Advertisement (ICMPv6-In)  | Router Advertisement messages are sent by routers to other nodes for stateless auto-configuration. |      | ICMPv6   | In        |
|    | Router Advertisement (ICMPv6-Out) | Router Advertisement messages are sent by routers to other nodes for stateless auto-configuration. |      | ICMPv6   | Out       |



| OS | Rule                             | Definition  | Port | Protocol | Direction |
|----|----------------------------------|---|------|----------|-----------|
|    | Router Solicitation (ICMPv6-In)  | Router Solicitation messages are sent by nodes seeking routers to provide stateless auto-configuration. |      | ICMPv6   | In        |
|    | Router Solicitation (ICMPv6-Out) | Router Solicitation messages are sent by nodes seeking routers to provide stateless auto-configuration. |      | ICMPv6   | Out       |

| OS | Rule                              | Definition   | Port                         | Protocol | Direction |
|----|-----------------------------------|--|------------------------------|----------|-----------|
|    | Core Networking - Teredo (UDP-In) | Inbound UDP rule to allow Teredo edge traversal. This technology provides address assignment and automatic tunneling for unicast IPv6 traffic when an IPv6/IPv4 host is located behind an IPv4 network address translator. | Local: Teredo<br>Remote: Any | UDP      | In        |

| OS | Rule                               | Definition  | Port                      | Protocol | Direction |
|----|------------------------------------|---|---------------------------|----------|-----------|
|    | Core Networking - Teredo (UDP-Out) | Outbound UDP rule to allow Teredo edge traversal. This technology provides address assignment and automatic tunneling for unicast IPv6 traffic when an IPv6/IPv4 host is located behind an IPv4 network address translator. | Local: Any<br>Remote: Any | UDP      | Out       |

| OS | Rule                      | Definition   | Port | Protocol | Direction |
|----|---------------------------|--|------|----------|-----------|
|    | Time Exceeded (ICMPv6-In) | Time Exceeded error messages are generated from any node that a packet traverses if the Hop Limit value is decremented to zero at any point on the path. |      | ICMPv6   | In        |

| OS | Rule                       | Definition   | Port | Protocol | Direction |
|----|----------------------------|--|------|----------|-----------|
|    | Time Exceeded (ICMPv6-Out) | Time Exceeded error messages are generated from any node that a packet traverses if the Hop Limit value is decremented to zero at any point on the path. |      | ICMPv6   | Out       |

## Windows Server 2012 and 2012 R2

| OS  | Rule                                | Definition   | Port                    | Protocol | Direction |
|---|-------------------------------------|--|-------------------------|----------|-----------|
| Windows Server 2012<br>Windows Server 2012 R2 | Destination Unreachable (ICMPv6-In) | Destination Unreachable error messages are sent from any node that a packet traverses which is unable to forward the | Local: 68<br>Remote: 67 | ICMPv6   | In        |

| OS | Rule   | Definition  | Port                    | Protocol | Direction |
|----|--|---|-------------------------|----------|-----------|
|    |  | packet for any reason except congestion.  |                         |          |           |
|    | Destination Unreachable Fragmentation Needed (ICMPv4-In) | Destination Unreachable Fragmentation Needed error messages are sent from any node that a packet traverses which is unable to forward the packet because fragmentation was needed and the don't fragment bit was set. | Local: 68<br>Remote: 67 | ICMPv4   | In        |

| OS | Rule  | Definition   | Port                     | Protocol | Direction |
|----|---|--|--------------------------|----------|-----------|
|    | Core Networking - DNS (UDP-Out)               | Outbound rule to allow DNS requests. DNS responses based on requests that match this rule are permitted regardless of source address. This behavior is classified as loose source mapping. | Local: Any<br>Remote: 53 | UDP      | Out       |
|    | Dynamic Host Configuration Protocol (DHCP-In) | Allows DHCP (Dynamic Host Configuration Protocol) messages for stateful auto-configuration.  | Local: 68<br>Remote: 67  | UDP      | In        |

| OS | Rule   | Definition  | Port                      | Protocol | Direction |
|----|--|---|---------------------------|----------|-----------|
|    | Dynamic Host Configuration Protocol (DHCP-Out)           | Allows DHCP (Dynamic Host Configuration Protocol) messages for stateful auto-configuration.                     | Local: 68<br>Remote: 67   | UDP      | Out       |
|    | Dynamic Host Configuration Protocol for IPv6 (DHCPV6-In) | Allows DHCPV6 (Dynamic Host Configuration Protocol for IPv6) messages for stateful and stateless configuration. | Local: 546<br>Remote: 547 | UDP      | In        |



| OS | Rule  | Definition  | Port                      | Protocol | Direction |
|----|---|---|---------------------------|----------|-----------|
|    | Dynamic Host Configuration Protocol for IPv6 (DHCPV6-Out) | Allows DHCPV6 (Dynamic Host Configuration Protocol for IPv6) messages for stateful and stateless configuration. | Local: 546<br>Remote: 547 | UDP      | Out       |
|    | Core Networking - Group Policy (LSASS-Out)                | Outbound rule to allow remote LSASS traffic for Group Policy updates.   | Local: Any<br>Remote: Any | TCP      | Out       |
|    | Core Networking - Group Policy (NP-Out)                   | Core Networking - Group Policy (NP-Out)   | Local: Any<br>Remote: 445 | TCP      | Out       |
|    | Core Networking - Group Policy (TCP-Out)                  | Outbound rule to allow remote RPC traffic for Group Policy updates.   | Local: Any<br>Remote: Any | TCP      | Out       |

| OS | Rule  | Definition  | Port                          | Protocol | Direction |
|----|---|---|-------------------------------|----------|-----------|
|    | Internet Group Management Protocol (IGMP-In)                    | IGMP messages are sent and received by nodes to create, join, and depart multicast groups.                        | Local: 68<br>Remote: 67       | 2        | In        |
|    | Core Networking - Internet Group Management Protocol (IGMP-Out) | IGMP messages are sent and received by nodes to create, join, and depart multicast groups.                        | Local: 68<br>Remote: 67       | 2        | Out       |
|    | Core Networking - IPHTTPS (TCP-In)                              | Inbound TCP rule to allow IPHTTPS tunneling technology to provide connectivity across HTTP proxies and firewalls. | Local: IPHTTPS<br>Remote: Any | TCP      | In        |

| OS | Rule                                | Definition  | Port                          | Protocol | Direction |
|----|-------------------------------------|---|-------------------------------|----------|-----------|
|    | Core Networking - IPHTTPS (TCP-Out) | Outbound TCP rule to allow IPHTTPS tunneling technology to provide connectivity across HTTP proxies and firewalls.                      | Local: Any<br>Remote: IPHTTPS | TCP      | Out       |
|    | IPv6 (IPv6-In)                      | Inbound rule required to permit IPv6 traffic for ISATAP ( Intra-Site Automatic Tunnel Addressing Protocol) and 6to4 tunneling services. | Local: Any<br>Remote: 445     | 41       | In        |

| OS | Rule                                | Definition   | Port                      | Protocol | Direction |
|----|-------------------------------------|--|---------------------------|----------|-----------|
|    | IPv6 (IPv6-Out)                     | Outbound rule required to permit IPv6 traffic for ISATAP (Intra-Site Automatic Tunnel Addressing Protocol) and 6to4 tunneling services.              | Local: Any<br>Remote: 445 | 41       | Out       |
|    | Multicast Listener Done (ICMPv6-In) | Multicast Listener Done messages inform local routers that there are no longer any members remaining for a specific multicast address on the subnet. | Local: 68<br>Remote: 67   | ICMPv6   | In        |

| OS | Rule                                 | Definition   | Port                    | Protocol | Direction |
|----|--------------------------------------|--|-------------------------|----------|-----------|
|    | Multicast Listener Done (ICMPv6-Out) | Multicast Listener Done messages inform local routers that there are no longer any members remaining for a specific multicast address on the subnet. | Local: 68<br>Remote: 67 | ICMPv6   | Out       |
|    | Multicast Listener Query (ICMPv6-In) | An IPv6 multicast-capable router uses the Multicast Listener Query message to query a link for multicast group membership.                           | Local: 68<br>Remote: 67 | ICMPv6   | In        |

| OS | Rule                                  | Definition   | Port                    | Protocol | Direction |
|----|---------------------------------------|--|-------------------------|----------|-----------|
|    | Multicast Listener Query (ICMPv6-Out) | An IPv6 multicast-capable router uses the Multicast Listener Query message to query a link for multicast group membership. | Local: 68<br>Remote: 67 | ICMPv6   | Out       |

| OS | Rule                                  | Definition   | Port                    | Protocol | Direction |
|----|---------------------------------------|--|-------------------------|----------|-----------|
|    | Multicast Listener Report (ICMPv6-In) | The Multicast Listener Report message is used by a listening node to either immediately report its interest in receiving multicast traffic at a specific multicast address or in response to a Multicast Listener Query. | Local: 68<br>Remote: 67 | ICMPv6   | In        |

| OS | Rule                                   | Definition   | Port                    | Protocol | Direction |
|----|--|--|-------------------------|----------|-----------|
|    | Multicast Listener Report (ICMPv6-Out) | The Multicast Listener Report message is used by a listening node to either immediately report its interest in receiving multicast traffic at a specific multicast address or in response to a Multicast Listener Query. | Local: 68<br>Remote: 67 | ICMPv6   | Out       |



| OS | Rule                                     | Definition  | Port                    | Protocol | Direction |
|----|--|---|-------------------------|----------|-----------|
|    | Multicast Listener Report v2 (ICMPv6-In) | Multicast Listener Report v2 message is used by a listening node to either immediately report its interest in receiving multicast traffic at a specific multicast address or in response to a Multicast Listener Query. | Local: 68<br>Remote: 67 | ICMPv6   | In        |

| OS | Rule                                      | Definition  | Port                    | Protocol | Direction |
|----|---|---|-------------------------|----------|-----------|
|    | Multicast Listener Report v2 (ICMPv6-Out) | Multicast Listener Report v2 message is used by a listening node to either immediately report its interest in receiving multicast traffic at a specific multicast address or in response to a Multicast Listener Query. | Local: 68<br>Remote: 67 | ICMPv6   | Out       |

| OS | Rule   | Definition   | Port                    | Protocol | Direction |
|----|--|--|-------------------------|----------|-----------|
|    | Neighbor Discovery Advertisement (ICMPv6-In) | Neighbor Discovery Advertisement messages are sent by nodes to notify other nodes of link-layer address changes or in response to a Neighbor Discovery Solicitation request. | Local: 68<br>Remote: 67 | ICMPv6   | In        |

| OS | Rule  | Definition   | Port                    | Protocol | Direction |
|----|---|--|-------------------------|----------|-----------|
|    | Neighbor Discovery Advertisement (ICMPv6-Out) | Neighbor Discovery Advertisement messages are sent by nodes to notify other nodes of link-layer address changes or in response to a Neighbor Discovery Solicitation request. | Local: 68<br>Remote: 67 | ICMPv6   | Out       |
|    | Neighbor Discovery Solicitation (ICMPv6-In)   | Neighbor Discovery Solicitations are sent by nodes to discover the link-layer address of another on-link IPv6 node.  | Local: 68<br>Remote: 67 | ICMPv6   | In        |

| OS | Rule   | Definition  | Port                    | Protocol | Direction |
|----|--|---|-------------------------|----------|-----------|
|    | Neighbor Discovery Solicitation (ICMPv6-Out) | Neighbor Discovery Solicitations are sent by nodes to discover the link-layer address of another on-link IPv6 node.   | Local: 68<br>Remote: 67 | ICMPv6   | Out       |
|    | Packet Too Big (ICMPv6-In)                   | Packet Too Big error messages are sent from any node that a packet traverses which is unable to forward the packet because the packet is too large for the next link. | Local: 68<br>Remote: 67 | ICMPv6   | In        |

| OS | Rule                          | Definition  | Port                    | Protocol | Direction |
|----|-------------------------------|---|-------------------------|----------|-----------|
|    | Packet Too Big (ICMPv6-Out)   | Packet Too Big error messages are sent from any node that a packet traverses which is unable to forward the packet because the packet is too large for the next link. | Local: 68<br>Remote: 67 | ICMPv6   | Out       |
|    | Parameter Problem (ICMPv6-In) | Parameter Problem error messages are sent by nodes when packets are incorrectly generated.  | Local: 68<br>Remote: 67 | ICMPv6   | In        |

| OS | Rule                              | Definition   | Port                    | Protocol | Direction |
|----|-----------------------------------|--|-------------------------|----------|-----------|
|    | Parameter Problem (ICMPv6-Out)    | Parameter Problem error messages are sent by nodes when packets are incorrectly generated.         | Local: 68<br>Remote: 67 | ICMPv6   | Out       |
|    | Router Advertisement (ICMPv6-In)  | Router Advertisement messages are sent by routers to other nodes for stateless auto-configuration. | Local: 68<br>Remote: 67 | ICMPv6   | In        |
|    | Router Advertisement (ICMPv6-Out) | Router Advertisement messages are sent by routers to other nodes for stateless auto-configuration. | Local: 68<br>Remote: 67 | ICMPv6   | Out       |

| OS | Rule                             | Definition  | Port                    | Protocol | Direction |
|----|----------------------------------|---|-------------------------|----------|-----------|
|    | Router Solicitation (ICMPv6-In)  | Router Solicitation messages are sent by nodes seeking routers to provide stateless auto-configuration. | Local: 68<br>Remote: 67 | ICMPv6   | In        |
|    | Router Solicitation (ICMPv6-Out) | Router Solicitation messages are sent by nodes seeking routers to provide stateless auto-configuration. | Local: 68<br>Remote: 67 | ICMPv6   | Out       |



| OS | Rule                              | Definition   | Port                         | Protocol | Direction |
|----|-----------------------------------|--|------------------------------|----------|-----------|
|    | Core Networking - Teredo (UDP-In) | Inbound UDP rule to allow Teredo edge traversal. This technology provides address assignment and automatic tunneling for unicast IPv6 traffic when an IPv6/IPv4 host is located behind an IPv4 network address translator. | Local: Teredo<br>Remote: Any | UDP      | In        |

| OS | Rule                               | Definition   | Port                      | Protocol | Direction |
|----|------------------------------------|--|---------------------------|----------|-----------|
|    | Core Networking - Teredo (UDP-Out) | Outbound UDP rule to allow Teredo edge traversal . This technology provides address assignment and automatic tunneling for unicast IPv6 traffic when an IPv6/IPv4 host is located behind an IPv4 network address translator. | Local: Any<br>Remote: Any | UDP      | Out       |

| OS | Rule                      | Definition   | Port                    | Protocol | Direction |
|----|---------------------------|--|-------------------------|----------|-----------|
|    | Time Exceeded (ICMPv6-In) | Time Exceeded error messages are generated from any node that a packet traverses if the Hop Limit value is decremented to zero at any point on the path. | Local: 68<br>Remote: 67 | ICMPv6   | In        |

| OS | Rule                       | Definition   | Port                    | Protocol | Direction |
|----|----------------------------|--|-------------------------|----------|-----------|
|    | Time Exceeded (ICMPv6-Out) | Time Exceeded error messages are generated from any node that a packet traverses if the Hop Limit value is decremented to zero at any point on the path. | Local: 68<br>Remote: 67 | ICMPv6   | Out       |

## Delivery Optimization

| OS   | Rule                        | Definition  | Port                       | Protocol | Direction |
|--|-----------------------------|---|----------------------------|----------|-----------|
| Windows Server 2019<br>Windows Server 2022 | DeliveryOptimization-TCP-In | Inbound rule to allow Delivery Optimization to connect to remote endpoints. | Local: 7680<br>Remote: Any | TCP      | In        |
|  | DeliveryOptimization-UDP-In | Inbound rule to allow Delivery Optimization                                 | Local: 7680<br>Remote: Any | UDP      | In        |

| OS | Rule | Definition                      | Port | Protocol | Direction |
|----|------|---------------------------------|------|----------|-----------|
|    |      | to connect to remote endpoints. |      |          |           |

## Diag Track

### Windows Server 2019 and 2022

| OS   | Rule                                     | Definition                                 | Port                      | Protocol | Direction |
|--|--|--|---------------------------|----------|-----------|
| Windows Server 2019<br>Windows Server 2022 | Connected User Experiences and Telemetry | Unified Telemetry Client Outbound Traffic. | Local: Any<br>Remote: 443 | TCP      | Out       |

### Windows Server 2016

| OS                  | Rule                                     | Definition                                 | Port                      | Protocol | Direction |
|---------------------|--|--|---------------------------|----------|-----------|
| Windows Server 2016 | Connected User Experiences and Telemetry | Unified Telemetry Client Outbound Traffic. | Local: Any<br>Remote: Any | TCP      | Out       |

## DIAL Protocol Server

| OS                  | Rule                           | Definition                     | Port         | Protocol | Direction |
|---------------------|--------------------------------|--------------------------------|--------------|----------|-----------|
| Windows Server 2016 | DIAL protocol server (HTTP-In) | Inbound rule for DIAL protocol | Local: 10247 | TCP      | In        |

| OS                  | Rule | Definition   | Port        | Protocol | Direction |
|---------------------|------|--|-------------|----------|-----------|
| Windows Server 2019 |      | server to allow remote control of Apps using HTTP. | Remote: Any |          |           |
| Windows Server 2022 |      |  |             |          |           |

## File and Printer Sharing

| OS                     | Rule   | Definition  | Port                       | Protocol | Direction |
|------------------------|--|---|----------------------------|----------|-----------|
| Windows Server 2012    | File and Printer Sharing (Echo Request - ICMPv4-In)  | Echo Request messages are sent as ping requests to other nodes. | Local: 5355<br>Remote: Any | ICMPv4   | In        |
| Windows Server 2012 R2 | File and Printer Sharing (Echo Request - ICMPv4-Out) | Echo Request messages are sent as ping requests to other nodes. | Local: 5355<br>Remote: Any | ICMPv4   | Out       |
|                        | File and Printer Sharing (Echo Request - ICMPv6-In)  | Echo Request messages are sent as ping requests to other nodes. | Local: 5355<br>Remote: Any | ICMPv6   | In        |
|                        | File and Printer Sharing                             | Echo Request messages are sent as ping                          | Local: 5355                | ICMPv6   | Out       |

| OS | Rule                                      | Definition  | Port                       | Protocol | Direction |
|----|---|---|----------------------------|----------|-----------|
|    | (Echo Request - ICMPv6-Out)               | requests to other nodes.  | Remote: Any                |          |           |
|    | File and Printer Sharing (LLMNR-UDP-In)   | Inbound rule for File and Printer Sharing to allow Link Local Multicast Name Resolution.        | Local: 5355<br>Remote: Any | UDP      | In        |
|    | File and Printer Sharing (LLMNR-UDP-Out)  | Outbound rule for File and Printer Sharing to allow Link Local Multicast Name Resolution.       | Local: Any<br>Remote: 5355 | UDP      | Out       |
|    | File and Printer Sharing (NB-Datagram-In) | Inbound rule for File and Printer Sharing to allow NetBIOS Datagram transmission and reception. | Local: 138<br>Remote: Any  | UDP      | In        |

| OS | Rule                                       | Definition   | Port                      | Protocol | Direction |
|----|--|--|---------------------------|----------|-----------|
|    | File and Printer Sharing (NB-Datagram-Out) | Outbound rule for File and Printer Sharing to allow NetBIOS Datagram transmission and reception. | Local: Any<br>Remote: 138 | UDP      | Out       |
|    | File and Printer Sharing (NB-Name-In)      | Inbound rule for File and Printer Sharing to allow NetBIOS Name Resolution.                      | Local: 137<br>Remote: Any | UDP      | In        |
|    | File and Printer Sharing (NB-Name-Out)     | Outbound rule for File and Printer Sharing to allow NetBIOS Name Resolution.                     | Local: Any<br>Remote: 137 | UDP      | Out       |



| OS | Rule                                      | Definition  | Port                      | Protocol | Direction |
|----|---|---|---------------------------|----------|-----------|
|    | File and Printer Sharing (NB-Session-In)  | Inbound rule for File and Printer Sharing to allow NetBIOS Session Service connections.                             | Local: 139<br>Remote: Any | TCP      | In        |
|    | File and Printer Sharing (NB-Session-Out) | Outbound rule for File and Printer Sharing to allow NetBIOS Session Service connections.                            | Local: Any<br>Remote: 139 | TCP      | Out       |
|    | File and Printer Sharing (SMB-In)         | Inbound rule for File and Printer Sharing to allow Server Message Block transmission and reception via Named Pipes. | Local: 445<br>Remote: Any | TCP      | In        |

| OS | Rule   | Definition   | Port                            | Protocol | Direction |
|----|--|--|---------------------------------|----------|-----------|
|    | File and Printer Sharing (SMB-Out)                     | Outbound rule for File and Printer Sharing to allow Server Message Block transmission and reception via Named Pipes. | Local: Any<br>Remote: 445       | TCP      | Out       |
|    | File and Printer Sharing (Spooler Service - RPC)       | Inbound rule for File and Printer Sharing to allow the Print Spooler Service to communicate via TCP/RPC.             | Local: RPC<br>Remote: Any       | TCP      | In        |
|    | File and Printer Sharing (Spooler Service - RPC-EPMAP) | Inbound rule for the RPCSS service to allow RPC/TCP traffic for the Spooler Service.                                 | Local: RPC-EPMAP<br>Remote: Any | TCP      | In        |

## File Server Remote Management

| OS  | Rule                                    | Definition   | Port                          | Protocol | Direction |
|---|---|--|-------------------------------|----------|-----------|
| Windows Server 2012<br><br>Windows Server 2012 R2 | File Server Remote Management (DCOM-In) | Inbound rule to allow DCOM traffic to manage the File Services role. | Local: 135<br><br>Remote: Any | TCP      | In        |
|   | File Server Remote Management (SMB-In)  | Inbound rule to allow SMB traffic to manage the File Services role.  | Local: 445<br><br>Remote: Any | TCP      | In        |
|   | WMI-In                                  | Inbound rule to allow WMI traffic to manage the File Services role.  | Local: RPC<br><br>Remote: Any | TCP      | In        |

## ICMP v4 All

| OS  | Rule        | Port                          | Protocol | Direction |
|---|-------------|-------------------------------|----------|-----------|
| Windows Server 2012<br><br>Windows Server 2012 R2 | All ICMP v4 | Local: 139<br><br>Remote: Any | ICMPv4   | In        |

## Microsoft Edge

| OS                  | Rule                     | Port                       | Protocol | Direction |
|---------------------|--------------------------|----------------------------|----------|-----------|
| Windows Server 2022 | Microsoft Edge (mDNS-In) | Local: 5353<br>Remote: Any | UDP      | In        |

## Microsoft Media Foundation Network Source

| OS                  | Rule   | Port                                 | Protocol | Direction |
|---------------------|--|--------------------------------------|----------|-----------|
| Windows Server 2022 | Microsoft Media Foundation Network Source IN [TCP 554]       | Local: 554, 8554-8558<br>Remote: Any | TCP      | In        |
|                     | Microsoft Media Foundation Network Source IN [UDP 5004-5009] | Local: 5000-5020<br>Remote: Any      | UDP      | In        |
|                     | Microsoft Media Foundation Network Source OUT [TCP ALL]      | Local: Any<br>Remote: 554, 8554-8558 | TCP      | In        |

## Multicast

### Windows Server 2019 and 2022

| OS                  | Rule           | Definition                      | Port                       | Protocol | Direction |
|---------------------|----------------|---------------------------------|----------------------------|----------|-----------|
| Windows Server 2019 | mDNS (UDP-In)  | Inbound rule for mDNS traffic.  | Local: 5353<br>Remote: Any | UDP      | In        |
| Windows Server 2022 | mDNS (UDP-Out) | Outbound rule for mDNS traffic. | Local: Any<br>Remote: 5353 | UDP      | Out       |

### Windows Server 2016

| OS                  | Rule           | Definition                      | Port                       | Protocol | Direction |
|---------------------|----------------|---------------------------------|----------------------------|----------|-----------|
| Windows Server 2016 | mDNS (UDP-In)  | Inbound rule for mDNS traffic.  | Local: mDNS<br>Remote: Any | UDP      | In        |
|                     | mDNS (UDP-Out) | Outbound rule for mDNS traffic. | Local: 5353<br>Remote: Any | UDP      | Out       |

## Remote Desktop

### Windows Server 2012 R2, 2016, 2019, and 2022

| OS | Rule           | Definition           | Port       | Protocol | Direction |
|----|----------------|----------------------|------------|----------|-----------|
|    | Remote Desktop | Inbound rule for the | Local: Any | TCP      | In        |

| OS                     | Rule                                | Definition   | Port                       | Protocol | Direction |
|------------------------|-------------------------------------|--|----------------------------|----------|-----------|
| Windows Server 2012 R2 | - Shadow (TCP-In)                   | Remote Desktop service to allow shadowing of an existing Remote Desktop session. | Remote: Any                |          |           |
| Windows Server 2016    |                                     |  |                            |          |           |
| Windows Server 2019    |                                     |  |                            |          |           |
| Windows Server 2022    | Remote Desktop - User Mode (TCP-In) | Inbound rule for the Remote Desktop service to allow RDP traffic.                | Local: 3389<br>Remote: Any | TCP      | In        |
|                        | Remote Desktop - User Mode (UDP-In) | Inbound rule for the Remote Desktop service to allow RDP traffic.                | Local: 3389<br>Remote: Any | UDP      | In        |

## Windows Server 2012

| OS                  | Rule                                | Definition                                     | Port                       | Protocol | Direction |
|---------------------|-------------------------------------|--|----------------------------|----------|-----------|
| Windows Server 2012 | Remote Desktop - User Mode (TCP-In) | Inbound rule for the Remote Desktop service to | Local: 3389<br>Remote: Any | TCP      | In        |

| OS | Rule                                | Definition  | Port                       | Protocol | Direction |
|----|-------------------------------------|---|----------------------------|----------|-----------|
|    |                                     | allow RDP traffic.  |                            |          |           |
|    | Remote Desktop - User Mode (UDP-In) | Inbound rule for the Remote Desktop service to allow RDP traffic. | Local: 3389<br>Remote: Any | UDP      | In        |

## WindowsDevice Management

### Windows Server 2022

| OS                  | Rule   | Definition  | Port                          | Protocol | Direction |
|---------------------|--|---|-------------------------------|----------|-----------|
| Windows Server 2022 | WindowsDevice Management Certificate Installer (TCP out) | Allow outbound TCP traffic from WindowsDevice Management Certificate Installer. | Local: Any<br>Remote: Any     | TCP      | Out       |
|                     | WindowsDevice Management Device Enroller (TCP out)       | Allow outbound TCP traffic from WindowsDevice Management                        | Local: Any<br>Remote: 80, 443 | TCP      | Out       |

| OS | Rule  | Definition   | Port                      | Protocol | Direction |
|----|---|--|---------------------------|----------|-----------|
|    |   | t Device Enroller.   |                           |          |           |
|    | WindowsDevice Management Enrollment Service (TCP out) | Allow outbound TCP traffic from WindowsDevice Management Enrollment Service. | Local: Any<br>Remote: Any | TCP      | Out       |
|    | WindowsDevice Management Sync Client (TCP out)        | Allow outbound TCP traffic from WindowsDevice Management Sync Client.        | Local: Any<br>Remote: Any | TCP      | Out       |

## Windows Server 2019

| OS                  | Rule   | Definition   | Port                      | Protocol | Direction |
|---------------------|--|--|---------------------------|----------|-----------|
| Windows Server 2019 | WindowsDevice Management Certificate Installer (TCP out) | Allow outbound TCP traffic from WindowsDevice Management | Local: Any<br>Remote: Any | TCP      | Out       |



| OS | Rule  | Definition   | Port                      | Protocol | Direction |
|----|---|--|---------------------------|----------|-----------|
|    |   | t Certificate Installer.   |                           |          |           |
|    | WindowsDevice Management Enrollment Service (TCP out) | Allow outbound TCP traffic from WindowsDevice Management Enrollment Service. | Local: Any<br>Remote: Any | TCP      | Out       |
|    | WindowsDevice Management Sync Client (TCP out)        | Allow outbound TCP traffic from WindowsDevice Management Sync Client .       | Local: Any<br>Remote: Any | TCP      | Out       |
|    | WindowsEnrollment WinRT (TCP Out)                     | Allow outbound TCP traffic from WindowsEnrollment WinRT.                     | Local: Any<br>Remote: Any | TCP      | Out       |

## WindowsFeature Experience Pack

| OS                  | Rule                           | Definition                      | Port | Protocol | Direction |
|---------------------|--------------------------------|---------------------------------|------|----------|-----------|
| Windows Server 2022 | WindowsFeature Experience Pack | WindowsFeature Experience Pack. |      | Any      | Out       |

## WindowsFirewall Remote Management

| OS                     | Rule  | Definition  | Port                            | Protocol | Direction |
|------------------------|---|---|---------------------------------|----------|-----------|
| Windows Server 2012 R2 | WindowsFirewall Remote Management (RPC)       | Inbound rule for the WindowsFirewall to be remotely managed via RPC/TCP.              | Local: RPC<br>Remote: Any       | TCP      | In        |
|                        | WindowsFirewall Remote Management (RPC-EPMAP) | Inbound rule for the RPCSS service to allow RPC/TCP traffic for the Windows Firewall. | Local: RPC-EPMAP<br>Remote: Any | TCP      | In        |

## WindowsRemote Management

| OS                     | Rule                                | Definition   | Port                       | Protocol | Direction |
|------------------------|-------------------------------------|--|----------------------------|----------|-----------|
| Windows Server 2012    | WindowsRe mote Management (HTTP-In) | Inbound rule for WindowsRe mote Managemen t via WS- Manage ment. | Local: 5985<br>Remote: Any | TCP      | In        |
| Windows Server 2012 R2 |                                     |  |                            |          |           |
| Windows Server 2016    |                                     |  |                            |          |           |
| Windows Server 2019    |                                     |  |                            |          |           |
| Windows Server 2022    |                                     |  |                            |          |           |

For more information about Amazon EC2 security groups, see [Amazon EC2 Security Groups for WindowsInstances](#).

## Changes applied for Amazon Windows AMIs

To help ensure a smooth and consistent launch experience, Amazon Windows AMIs include the following updates for initialization, installation, and configuration.

### Note

When you launch an instance from an Amazon managed Amazon Windows AMI, the root device for the Windows instance is an Amazon Elastic Block Store (Amazon EBS) volume. Amazon Windows AMIs don't support instance store for the root device.

## Clean and prepare

| Description   | Applies to                         |
|---|------------------------------------|
| Check for pending file renames or reboots, and reboot as needed | All AMIs                           |
| Delete .dmp files   | All AMIs                           |
| Delete logs (event logs, Systems Manager, EC2Config)            | All AMIs                           |
| Delete temporary folders and files for Sysprep                  | All AMIs                           |
| Perform virus scan  | All AMIs                           |
| Pre-compile queued .NET assemblies (before Sysprep)             | All AMIs                           |
| Restore default values for Microsoft browsers                   | All AMIs                           |
| Reset the Windows wallpaper                                     | All AMIs                           |
| Run Sysprep   | All AMIs                           |
| Set EC2Launch v1 to run at the next launch                      | Windows Server 2016 and 2019       |
| Run Windows maintenance tools                                   | Windows Server 2012 R2 and later   |
| Clear recent history (Start menu, Windows Explorer, and more)   | Windows Server 2012 R2 and earlier |
| Restore default values for EC2Config                            | Windows Server 2012 R2 and earlier |

## Install and configure

| Description                 | Applies to |
|-----------------------------|------------|
| Disable Secure Time Seeding | All AMIs   |

| Description  | Applies to |
|--|------------|
| Add links to the Amazon EC2 Windows Guide                        | All AMIs   |
| Attach instance storage volumes to extended mount points         | All AMIs   |
| Install the current Amazon Tools for Windows PowerShell          | All AMIs   |
| Install the current Amazon CloudFormation helper scripts         | All AMIs   |
| Disable RunOnce for Internet Explorer                            | All AMIs   |
| Enable remote PowerShell   | All AMIs   |
| Disable hibernation and delete the hibernation file              | All AMIs   |
| Disable the Connected User Experiences and Telemetry service     | All AMIs   |
| Set the performance options for best performance                 | All AMIs   |
| Set the power setting to high performance                        | All AMIs   |
| Disable the screen saver password                                | All AMIs   |
| Set the RealTimeIsUniversal registry key                         | All AMIs   |
| Set the timezone to UTC  | All AMIs   |
| Disable Windows updates and notifications                        | All AMIs   |
| Run Windows Update and reboot until there are no pending updates | All AMIs   |
| Set the display in all power schemes to never turn off           | All AMIs   |
| Set the PowerShell execution policy to "Unrestricted"            | All AMIs   |

| Description  | Applies to                         |
|--|------------------------------------|
| <p>If Microsoft SQL Server is installed:</p> <ul style="list-style-type: none"> <li>• Install service packs</li> <li>• Configure to start automatically</li> <li>• Add BUILTIN\Administrators to the SysAdmin role</li> <li>• Open TCP port 1433 and UDP port 1434</li> </ul>  | All AMIs                           |
| <p>Configure a paging file on the system volume as follows:</p> <ul style="list-style-type: none"> <li>• Windows Server 2016 and later - Managed by the system</li> <li>• Windows Server 2012 R2 - Initial size and max size are 8 GB</li> <li>• Windows Server 2012 and earlier - Initial size is 512 MB, max size is 8 GB</li> </ul> | All AMIs                           |
| Install the current EC2Launch v2 and SSM Agent   | Windows Server 2022 and later      |
| Install the current EC2Launch v1 and SSM Agent   | Windows Server 2016 and 2019       |
| Install the current SRIOV drivers  | Windows Server 2012 R2 and later   |
| Install the current EC2WinUtil driver  | Windows Server 2008 R2 and later   |
| Install the current EC2Config and SSM Agent  | Windows Server 2012 R2 and earlier |
| Install the current Amazon PV, ENA, and NVMe drivers   | Windows Server 2008 R2 and later   |

| Description  | Applies to                          |
|--|-------------------------------------|
| Allow ICMP traffic through the firewall  | Windows Server 2012 R2 and earlier  |
| Configure an additional system managed paging file on Z:, if available   | Windows Server 2012 R2 and earlier  |
| Enable file and printer sharing  | Windows Server 2012 R2 and earlier  |
| Install the current Citrix PV driver   | Windows Server 2008 SP2 and earlier |
| Install PowerShell 2.0 and 3.0   | Windows Server 2008 SP2 and R2      |
| <p data-bbox="110 867 532 905">Apply the following hotfixes:</p> <ul style="list-style-type: none"> <li data-bbox="110 961 297 1016">• <a href="#">MS15-011</a></li> <li data-bbox="110 1066 318 1104">• <a href="#">KB2582281</a></li> <li data-bbox="110 1155 318 1192">• <a href="#">KB2634328</a></li> <li data-bbox="110 1243 318 1281">• <a href="#">KB2394911</a></li> <li data-bbox="110 1331 318 1369">• <a href="#">KB2780879</a></li> </ul> | Windows Server 2008 SP2 and R2      |

## Changes in Windows Server 2016 and later AMIs

Amazon provides AMIs for Windows Server 2016 and later. These AMIs include the following high-level changes from earlier Amazon Windows AMIs:

- To accommodate the change from .NET Framework to .NET Core, the EC2Config service has been deprecated on Windows Server 2016 AMIs and replaced by EC2Launch. EC2Launch is a bundle of Windows PowerShell scripts that perform many of the tasks performed by the EC2Config service. For more information, see [Configure a Windows instance using EC2Launch](#). EC2Launch

v2 replaces EC2Launch in Windows Server 2022 and later. For more information, see [Configure a Windows instance using EC2Launch v2](#).

- On earlier versions of Windows Server AMIs, you can use the EC2Config service to join an EC2 instance to a domain and configure integration with Amazon CloudWatch. On Windows Server 2016 and later AMIs, you can use the CloudWatch agent to configure integration with Amazon CloudWatch. For more information about configuring instances to send log data to CloudWatch, see [Collect Metrics and Logs from Amazon EC2 Instances and On-Premises Servers with the CloudWatch Agent](#). For information about joining an EC2 instance to a domain, see [Join an Instance to a Domain Using the AWS-JoinDirectoryServiceDomain JSON Document](#) in the *Amazon Systems Manager User Guide*.

## Other differences

Note the following additional important differences for instances created from Windows Server 2016 and later AMIs.

- By default, EC2Launch does not initialize secondary EBS volumes. You can configure EC2Launch to initialize disks automatically by either scheduling the script to run or by calling EC2Launch in user data. For the procedure to initialize disks using EC2Launch, see "Initialize Drives and Drive Letter Mappings" in [Configure EC2Launch](#).
- If you previously enabled CloudWatch integration on your instances by using a local configuration file (`AWS.EC2.Windows.CloudWatch.json`), you can configure the file to work with the SSM Agent on instances created from Windows Server 2016 and later AMIs.

For more information, see [Windows Server](#) on Microsoft.com.

## Amazon Windows AMI version history

The following tables summarize the changes to each release of the Amazon Windows AMIs. Note that some changes apply to all Amazon Windows AMIs, while others apply to only a subset of these AMIs.

For more information about components included in these AMIs, see the following:

- [EC2Launch v2 version history](#)
- [EC2Launch v1 version history](#)



- [EC2Config version history](#)
- [Systems Manager SSM Agent Release Notes](#)
- [Amazon ENA driver versions](#)
- [Amazon NVME driver versions](#)
- [Paravirtual drivers for Windows instances](#)
- [Amazon Tools for PowerShell Change Log](#)


## Monthly AMI updates for 2024 (to date)

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2024](#).

| Release    | Changes   |
|------------|---|
| 2024.06.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Amazon Tools for Windows PowerShell version 4.1.593</li> <li>• EC2Launch v1 version 3.2004891</li> <li>• EC2Launch v2 version 2.0.1924</li> <li>• EC2WinUtil version 3.0.0</li> <li>• Elastic Network Adapter (ENA) version 2.7.0</li> <li>• SSM Agent version 3.3.484.0</li> <li>• SQL Server CUs installed: <ul style="list-style-type: none"> <li>• SQL_2022: CU 13</li> </ul> </li> <li>• NVIDIA Tesla version 475.06</li> <li>• Windows Security Updates current to June 11, 2024</li> </ul> |

| Release    | Changes   |
|------------|---|
|            | <p>Previous versions of Amazon-published Amazon Windows AMIs dated March 13, 2024 and earlier will be made private after July 8, 2024, 10 AM Pacific.</p>   |
| 2024.05.15 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Amazon Tools for Windows PowerShell version 4.1.575</li><li>• EC2Launch v2 version 2.0.1881</li><li>• SSM Agent version 3.3.380.0</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2022: GDR KB5036343</li><li>• SQL_2019: CU26</li></ul></li><li>• Windows Security Updates current to May 14, 2024</li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated February 14, 2024 and earlier will be made private after June 10, 2024, 10 AM Pacific.</p> |


| Release    | Changes  |
|------------|--|
| 2024.04.10 | <p data-bbox="402 226 526 260"><b>All AMIs</b></p> <ul data-bbox="402 319 1224 730" style="list-style-type: none"><li data-bbox="402 319 1166 373">• Windows Security Updates current to April 9, 2024</li><li data-bbox="402 403 1224 457">• Amazon Tools for Windows PowerShell version 4.1.551</li><li data-bbox="402 487 850 541">• SSM Agent version 3.3.131.0</li><li data-bbox="402 571 799 646">• SQL Server CUs installed:<ul data-bbox="435 655 711 730" style="list-style-type: none"><li data-bbox="435 655 711 730">• SQL_2022: CU12</li></ul></li></ul> <p data-bbox="402 835 1455 970">Previous versions of Amazon-published Amazon Windows AMIs dated January 16, 2024 and earlier will be made private after May 13, 2024, 10 AM Pacific.</p> |

| Release    | Changes  |
|------------|--|
| 2024.03.13 | <p data-bbox="402 226 526 260"><b>All AMIs</b></p> <ul data-bbox="402 317 1227 995" style="list-style-type: none"><li data-bbox="402 317 1227 373">• Windows Security Updates current to March 12, 2024</li><li data-bbox="402 407 1227 464">• Amazon Tools for Windows PowerShell version 4.1.530</li><li data-bbox="402 497 1227 554">• EC2Launch v2 version 2.0.1815</li><li data-bbox="402 588 1227 644">• SSM Agent version 3.2.2303.0</li><li data-bbox="402 678 1227 735">• NVIDIA GRID Driver version 538.33</li><li data-bbox="402 768 1227 825">• NVIDIA Tesla Driver version 474.82</li><li data-bbox="402 858 1227 915">• SQL Server CUs installed:<ul data-bbox="428 928 711 995" style="list-style-type: none"><li data-bbox="428 928 711 995">• SQL_2019: CU25</li></ul></li></ul> <div data-bbox="402 1066 1507 1432" style="border: 1px solid #add8e6; border-radius: 10px; padding: 10px;"><p data-bbox="428 1108 553 1142"><b> Note</b></p><p data-bbox="477 1163 1479 1388">To ensure that you always receive valid time from your configured Network Time Protocol (NTP) service, Secure Time Seeding (STS) is disabled on all Amazon Windows AMIs from this version forward. Amazon Time Sync Service is the default NTP service for all Amazon Windows AMIs that Amazon provides.</p></div> <p data-bbox="402 1583 1479 1709">Previous versions of Amazon-published Amazon Windows AMIs dated December 13, 2023 and earlier will be made private after April 8, 2024, 10 AM Pacific.</p> |

| Release    | Changes  |
|------------|--|
| 2024.02.14 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security Updates current to February 13, 2024</li><li>• Amazon Tools for Windows PowerShell version 4.1.512</li><li>• cfn-init version 2.0.29</li><li>• SSM Agent version 3.2.2222.0</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2022: CU11</li></ul></li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated November 15, 2023 and earlier will be made private after March 11, 2024, 10 AM Pacific.</p> |
| 2024.01.16 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• EC2Launch v2 version 2.0.1739</li><li>• EC2Launch v1 v1 version 1.3.2004617</li></ul>   |

| Release | Changes |
|---------|---------|
|---------|---------|

2024.01.10  
(Deprecated)

 **Note**

*Due to functional issues with EC2Launch v1 and EC2Launch v2, this AMI version is marked as deprecated. The AMIs are still available for launch, and are described by directly referencing their AMI ID. However, they will no longer appear in search results for public AMIs. We recommend that you use the latest AMI version, dated 2024.01.16.*

### All AMIs

- Windows Security Updates current to January 9, 2024  
  
*Note:* Due to a known update installation issue, we excluded the standalone Windows update KB5034439 on Windows Server 2022 Core AMIs. The update only applies to Windows installations with a separate WinRE partition. These partitions are not included with our EC2 Windows Server AMIs. For more details, see [KB5034439: Windows Recovery Environment update for Azure Stack HCI, version 22H2 and Windows Server 2022: January 9, 2024](#) in the Microsoft documentation.
- Amazon Tools for PowerShell version 4.1.486
- EC2Launch v1 v1 version 1.3.2004592
- EC2Launch v2 version 2.0.1702
- SQL Server CUs installed:
  - SQL\_2019: CU24

| Release | Changes   |
|---------|---|
|         | <p>Previous versions of Amazon-published Amazon Windows AMIs dated October 11, 2023 and earlier will be made private after February 12th 2024, 10 AM Pacific.</p> |

## Monthly AMI updates for 2023

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2023](#).

| Release    | Changes  |
|------------|--|
| 2023.12.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows Security Updates current to December 12, 2023</li> <li>• Amazon Tools for PowerShell version 4.1.468</li> <li>• AMD Radeon Pro Driver version 22.10.01.12</li> <li>• NVIDIA GRID Driver version 537.70</li> <li>• NVIDIA Tesla Driver version 474.64</li> <li>• SQL Server CUs installed: <ul style="list-style-type: none"> <li>• SQL_2022: CU10</li> </ul> </li> </ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated September 13, 2023 and earlier will be made private after January 8th 2024, 10 AM Pacific.</p> |
| 2023.11.15 |  |

| Release | Changes  |
|---------|--|
|         | <p data-bbox="399 212 526 243"><b>All AMIs</b></p> <ul data-bbox="399 302 1273 1247" style="list-style-type: none"><li data-bbox="399 302 1273 359">• Windows Security Updates current to November 14, 2023</li><li data-bbox="399 411 1084 443">• Amazon Tools for PowerShell version 4.1.447</li><li data-bbox="399 495 935 527">• EC2Launch v1 version 1.3.2004491</li><li data-bbox="399 579 867 611">• SSM Agent version 3.2.1705.0</li><li data-bbox="399 663 797 695">• SQL Server CUs installed:<ul data-bbox="431 747 732 894" style="list-style-type: none"><li data-bbox="431 747 691 779">• SQL_2022: CU9</li><li data-bbox="431 831 732 863">• SQL_20219: CU23</li></ul></li><li data-bbox="399 936 821 968">• SQL Server GDRs installed:<ul data-bbox="431 1020 797 1247" style="list-style-type: none"><li data-bbox="431 1020 797 1052">• SQL 2017: KB5029376</li><li data-bbox="431 1104 797 1136">• SQL 2016: KB5029186</li><li data-bbox="431 1188 797 1220">• SQL 2014: KB5029185</li></ul></li></ul> <p data-bbox="399 1356 1479 1440">Previous versions of Amazon-published Amazon Windows AMIs dated August 10, 2023 and earlier were made private.</p> |



| Release    | Changes   |
|------------|---|
| 2023.10.11 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 352 1240 1029" style="list-style-type: none"><li data-bbox="402 352 1240 407">• Windows Security Updates current to October 10, 2023</li><li data-bbox="402 436 750 491">• cfn-init version 2.0.28</li><li data-bbox="402 520 938 575">• EC2Launch v1 version 1.3.2004438</li><li data-bbox="402 604 883 659">• EC2Launch v2 version 2.0.1643</li><li data-bbox="402 688 769 743">• SSM version 3.2.1630.0</li><li data-bbox="402 772 1084 827">• Amazon Tools for PowerShell version 4.1.426</li><li data-bbox="402 856 799 911">• SQL Server CUs installed:<ul data-bbox="435 953 695 1029" style="list-style-type: none"><li data-bbox="435 953 695 1029">• SQL_2022: CU8</li></ul></li></ul> <p data-bbox="402 1138 1481 1213">Previous versions of Amazon-published Amazon Windows AMIs dated July 12, 2023 and earlier were made private.</p> |

| Release    | Changes  |
|------------|--|
| 2023.09.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security Updates current to September 12, 2023</li><li>• EC2Launch v2 version 2.0.1580</li><li>• SSM version 3.2.1377.0</li><li>• Amazon Tools for PowerShell version 4.1.407</li><li>• Amazon NVMe driver version 1.5.0</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2022: CU7</li><li>• SQL_2019: CU22</li></ul></li></ul> <p>Windows Server 2012 RTM and Windows Server 2012 R2 will reach End of Support (EOS) on October 10, 2023 and will no longer receive regular security updates from Microsoft. On this date, Amazon will no longer publish or distribute Windows Server 2012 RTM or Windows Server 2012 R2 AMIs. Existing instances running Windows Server 2012 RTM and Windows Server 2012 R2 will not be impacted. Custom AMIs in your account will also not be impacted. You can continue to use them normally after the EOS date.</p> <p>Previous versions of Amazon-published Amazon Windows AMIs dated June 14, 2023 and earlier were made private.</p> |

| Release    | Changes   |
|------------|---|
| 2023.08.10 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security Updates current to August 8, 2023</li><li>• Amazon Tools for PowerShell version 4.1.383</li><li>• EC2Config version 4.9.5467</li><li>• SSM version 3.1.2282.0</li><li>• Amazon ENA version 2.6.0</li><li>• cfn-init version 2.0.26</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2022: CU6</li></ul></li></ul> <p>Windows Server 2012 RTM and Windows Server 2012 R2 will reach End of Support (EOS) on October 10, 2023 and will no longer receive regular security updates from Microsoft. On this date, Amazon will no longer publish or distribute Windows Server 2012 RTM or Windows Server 2012 R2 AMIs. Existing instances running Windows Server 2012 RTM and Windows Server 2012 R2 will not be impacted. Custom AMIs in your account will also not be impacted. You can continue to use them normally after the EOS date.</p> <p>Previous versions of Amazon-published Amazon Windows AMIs dated May 10, 2023 and earlier were made private.</p> |

| Release    | Changes   |
|------------|---|
| 2023.07.12 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security Updates current to July 11, 2023</li><li>• Amazon Tools for Windows PowerShell version 4.1.366</li><li>• EC2Launch v1 version 1.3.2004256</li><li>• EC2Launch v2 version 2.0.1521</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2022: CU5</li><li>• SQL_2019: CU21</li></ul></li></ul> <p>.NET Framework 3.5 is now enabled in Windows Server 2012 R2 AMIs due to Microsoft security updates. If these updates are applied before .NET 3.5 is enabled, it is no longer possible to enable the feature. If you prefer to disable .NET 3.5, you can do so through Server Manager or <code>dism</code> commands.</p> <p>Previous versions of Amazon-published Amazon Windows AMIs dated April 12, 2023 and earlier were made private.</p> |

| Release    | Changes   |
|------------|---|
| 2023.06.14 | <p data-bbox="402 258 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1227 674" style="list-style-type: none"><li data-bbox="402 348 1192 405">• Windows Security Updates current to June 13, 2023</li><li data-bbox="402 436 1227 493">• Amazon Tools for Windows PowerShell version 4.1.346</li><li data-bbox="402 525 797 581">• SQL Server CUs installed:<ul data-bbox="435 613 695 674" style="list-style-type: none"><li data-bbox="435 613 695 674">• SQL_2022: CU4</li></ul></li></ul> <p data-bbox="402 779 1479 1104">The Amazon Tools for Windows installation package has been deprecated, and no longer appears as an installed program in Amazon Windows AMIs provided by Amazon. The AWSPowerShell Module is now installed at C:\ProgramFiles\WindowsPowerShell\Modules\AWS PowerShell . The .NET SDK remains located at C:\ProgramFiles (x86)\Amazon SDK for .NET . For more information see <a href="#">the blog announcement</a>.</p> <p data-bbox="402 1146 1479 1419">Windows Server 2012 RTM and Windows Server 2012 R2 will reach End of Support (EOS) on October 10, 2023 and will no longer receive regular security updates from Microsoft. On this date, Amazon will no longer publish or distribute Windows Server 2012 RTM or Windows Server 2012 R2 AMIs. Existing RTM/R2 instances and custom AMIs in your account will not be impacted, and you can continue to use them after the EOS date.</p> <p data-bbox="402 1461 1479 1650">For more information about Microsoft End of Support on Amazon, including upgrade and import options, as well as a full list of AMIs that will no longer be published or distributed on October 10, 2023, see the <a href="#">End of Support for Microsoft Products FAQ</a>.</p> <p data-bbox="402 1692 1479 1776">Previous versions of Amazon-published Amazon Windows AMIs dated March 15, 2023 and earlier were made private.</p> |

| Release    | Changes  |
|------------|--|
| 2023.05.10 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security Updates current to May 9, 2023</li><li>• Amazon Tools for Windows PowerShell version 3.15.2072</li><li>• EC2Launch v2 version 2.0.1303</li><li>• cfn-init version 2.0.25</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2022: CU3</li><li>• SQL_2019: CU20</li></ul></li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated February 15, 2023 and earlier were made private.</p> |

| Release    | Changes   |
|------------|---|
| 2023.04.12 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 352 1263 848" style="list-style-type: none"><li data-bbox="402 352 1192 407">• Windows Security Updates current to April 11, 2023</li><li data-bbox="402 457 1263 491">• Amazon Tools for Windows PowerShell version 3.15.2035</li><li data-bbox="402 541 932 575">• Amazon NVMe driver version 1.4.2</li><li data-bbox="402 638 802 672">• SQL Server CUs installed:<ul data-bbox="435 709 704 764" style="list-style-type: none"><li data-bbox="435 709 704 764">• SQL_2022: CU 2</li></ul></li><li data-bbox="402 814 769 848">• SSM version 3.1.2144.0</li></ul> <p data-bbox="402 961 980 995"><b>Windows Server 2016, 2019, and 2022</b></p> <ul data-bbox="402 1058 997 1100" style="list-style-type: none"><li data-bbox="402 1058 997 1100">• Intel 82599 VF driver version 2.1.249.0</li></ul> <p data-bbox="402 1213 776 1247"><b>Windows Server 2012 R2</b></p> <ul data-bbox="402 1310 997 1352" style="list-style-type: none"><li data-bbox="402 1310 997 1352">• Intel 82599 VF driver version 1.2.317.0</li></ul> <p data-bbox="402 1470 1474 1547">Previous versions of Amazon-published Amazon Windows AMIs dated January 19, 2023 and earlier were made private.</p> |

| Release    | Changes   |
|------------|---|
| 2023.03.15 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security Updates current to March 14, 2023</li><li>• Amazon Tools for Windows PowerShell version 3.15.1998</li><li>• EC2Config version 4.9.5288</li><li>• EC2Launch v1 version 1.3.2004052</li><li>• EC2Launch v2 version 2.0.1245</li><li>• cfn-init version 2.0.24</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2022: CU 1</li><li>• SQL_2019: CU 19</li></ul></li><li>• SQL Server GDRs installed:<ul style="list-style-type: none"><li>• SQL_2017: KB5021126</li><li>• SQL_2016: KB5021129</li><li>• SQL_2014: KB5021045</li></ul></li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated December 28, 2022 and earlier were made private.</p> |



| Release    | Changes  |
|------------|--|
| 2023.02.15 | <p data-bbox="401 260 526 289"><b>All AMIs</b></p> <ul data-bbox="401 348 1263 583" style="list-style-type: none"><li data-bbox="401 348 1263 407">• Windows Security Updates current to February 14, 2023</li><li data-bbox="401 436 1263 495">• Amazon Tools for Windows PowerShell version 3.15.1958</li><li data-bbox="401 525 792 583">• Amazon PV version 8.4.3</li></ul> <p data-bbox="401 659 824 688"><b>New Amazon Windows AMIs</b></p> <ul data-bbox="401 747 1347 1075" style="list-style-type: none"><li data-bbox="401 747 1347 806">• TPM-Windows_Server-2019-English-Full-SQL_2019_Enterprise</li><li data-bbox="401 835 1347 894">• TPM-Windows_Server-2019-English-Full-SQL_2019_Standard</li><li data-bbox="401 924 1347 982">• TPM-Windows_Server-2022-English-Full-SQL_2022_Enterprise</li><li data-bbox="401 1012 1347 1071">• TPM-Windows_Server-2022-English-Full-SQL_2022_Standard</li></ul> <p data-bbox="401 1180 1455 1402">New Amazon Windows AMIs with Microsoft SQL Server with support for <a href="#">NitroTPM</a> and <a href="#">UEFI Secure Boot</a> have been released. The images include Windows Server 2019 or Windows Server 2022 with SQL Server 2019 or SQL Server 2022. Each SQL Server version is available in Standard and Enterprise editions.</p> <p data-bbox="401 1453 1414 1530">Previous versions of Amazon-published Amazon Windows AMIs dated November 21, 2022 and earlier were made private.</p> |

| Release    | Changes   |
|------------|---|
| 2023.01.19 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• cfn-init version 2.0.21</li> </ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated October 27, 2022 and earlier were made private.</p>   |
| 2023.01.11 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows Security updates current to January 10, 2023</li> <li>• Amazon Tools for Windows PowerShell version 3.15.1919</li> <li>• EC2Launch v1 version 1.3.2003975</li> <li>• EC2Launch v2 version 2.0.1121</li> </ul> |

## Monthly AMI updates for 2022

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2022](#).

| Release    | Changes  |
|------------|--|
| 2022.12.28 | <p><b>Windows Server 2016 and 2019 AMIs</b></p> <ul style="list-style-type: none"> <li>• EC2Launch v1 version 1.3.2003975</li> </ul> |
| 2022.12.14 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows Security updates current to December 13th, 2022</li> </ul>   |

| Release | Changes   |
|---------|---|
|         | <ul style="list-style-type: none"><li data-bbox="402 226 1263 279">• Amazon Tools for Windows PowerShell version 3.15.1886</li><li data-bbox="402 321 833 373">• EC2Config version 4.9.5103</li><li data-bbox="402 415 938 468">• EC2Launch v1 version 1.3.2003961</li><li data-bbox="402 510 881 562">• EC2Launch v2 version 2.0.1082</li><li data-bbox="402 604 776 657">• SSM version 3.1.1856.0</li><li data-bbox="402 699 751 751">• cfn-init version 2.0.19</li></ul> |

| Release    | Changes   |
|------------|---|
| 2022.11.21 | <p data-bbox="402 226 824 260"><b>New Amazon Windows AMIs</b></p> <ul data-bbox="402 319 1299 1533" style="list-style-type: none"><li data-bbox="402 319 1269 373">• Windows_Server-2019-English-Full-SQL_2022_Enterprise</li><li data-bbox="402 403 1230 457">• Windows_Server-2019-English-Full-SQL_2022_Express</li><li data-bbox="402 487 1253 541">• Windows_Server-2019-English-Full-SQL_2022_Standard</li><li data-bbox="402 571 1188 625">• Windows_Server-2019-English-Full-SQL_2022_Web</li><li data-bbox="402 655 1299 709">• Windows_Server-2019-Japanese-Full-SQL_2022_Enterprise</li><li data-bbox="402 739 1286 793">• Windows_Server-2019-Japanese-Full-SQL_2022_Standard</li><li data-bbox="402 823 1214 877">• Windows_Server-2019-Japanese-Full-SQL_2022_Web</li><li data-bbox="402 907 1269 961">• Windows_Server-2022-English-Full-SQL_2022_Enterprise</li><li data-bbox="402 991 1230 1045">• Windows_Server-2022-English-Full-SQL_2022_Express</li><li data-bbox="402 1075 1253 1129">• Windows_Server-2022-English-Full-SQL_2022_Standard</li><li data-bbox="402 1159 1188 1213">• Windows_Server-2022-English-Full-SQL_2022_Web</li><li data-bbox="402 1243 1299 1297">• Windows_Server-2022-Japanese-Full-SQL_2022_Enterprise</li><li data-bbox="402 1327 1286 1381">• Windows_Server-2022-Japanese-Full-SQL_2022_Standard</li><li data-bbox="402 1411 1214 1465">• Windows_Server-2022-Japanese-Full-SQL_2022_Web</li></ul> <p data-bbox="402 1612 1416 1688">Previous versions of Amazon-published Amazon Windows AMIs dated August 10, 2022 and earlier were made private.</p> |

| Release    | Changes   |
|------------|---|
| 2022.11.17 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• EC2Config version 4.9.5064.</li></ul> <p>This is an out of band release for images that use EC2Config as the default launch agent. This includes all Windows Server 2012 RTM and Windows Server 2012 R2 AMIs. This release updates EC2Config to the latest version to improve support for our newest EC2 instance types.</p>   |
| 2022.11.10 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to November 8th, 2022</li><li>• Amazon Tools for Windows PowerShell version 3.15.1846</li><li>• EC2Launch v1 version 1.3.2003923</li><li>• EC2Launch v2 version 2.0.1011</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2019: CU 18</li><li>• SQL_2017: CU 31</li></ul></li><li>• cfn-init version 2.0.18</li></ul> |

| Release    | Changes   |
|------------|---|
| 2022.10.27 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Out-of-band updates applied to resolve issues resulting from October patches. For additional details, see <a href="https://learn.microsoft.com/en-us/windows/release-health/status-windows-10-20h2#2924msgdesc">https://learn.microsoft.com/en-us/windows/release-health/status-windows-10-20h2#2924msgdesc</a>.</li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated July 13, 2022 and earlier were made private.</p> |
| 2022.10.12 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to October 11th, 2022</li><li>• Amazon Tools for Windows PowerShell version 3.15.1809</li><li>• EC2Launch v1 version 1.3.2003857</li><li>• SSM version 3.1.1732.0</li><li>• cfn-init version 2.0.16</li></ul>   |

| Release    | Changes   |
|------------|---|
| 2022.09.14 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to September 13th, 2022</li><li>• Amazon Tools for Windows PowerShell version 3.15.1772</li><li>• EC2Launch v1 version 1.3.2003824</li><li>• SQL Server CU installed:<ul style="list-style-type: none"><li>• SQL_2019: CU17</li></ul></li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated June 15, 2022 and earlier were made private.</p>   |
| 2022.08.10 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to August 9th, 2022</li><li>• Amazon Tools for Windows PowerShell version 3.15.1737</li><li>• cfn-init version 2.0.15</li><li>• SSM version 3.1.1634.0 (only AMIs that include EC2Launch v1 v1 or v2)</li><li>• SQL Server CU installed:<ul style="list-style-type: none"><li>• SQL_2017: CU30</li></ul></li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated May 25, 2022 and earlier were made private.</p> |

| Release    | Changes  |
|------------|--|
| 2022.07.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to July 12th, 2022</li><li>• Amazon Tools for Windows PowerShell version 3.15.1706</li><li>• cfn-init version 2.0.12</li><li>• EC2Launch v1 version 1.3.2003691</li><li>• EC2Launch v2 version 2.0.863</li><li>• SQL Server GDRs installed:<ul style="list-style-type: none"><li>• SQL_2019: KB5014353</li><li>• SQL_2017: KB5014553</li><li>• SQL_2016: KB5014355</li><li>• SQL_2014: KB5014164</li></ul></li></ul> <p>Windows Server version 20H2 will reach end-of-support on August 9, 2022. Existing instances and custom images owned by your account that are based on Windows Server version 20H2 will not be impacted. If you would like to retain access to Windows Server version 20H2, create a custom image in your account prior to August 9, 2022. All public versions of the following images will be made private on the end-of-support date.</p> <ul style="list-style-type: none"><li>• Windows_Server-20H2-English-Core-Base</li><li>• Windows_Server-20H2-English-Core-ContainersLatest</li></ul> |



| Release | Changes   |
|---------|---|
|         | Previous versions of Amazon-published Amazon Windows AMIs dated April 13, 2022 and earlier were made private. |

| Release    | Changes   |
|------------|---|
| 2022.06.15 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows Security updates current to June 14th, 2022</li> <li>• Amazon Tools for Windows PowerShell version 3.15.1678</li> <li>• Amazon NVMe version 1.4.1</li> <li>• EC2Config version 4.9.4588</li> <li>• EC2Launch v1 version 1.3.2003639</li> <li>• SSM version 3.1.1188.0</li> </ul> <p>Microsoft SQL Server 2012 is reaching end-of-support on July 12th, 2022. All public versions of the following images have been made private. Existing instances and custom images owned by your account that are based on Windows Server images containing SQL Server 2012 will not be impacted.</p> <ul style="list-style-type: none"> <li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2012_SP4_Enterprise-*</li> <li>• Windows_Server-2012-RTM-English-64Bit-SQL_2012_SP4_Enterprise-*</li> <li>• Windows_Server-2012-RTM-English-64Bit-SQL_2012_SP4_Express-*</li> <li>• Windows_Server-2012-RTM-English-64Bit-SQL_2012_SP4_Standard-*</li> <li>• Windows_Server-2012-RTM-English-64Bit-SQL_2012_SP4_Web-*</li> <li>• Windows_Server-2012-RTM-Japanese-64Bit-SQL_2012_SP4_Express-*</li> <li>• Windows_Server-2012-RTM-Japanese-64Bit-SQL_2012_SP4_Standard-*</li> <li>• Windows_Server-2012-RTM-Japanese-64Bit-SQL_2012_SP4_Web-*</li> </ul> |

| Release    | Changes  |
|------------|--|
|            | <ul style="list-style-type: none"> <li>• Windows_Server-2016-English-64Bit-SQL_2012_SP4_Enterprise-*</li> <li>• Windows_Server-2016-English-Full-SQL_2012_SP4_Standard-*</li> </ul> <p>For more information on Windows Server product lifecycles, please consult the following Microsoft documentation and Amazon Microsoft FAQ:</p> <ul style="list-style-type: none"> <li>• <a href="https://docs.microsoft.com/en-us/lifecycle/products/microsoft-sql-server-2012">https://docs.microsoft.com/en-us/lifecycle/products/microsoft-sql-server-2012</a></li> <li>• <a href="https://aws.amazon.com/windows/faq/#eos-m">https://aws.amazon.com/windows/faq/#eos-m</a><a href="https://aws.amazon.com/windows/faq/#eos-m">https://aws.amazon.com/windows/faq/#eos-m</a></li> </ul> |
| 2022.05.25 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Out-of-band updates applied to resolve issues resulting from May patches. For additional details, see <a href="https://docs.microsoft.com/en-us/windows/release-health/status-windows-10-20h2#2826msgdesc">https://docs.microsoft.com/en-us/windows/release-health/status-windows-10-20h2#2826msgdesc</a>.</li> </ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated February 10, 2022 and earlier were made private.</p>  |

| Release    | Changes   |
|------------|---|
| 2022.05.11 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to May 10th, 2022</li><li>• Amazon Tools for Windows PowerShell version 3.15.1643</li><li>• Amazon PV version 8.4.2</li><li>• Amazon ENA version 2.4.0</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2019: CU 16</li><li>• SQL_2017: CU 29</li></ul></li></ul>   |
| 2022.05.05 | <p><b>New Amazon Windows AMIs</b></p> <p>New Amazon Windows AMIs with support for <a href="#">NitroTPM</a> and <a href="#">UEFI Secure Boot</a> have been released. These images feature EC2Launch v2 as the default launch agent. They are available to launch on any instance type that supports NitroTPM and UEFI boot mode.</p> <ul style="list-style-type: none"><li>• TPM-Windows_Server-2022-English-Core-Base-2022.05.05</li><li>• TPM-Windows_Server-2022-English-Full-Base-2022.05.05</li><li>• TPM-Windows_Server-2019-English-Core-Base-2022.05.05</li><li>• TPM-Windows_Server-2019-English-Full-Base-2022.05.05</li><li>• TPM-Windows_Server-2016-English-Core-Base-2022.05.05</li><li>• TPM-Windows_Server-2016-English-Full-Base-2022.05.05</li></ul> |

| Release    | Changes  |
|------------|--|
| 2022.04.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows Security updates current to April 12th, 2022</li> <li>• Amazon Tools for Windows PowerShell version 3.15.1620</li> </ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated January 21, 2022 and earlier were made private.</p> <p>After June 2022, we will no longer release updated versions of the following images that include SQL Server 2016 SP2. SQL Server SP3 AMIs are available and will continue to be updated and released monthly.</p> <ul style="list-style-type: none"> <li>• Windows_Server-2019-English-Full-SQL_2016_SP2_Web</li> <li>• Windows_Server-2019-English-Full-SQL_2016_SP2_Standard</li> <li>• Windows_Server-2019-English-Full-SQL_2016_SP2_Express</li> <li>• Windows_Server-2019-English-Full-SQL_2016_SP2_Enterprise</li> <li>• Windows_Server-2016-Korean-Full-SQL_2016_SP2_Standard</li> <li>• Windows_Server-2016-Japanese-Full-SQL_2016_SP2_Web</li> <li>• Windows_Server-2016-Japanese-Full-SQL_2016_SP2_Standard</li> <li>• Windows_Server-2016-Japanese-Full-SQL_2016_SP2_Express</li> <li>• Windows_Server-2016-Japanese-Full-SQL_2016_SP2_Enterprise</li> <li>• Windows_Server-2016-English-Full-SQL_2016_SP2_Web</li> <li>• Windows_Server-2016-English-Full-SQL_2016_SP2_Standard</li> <li>•</li> </ul> |

| Release | Changes   |
|---------|---|
|         | <p>Windows_Server-2016-English-Full-SQL_2016_SP2_Express</p> <ul style="list-style-type: none"> <li>• Windows_Server-2016-English-Full-SQL_2016_SP2_Enterprise</li> <li>• Windows_Server-2016-English-Core-SQL_2016_SP2_Web</li> <li>• Windows_Server-2016-English-Core-SQL_2016_SP2_Standard</li> <li>• Windows_Server-2016-English-Core-SQL_2016_SP2_Express</li> <li>• Windows_Server-2016-English-Core-SQL_2016_SP2_Enterprise</li> <li>• Windows_Server-2012-R2_RTM-Japanese-64Bit-SQL_2016_SP2_Web</li> <li>• Windows_Server-2012-R2_RTM-Japanese-64Bit-SQL_2016_SP2_Standard</li> <li>• Windows_Server-2012-R2_RTM-Japanese-64Bit-SQL_2016_SP2_Express</li> <li>• Windows_Server-2012-R2_RTM-Japanese-64Bit-SQL_2016_SP2_Enterprise</li> <li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2016_SP2_Web</li> <li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2016_SP2_Standard</li> <li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2016_SP2_Express</li> <li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2016_SP2_Enterprise</li> </ul> |

| Release    | Changes  |
|------------|--|
| 2022.03.09 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to March 8th, 2022</li><li>• Amazon Tools for Windows PowerShell version 3.15.1583</li><li>• Amazon ENA version 2.2.3 (reverted due to potential performance degradation on 6th generation EC2 instances)</li><li>• EC2Config version 4.9.4556</li><li>• SSM version 3.1.1045.0</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2019: CU 15</li></ul></li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated December 12, 2021 and earlier were made private.</p> |

| Release    | Changes  |
|------------|--|
| 2022.02.10 | <p data-bbox="401 226 526 260"><b>All AMIs</b></p> <ul data-bbox="401 317 1263 1087" style="list-style-type: none"><li data-bbox="401 317 1263 373">• Windows Security updates current to February 8th, 2022</li><li data-bbox="401 401 1263 457">• Amazon Tools for Windows PowerShell version 3.15.1546</li><li data-bbox="401 485 748 541">• cfn-init version 2.0.10</li><li data-bbox="401 569 833 625">• EC2Config version 4.9.4536</li><li data-bbox="401 653 938 709">• EC2Launch v1 version 1.3.2003498</li><li data-bbox="401 737 865 793">• EC2Launch v2 version 2.0.698</li><li data-bbox="401 821 751 877">• SSM version 3.1.804.0</li><li data-bbox="401 905 797 961">• SQL Server CUs installed:<ul data-bbox="433 1010 719 1087" style="list-style-type: none"><li data-bbox="433 1010 719 1087">• SQL_2017: CU 28</li></ul></li></ul> <p data-bbox="401 1163 1495 1241">Previous versions of Amazon-published Amazon Windows AMIs dated November 16, 2021 and earlier were made private.</p> |
| 2022.01.19 | <p data-bbox="401 1289 526 1323"><b>All AMIs</b></p> <ul data-bbox="401 1379 1446 1535" style="list-style-type: none"><li data-bbox="401 1379 1446 1535">• Out-of-band updates applied to resolve issues resulting from January patches. For more details, see <a href="https://docs.microsoft.com/en-us/windows/release-health/windows-message-center#2777">https://docs.microsoft.com/en-us/windows/release-health/windows-message-center#2777</a>.</li></ul> <p data-bbox="401 1610 1495 1688">Previous versions of Amazon-published Amazon Windows AMIs dated October 13, 2021 and earlier were made private.</p>  |



| Release    | Changes   |
|------------|---|
| 2022.01.12 | <b>All AMIs</b> <ul style="list-style-type: none"><li>• Windows Security updates current to January 11th, 2022</li><li>• Amazon Tools for Windows PowerShell version 3.15.1511</li><li>• Amazon PV version 8.4.1</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2019: CU 14</li></ul></li></ul> |

## Monthly AMI updates for 2021

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2021](#).

| Release    | Changes  |
|------------|--|
| 2021.12.15 | <b>All AMIs</b> <ul style="list-style-type: none"><li>• Windows Security updates current to December 14th, 2021</li><li>• Amazon Tools for Windows PowerShell version 3.15.1494</li><li>• Amazon NVMe version 1.4.0</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2017: CU 27</li><li>• SQL_2019: CU 13</li></ul></li></ul> |

| Release    | Changes   |
|------------|---|
|            | <p>Previous versions of Amazon-published Amazon Windows AMIs dated September 15, 2021 and earlier were made private.</p>  |
| 2021.11.16 | <p><b>Windows Server 2022 and EC2Launch v1V2-* AMIs</b></p> <ul style="list-style-type: none"><li>• EC2Launch v2 version 2.0.674</li></ul> <p>Windows Server 2004 reached End-of-support on December 14, 2021. All public versions of the following images have been made private. Existing instances and custom images owned by your account that are based on Windows Server 2004 will not be impacted.</p> <ul style="list-style-type: none"><li>• Windows_Server-2004-English-Core-Base</li><li>• Windows_Server-2004-English-Core-ContainersLatest</li></ul> |

| Release    | Changes   |
|------------|---|
| 2021.11.10 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1279 760" style="list-style-type: none"><li data-bbox="402 348 1279 407">• Windows Security updates current to November 9th, 2021</li><li data-bbox="402 432 1279 491">• Amazon Tools for Windows PowerShell version 3.15.1451</li><li data-bbox="402 516 1279 575">• Amazon ENA version 2.2.4</li><li data-bbox="402 600 1279 760">• SQL Server CUs installed:<ul data-bbox="431 701 721 760" style="list-style-type: none"><li data-bbox="431 701 721 760">• SQL_2017: CU 26</li></ul></li></ul> <p data-bbox="402 869 824 898"><b>New Amazon Windows AMIs</b></p> <ul data-bbox="402 957 1477 1461" style="list-style-type: none"><li data-bbox="402 957 1477 1016">• Windows_Server-2022-Japanese-Full-SQL_2019_Enterprise-2021.11.10</li><li data-bbox="402 1041 1477 1100">• Windows_Server-2022-Japanese-Full-SQL_2019_Standard-2021.11.10</li><li data-bbox="402 1125 1477 1184">• Windows_Server-2022-Japanese-Full-SQL_2019_Web-2021.11.10</li><li data-bbox="402 1209 1477 1268">• Windows_Server-2022-Japanese-Full-SQL_2017_Enterprise-2021.11.10</li><li data-bbox="402 1293 1477 1352">• Windows_Server-2022-Japanese-Full-SQL_2017_Standard-2021.11.10</li><li data-bbox="402 1377 1477 1436">• Windows_Server-2022-Japanese-Full-SQL_2017_Web-2021.11.10</li></ul> |

| Release    | Changes  |
|------------|--|
| 2021.10.13 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1260 579" style="list-style-type: none"><li data-bbox="402 348 1260 407">• Windows Security updates current to October 12, 2021</li><li data-bbox="402 436 1260 495">• Amazon Tools for Windows PowerShell version 3.15.1421</li><li data-bbox="402 525 753 579">• SSM version 3.1.338.0</li></ul> <p data-bbox="402 688 1273 718"><b>Windows Server 2022 and EC2Launch v1V2_Preview AMIs</b></p> <ul data-bbox="402 777 863 835" style="list-style-type: none"><li data-bbox="402 777 863 835">• EC2Launch v2 version 2.0.651</li></ul> <p data-bbox="402 945 997 974"><b>Windows Server 2012 RTM and R2 AMIs</b></p> <ul data-bbox="402 1033 834 1092" style="list-style-type: none"><li data-bbox="402 1033 834 1092">• EC2Config version 4.9.4508</li></ul> <p data-bbox="402 1201 824 1230"><b>New Amazon Windows AMIs</b></p> <ul data-bbox="402 1289 1448 1843" style="list-style-type: none"><li data-bbox="402 1289 1448 1348">• Windows_Server-2022-English-Full-SQL_2019_Enterprise-2021.10.13</li><li data-bbox="402 1377 1432 1436">• Windows_Server-2022-English-Full-SQL_2019_Standard-2021.10.13</li><li data-bbox="402 1465 1367 1524">• Windows_Server-2022-English-Full-SQL_2019_Web-2021.10.13</li><li data-bbox="402 1554 1406 1612">• Windows_Server-2022-English-Full-SQL_2019_Express-2021.10.13</li><li data-bbox="402 1642 1448 1701">• Windows_Server-2022-English-Full-SQL_2017_Enterprise-2021.10.13</li><li data-bbox="402 1730 1432 1789">• Windows_Server-2022-English-Full-SQL_2017_Standard-2021.10.13</li><li data-bbox="402 1818 418 1843">•</li></ul> |

| Release | Changes   |
|---------|---|
|         | <p>Windows_Server-2022-English-Full-SQL_2017_Web-2021.10.13</p> <ul style="list-style-type: none"> <li>Windows_Server-2022-English-Full-SQL_2017_Express-2021.10.13</li> </ul> <p><b>New EC2Launch v2 AMIs</b></p> <p>The following AMIs with EC2Launch v2 long-term support are now available . The following AMIs include EC2Launch v1 v2 as the default launch agent and will be updated with new versions each month.</p> <ul style="list-style-type: none"> <li>EC2Launch v1V2-Windows_Server-2019-English-Full-Base-2021.10.13</li> <li>EC2Launch v1V2-Windows_Server-2019-English-Core-Base-2021.10.13</li> <li>EC2Launch v1V2-Windows_Server-2019-English-Full-ContainersLatest-2021.10.13</li> <li>EC2Launch v1V2-Windows_Server-2016-English-Full-Base-2021.10.13</li> <li>EC2Launch v1V2-Windows_Server-2016-English-Core-Base-2021.10.13</li> <li>EC2Launch v1V2-Windows_Server-2012_R2_RTM-English-Full-Base-2021.10.13</li> <li>EC2Launch v1V2-Windows_Server-2012_RTM-English-Full-Base-2021.10.13</li> </ul> <p>EC2Launch v1V2_Preview AMIs are discontinued, and will not be updated with new versions. However, earlier versions will continue to be available until January 2022. Existing images and custom images based on EC2Launch v1V2_Preview AMIs will not be impacted, and you can continue to use them in your account. We recommend that you use the new EC2Launch v2 AMIs going forward to receive security and software updates.</p> |

| Release | Changes   |
|---------|---|
|         | <p>Windows Server 2004 will reach End-of-support on December 14, 2021. All public versions of the following images will be made private on December 14, 2021. Existing instances and custom images owned by your account that are based on Windows Server 2004 will not be impacted. If you want to retain access to Windows Server 2004, create a custom image in your account prior to December 14th.</p> <ul style="list-style-type: none"><li data-bbox="402 541 1036 596">• Windows_Server-2004-English-Core-Base</li><li data-bbox="402 638 1214 693">• Windows_Server-2004-English-Core-ContainersLatest</li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated July 14, 2021 and earlier were made private.</p> |


| Release    | Changes   |
|------------|---|
| 2021.09.15 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 352 1276 848" style="list-style-type: none"><li data-bbox="402 352 1276 407">• Windows Security updates current to September 14, 2021</li><li data-bbox="402 436 1276 491">• Amazon Tools for Windows PowerShell version 3.15.1398</li><li data-bbox="402 520 753 575">• SSM version 3.1.282.0</li><li data-bbox="402 604 799 659">• SQL Server CUs installed:<ul data-bbox="435 701 721 848" style="list-style-type: none"><li data-bbox="435 701 721 756">• SQL_2019: CU12</li><li data-bbox="435 785 721 848">• SQL_2017: CU 25</li></ul></li></ul> <p data-bbox="402 961 1276 991"><b>Windows Server 2022 and EC2Launch v1V2_Preview AMIs</b></p> <ul data-bbox="402 1045 867 1100" style="list-style-type: none"><li data-bbox="402 1045 867 1100">• EC2Launch v2 version 2.0.592</li></ul> <p data-bbox="402 1213 997 1243"><b>Windows Server 2012 RTM and R2 AMIs</b></p> <ul data-bbox="402 1297 834 1352" style="list-style-type: none"><li data-bbox="402 1297 834 1352">• EC2Config version 4.9.4500</li></ul> <p data-bbox="402 1465 1490 1541">Previous versions of Amazon-published Amazon Windows AMIs dated June 9, 2021 and earlier were made private.</p> |

| Release    | Changes  |
|------------|--|
| 2021.09.01 | <p data-bbox="402 260 824 289"><b>New Amazon Windows AMIs</b></p> <ul data-bbox="402 348 1409 1822" style="list-style-type: none"><li data-bbox="402 369 1198 399">• Windows_Server-2022-English-Full-Base-2021.08.25</li><li data-bbox="402 457 1386 487">• Windows_Server-2022-English-Full-ContainersLatest-2021.08.25</li><li data-bbox="402 546 1224 575">• Windows_Server-2022-English-Core-Base-2021.08.25</li><li data-bbox="402 634 1396 663">• Windows_Server-2022-English-Core-ContainersLatest-2021.08.25</li><li data-bbox="402 722 1377 751">• Windows_Server-2022-Chinese_Simplified-Full-Base-2021.08.25</li><li data-bbox="402 810 1386 840">• Windows_Server-2022-Chinese_Traditional-Full-Base-2021.08.25</li><li data-bbox="402 898 1188 928">• Windows_Server-2022-Czech-Full-Base-2021.08.25</li><li data-bbox="402 987 1188 1016">• Windows_Server-2022-Dutch-Full-Base-2021.08.25</li><li data-bbox="402 1075 1198 1104">• Windows_Server-2022-French-Full-Base-2021.08.25</li><li data-bbox="402 1163 1218 1192">• Windows_Server-2022-German-Full-Base-2021.08.25</li><li data-bbox="402 1251 1253 1281">• Windows_Server-2022-Hungarian-Full-Base-2021.08.25</li><li data-bbox="402 1339 1192 1369">• Windows_Server-2022-Italian-Full-Base-2021.08.25</li><li data-bbox="402 1428 1237 1457">• Windows_Server-2022-Japanese-Full-Base-2021.08.25</li><li data-bbox="402 1516 1205 1545">• Windows_Server-2022-Korean-Full-Base-2021.08.25</li><li data-bbox="402 1604 1188 1633">• Windows_Server-2022-Polish-Full-Base-2021.08.25</li><li data-bbox="402 1692 1364 1722">• Windows_Server-2022-Portuguese_Brazil-Full-Base-2021.08.25</li><li data-bbox="402 1780 1409 1810">• Windows_Server-2022-Portuguese_Portugal-Full-Base-2021.08.25</li></ul> |




| Release | Changes   |
|---------|---|
|         | <ul style="list-style-type: none"><li>• Windows_Server-2022-Russian-Full-Base-2021.08.25</li><li>• Windows_Server-2022-Spanish-Full-Base-2021.08.25</li><li>• Windows_Server-2022-Swedish-Full-Base-2021.08.25</li><li>• Windows_Server-2022-Turkish-Full-Base-2021.08.25</li></ul> <p>Windows Server 2022 AMIs include EC2Launch v2 by default. For more information, see <a href="#">EC2Launch v2 overview</a>.</p> <p><b>EC2Launch v1V2_Preview AMIs</b></p> <ul style="list-style-type: none"><li>• EC2Launch v2 version 2.0.592</li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated May 12, 2021 and earlier were made private.</p> |

| Release    | Changes  |
|------------|--|
| 2021.08.11 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1279 848" style="list-style-type: none"><li data-bbox="402 348 1279 407">• Windows Security updates current to August 10th, 2021</li><li data-bbox="402 436 1279 495">• Amazon Tools for Windows PowerShell version 3.15.13571</li><li data-bbox="402 525 1279 583">• EC2Launch v1 version 1.3.2003411</li><li data-bbox="402 613 1279 672">• SSM version 3.0.1181.0</li><li data-bbox="402 701 1279 848">• SQL Server CUs installed:<ul data-bbox="435 793 708 848" style="list-style-type: none"><li data-bbox="435 793 708 848">• SQL_2019: CU11</li></ul></li></ul> <p data-bbox="402 957 867 987"><b>EC2Launch v1V2_Preview AMIs</b></p> <ul data-bbox="402 1045 867 1104" style="list-style-type: none"><li data-bbox="402 1045 867 1104">• EC2Launch v2 version 2.0.548</li></ul> <p data-bbox="402 1213 1490 1293">Previous versions of Amazon-published Amazon Windows AMIs dated April 14, 2021 and earlier were made private.</p> |


| Release    | Changes   |
|------------|---|
| 2021.07.14 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to July 13th, 2021</li><li>• Amazon Tools for Windows PowerShell version 3.15.1350</li><li>• EC2Launch v1 version 1.3.2003364</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2017: CU24</li></ul></li></ul>   |
| 2021.07.07 | <p><b>All AMIs</b></p> <p>Out-of-band AMI release that applies the July out-of-band security update recently released by Microsoft as an additional mitigation to CVE-34527.</p> <div data-bbox="402 1045 1507 1360"><p> <b>Note</b></p><p>HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows NT\Printers\PointAndPrint is not defined on Amazon Windows AMIs provided by Amazon, which is the default state.</p></div> <p>For more information, see:</p> <ul style="list-style-type: none"><li>• <a href="https://msrc.microsoft.com/update-guide/vulnerability/CVE-2021-34527">https://msrc.microsoft.com/update-guide/vulnerability/CVE-2021-34527</a></li></ul> <p>Previous versions of Amazon-published Amazon Windows AMIs dated March 10, 2021 and earlier were made private.</p> |

| Release    | Changes   |
|------------|---|
| 2021.06.09 | <p data-bbox="399 258 526 289"><b>All AMIs</b></p> <ul data-bbox="399 348 1263 583" style="list-style-type: none"><li data-bbox="399 369 1195 405">• Windows Security updates current to June 8th, 2021</li><li data-bbox="399 457 1263 493">• Amazon Tools for Windows PowerShell version 3.15.1326</li><li data-bbox="399 546 773 581">• SSM version 3.0.1124.0</li></ul> <p data-bbox="399 688 1013 724"><b>Windows Server 2012RTM/2012 R2 AMIs</b></p> <ul data-bbox="399 783 831 835" style="list-style-type: none"><li data-bbox="399 783 831 835">• EC2Config version 4.9.4419</li></ul> |

| Release    | Changes   |
|------------|---|
| 2021.05.12 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 352 1446 898" style="list-style-type: none"><li data-bbox="402 352 1208 407">• Windows Security updates current to May 11th, 2021</li><li data-bbox="402 457 1263 491">• Amazon Tools for Windows PowerShell version 3.15.1302</li><li data-bbox="402 541 938 575">• EC2Launch v1 version 1.3.2003312</li><li data-bbox="402 625 797 667">• SQL Server CUs installed:<ul data-bbox="435 709 711 764" style="list-style-type: none"><li data-bbox="435 709 711 764">• SQL_2019: CU10</li></ul></li><li data-bbox="402 814 1446 898">• Previous versions of Amazon-published Amazon Windows AMIs dated February 10, 2021 and earlier were made private.</li></ul> <p data-bbox="402 1003 1013 1037"><b>Windows Server 2012RTM/2012 R2 AMIs</b></p> <ul data-bbox="402 1100 829 1247" style="list-style-type: none"><li data-bbox="402 1100 829 1155">• EC2Config version 4.9.4381</li><li data-bbox="402 1184 753 1239">• SSM version 3.0.529.0</li></ul> <p data-bbox="402 1352 667 1386"><b>NVIDIA GPU AMIs</b></p> <ul data-bbox="402 1449 727 1587" style="list-style-type: none"><li data-bbox="402 1449 727 1503">• GRID version 462.31</li><li data-bbox="402 1533 727 1587">• Tesla version 462.31</li></ul> <p data-bbox="402 1692 672 1726"><b>Radeon GPU AMIs</b></p> <ul data-bbox="402 1789 837 1843" style="list-style-type: none"><li data-bbox="402 1789 837 1843">• Radeon version 20.10.25.04</li></ul> |

| Release    | Changes  |
|------------|--|
| 2021.04.14 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows Security updates current to April 13th, 2021</li> <li>• Amazon Tools for Windows PowerShell version 3.15.1280</li> <li>• Amazon PV version 8.4.0</li> <li>• cfn-init version 2.0.6. This package includes Microsoft Visual C++ 2015-2019 Redistributable version 14.28.29913.0 as a dependency.</li> <li>• Amazon ENA version 2.2.3</li> <li>• EC2Launch v1 version 1.3.2003284</li> <li>• SQL Server CUs installed: <ul style="list-style-type: none"> <li>• SQL_2017: CU23</li> </ul> </li> <li>• Previous versions of Amazon-published Amazon Windows AMIs dated January 13, 2021 and earlier were made private.</li> <li>• <div data-bbox="435 1266 1507 1675" style="border: 1px solid #add8e6; border-radius: 10px; padding: 10px; margin: 10px 0;"> <p> <b>Note</b></p> <p>Windows Server 1909 reaches End of Support on May 11, 2021. All public versions of the following images will be made private on May 11th, 2021. Existing instances and custom images owned by your account that are based on Windows Server 1909 will not be impacted. To retain access to Windows Server 1909, create a custom image in your account prior to May 11, 2021.</p> </div> </li> <li>• Windows_Server-1909-English-Core-Base</li> <li>•</li> </ul> |

| Release | Changes  |
|---------|--|
|         | <p data-bbox="464 212 1247 247">Windows_Server-1909-English-Core-ContainersLatest</p> <p data-bbox="402 352 867 388"><b>EC2Launch v1V2_Preview AMIs</b></p> <ul data-bbox="402 443 867 499" style="list-style-type: none"><li data-bbox="402 443 867 499">• EC2Launch v2 version 2.0.285</li></ul> |

| Release    | Changes   |
|------------|---|
| 2021.03.11 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1497 1348" style="list-style-type: none"><li data-bbox="402 348 1214 407">• Windows Security updates current to March 9th, 2021</li><li data-bbox="402 436 1263 495">• Amazon Tools for Windows PowerShell version 3.15.1248</li><li data-bbox="402 525 1416 634">• cfn-init version 2.0.5. This package includes Microsoft Visual C++ 2015-2019 Redistributable version 14.28.29910.0 as a dependency.</li><li data-bbox="402 663 938 722">• EC2Launch v1 version 1.3.2003236</li><li data-bbox="402 751 847 810">• SSM Agent version 3.0.529.0</li><li data-bbox="402 840 841 898">• NVIDIA GRID version 461.33</li><li data-bbox="402 928 799 987">• SQL Server CUs installed:<ul data-bbox="431 1016 776 1167" style="list-style-type: none"><li data-bbox="431 1016 776 1075">• SQL 2016_SP2: CU16</li><li data-bbox="431 1104 685 1163">• SQL 2019: CU9</li></ul></li><li data-bbox="402 1197 1497 1348">• KB4577586 update for the removal of Adobe Flash Player installed on all applicable images (Adobe Flash player is not enabled by default on all images).</li></ul> <div data-bbox="402 1453 1507 1717" style="border: 1px solid #add8e6; border-radius: 10px; padding: 10px;"><p data-bbox="431 1491 555 1528"><b> Note</b></p><p data-bbox="477 1549 1471 1684">Amazon Root CAs have been added to the Trusted Root Certification Authorities certificate store on all AMIs. For more information, see <a href="https://www.amazontrust.com/repository/#rootcas">https://www.amazontrust.com/repository/#rootcas</a>.</p></div> |



| Release | Changes  |
|---------|--|
|         | <p data-bbox="402 212 954 243"><b>Windows Server 2016 and 2019 AMIs</b></p> <ul data-bbox="402 302 1338 359" style="list-style-type: none"><li data-bbox="402 302 1338 359">• Updated from default .NET framework versions to version 4.8.</li></ul> <p data-bbox="402 468 1013 499"><b>Windows Server 2012RTM/2012 R2 AMIs</b></p> <ul data-bbox="402 558 850 699" style="list-style-type: none"><li data-bbox="402 558 850 615">• EC2Config version 4.9.4326</li><li data-bbox="402 642 850 699">• SSM Agent version 3.0.431.0</li></ul> |

| Release    | Changes  |
|------------|--|
| 2021.02.10 | <p data-bbox="401 258 526 289"><b>All AMIs</b></p> <ul data-bbox="401 348 1281 579" style="list-style-type: none"><li data-bbox="401 348 1281 405">• Windows Security updates current to February 9th, 2021</li><li data-bbox="401 436 1281 493">• Amazon Tools for Windows PowerShell version 3.15.1224</li><li data-bbox="401 525 1281 579">• NVIDIA GRID version 461.09</li></ul> <p data-bbox="401 690 1442 915">Beginning in March 2021, Amazon Windows AMIs provided by Amazon include Amazon Root CAs in the certificate store to minimize potential disruption from the upcoming S3 and CloudFront certificate migration, which is scheduled for March 23rd, 2021. For more information, see the following:</p> <ul data-bbox="401 968 1453 1167" style="list-style-type: none"><li data-bbox="401 968 1453 1077">• <a href="http://www.amazonaws.cn/blogs/security/how-to-prepare-for-aws-move-to-its-own-certificate-authority/">http://www.amazonaws.cn/blogs/security/how-to-prepare-for-aws-move-to-its-own-certificate-authority/</a></li><li data-bbox="401 1108 1453 1167">• <a href="https://forums.aws.csdn.net/ann.jspa?annID=7541">https://forums.aws.csdn.net/ann.jspa?annID=7541</a></li></ul> <p data-bbox="401 1272 1492 1545">Additionally, Amazon will apply "update for Removal of Adobe Flash Player" (KB4577586) to all Amazon Windows AMIs in March to remove the built-in Adobe Flash player, which ended support on December 31, 2020. If your use case requires the built-in Adobe Flash player, we recommend creating a custom image based on AMIs with version 2021.02.10 or earlier. For more information on the End of Support of Adobe Flash Player, see:</p> <ul data-bbox="401 1598 1435 1797" style="list-style-type: none"><li data-bbox="401 1598 1435 1707">• <a href="https://blogs.windows.com/msedgedev/2020/09/04/update-adobe-flash-end-support/">https://blogs.windows.com/msedgedev/2020/09/04/update-adobe-flash-end-support/</a></li><li data-bbox="401 1738 1435 1797">• <a href="https://www.adobe.com/products/flashplayer/end-of-life.html">https://www.adobe.com/products/flashplayer/end-of-life.html</a></li></ul> |

| Release    | Changes   |
|------------|---|
|            | <p><b>EC2Launch v1V2_Preview AMIs</b></p> <ul style="list-style-type: none"> <li>• EC2Launch v2 version 2.0.207</li> </ul> <p><b>New Amazon Windows AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows_Server-2016-Japanese-Full-SQL_2019_Enterprise-2021.02.10</li> <li>• Windows_Server-2016-Japanese-Full-SQL_2019_Standard-2021.02.10</li> <li>• Windows_Server-2016-Japanese-Full-SQL_2019_Web-2021.02.10</li> <li>• Windows_Server-2019-Japanese-Full-SQL_2019_Enterprise-2021.02.10</li> <li>• Windows_Server-2019-Japanese-Full-SQL_2019_Standard-2021.02.10</li> <li>• Windows_Server-2019-Japanese-Full-SQL_2019_Web-2021.02.10</li> </ul> |
| 2021.01.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows Security updates current to January 12th, 2021</li> <li>• Amazon Tools for Windows PowerShell version 3.15.1204</li> <li>• Amazon ENA version 2.2.2</li> <li>• EC2Launch v1 v1 version 1.3.2003210</li> </ul> <p><b>Windows Server SAC/2019/2016 AMIs</b></p> <ul style="list-style-type: none"> <li>• SSM Agent version 3.0.431.0</li> </ul>   |

## Monthly AMI updates for 2020

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2020](#).

| Release    | Changes   |
|------------|---|
| 2020.12.09 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows Security updates current to December 8th, 2020</li> <li>• Amazon Tools for Windows PowerShell version 3.15.1181</li> <li>• All SQL Server Enterprise, Standard, and Web AMIs now include SQL Server installation media at C:\SQLServerSetup</li> <li>• EC2Launch v1 v1 version 1.3.2003189</li> <li>• Previous versions of Amazon-published Amazon Windows AMIs dated September 9, 2020 and earlier were made private.</li> </ul> <p><b>Windows Server 2012/2012 R2 AMIs</b></p> <ul style="list-style-type: none"> <li>• EC2Config version 4.9.4279</li> <li>• SSM Agent version 2.3.871.0</li> </ul> <p><b>EC2Launch v1V2_Preview AMIs</b></p> <ul style="list-style-type: none"> <li>• EC2Launch v2 version 2.0.160</li> </ul> |
| 2020.11.11 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>•</li> </ul>  |

| Release | Changes   |
|---------|---|
|         | <p>Windows Security updates current to November 10th, 2020</p> <ul style="list-style-type: none"><li>• Amazon Tools for Windows PowerShell version 3.15.1160</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL 2016 SP2: CU15</li><li>• SQL 2017: CU22</li><li>• SQL 2019: CU8</li></ul></li><li>• SSM Agent version 2.3.1644.0</li><li>• EC2Launch v2 Preview AMIs: EC2Launch v1 version 2.0.153</li><li>• Previous versions of Amazon-published Amazon Windows AMIs dated August 12, 2020 and earlier were made private.</li></ul> <p><b>New Amazon Windows AMIs</b></p> <ul style="list-style-type: none"><li>• Windows_Server-20H2-English-Core-Base-2020.11.11</li><li>• Windows_Server-20H2-English-Core-ContainersLatest-2020.11.11</li></ul> |

| Release    | Changes   |
|------------|---|
| 2020.10.14 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 352 1446 982" style="list-style-type: none"><li data-bbox="402 352 1268 407">• Windows Security updates current to October 13th, 2020</li><li data-bbox="402 436 1263 491">• Amazon Tools for Windows PowerShell version 3.15.1140</li><li data-bbox="402 520 841 575">• NVIDIA GRID version 452.39</li><li data-bbox="402 604 1300 659">• EC2Launch v2 Preview AMIs: EC2Launch v1 version 2.0.146</li><li data-bbox="402 688 808 743">• Amazon ENA version 2.2.1</li><li data-bbox="402 772 748 827">• cfn-init version 1.4.34</li><li data-bbox="402 856 1446 982">• Previous versions of Amazon-published Amazon Windows AMIs dated July 15, 2020 and earlier were made private.</li></ul> |

| Release   | Changes  |
|-----------|--|
| 2020.9.25 | <p>A new version of Amazon Machine Images with SQL Server 2019 dated 2020.09.25 has been released. This release includes the same software components as the previous release dated 2020.09.09 but does not include CU7 for SQL 2019, which has recently been removed from public availability by Microsoft due to a known issue with reliability of the database snapshot feature. For more information, please see the following Microsoft blog post: <a href="https://techcommunity.microsoft.com/t5/sql-server/cumulative-update-7-for-sql-server-2019-rtm-removed/ba-p/1629317">https://techcommunity.microsoft.com/t5/sql-server/cumulative-update-7-for-sql-server-2019-rtm-removed/ba-p/1629317</a>.</p> <p><b>New Amazon Windows AMIs</b></p> <ul style="list-style-type: none"><li>• Windows_Server-2016-English-Full-SQL_2019_Enterprise-2020.09.25</li><li>• Windows_Server-2016-English-Full-SQL_2019_Express-2020.09.25</li><li>• Windows_Server-2016-English-Full-SQL_2019_Standard-2020.09.25</li><li>• Windows_Server-2016-English-Full-SQL_2019_Web-2020.09.25</li><li>• Windows_Server-2019-English-Full-SQL_2019_Enterprise-2020.09.25</li><li>• Windows_Server-2019-English-Full-SQL_2019_Express-2020.09.25</li><li>• Windows_Server-2019-English-Full-SQL_2019_Standard-2020.09.25</li><li>• Windows_Server-2019-English-Full-SQL_2019_Web-2020.09.25</li></ul> <p><b>EC2Launch v1V2_Preview AMIs</b></p> <ul style="list-style-type: none"><li>• EC2Launch v1V2_Preview-Windows_Server-2019-English-Full-SQL_2019_Express-2020.09.25</li></ul> |

| Release  | Changes   |
|----------|---|
| 2020.9.9 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 352 1448 1075" style="list-style-type: none"><li data-bbox="402 352 1292 403">• Windows Security updates current to September 8th, 2020</li><li data-bbox="402 457 896 487">• Amazon PV drivers version 8.3.4</li><li data-bbox="402 541 815 571">• Amazon ENA version 2.2.0</li><li data-bbox="402 634 1263 663">• Amazon Tools for Windows PowerShell version 3.15.1110</li><li data-bbox="402 718 792 747">• SQL Server CUs installed<ul data-bbox="435 802 782 940" style="list-style-type: none"><li data-bbox="435 802 782 852">• SQL_2016_SP2: CU14</li><li data-bbox="435 886 695 936">• SQL_2019: CU7</li></ul></li><li data-bbox="402 991 1448 1075">• Previous versions of Amazon-published Amazon Windows AMIs dated June 10, 2020 and earlier were made private.</li></ul> <p data-bbox="402 1180 1273 1209"><b>Windows Server 2016/2019/1809/1903/1909/2004 AMIs</b></p> <ul data-bbox="402 1272 938 1411" style="list-style-type: none"><li data-bbox="402 1272 938 1323">• EC2Launch v1 version 1.3.2003155</li><li data-bbox="402 1356 867 1407">• SSM Agent version 2.3.1319.0</li></ul> <p data-bbox="402 1524 867 1554"><b>EC2Launch v1V2_Preview AMIs</b></p> <ul data-bbox="402 1617 867 1667" style="list-style-type: none"><li data-bbox="402 1617 867 1667">• EC2Launch v2 version 2.0.124</li></ul> |



| Release   | Changes   |
|-----------|---|
| 2020.8.12 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to August 11th, 2020</li><li>• Amazon Tools for Windows PowerShell version 3.15.1084</li><li>• G3 AMIs: NVIDIA GRID version 451.48</li><li>• EC2Launch v2 Preview AMIs: EC2Launch v1 version 2.0.104</li><li>• SQL CUs installed<ul style="list-style-type: none"><li>• SQL_2019: CU6</li></ul></li><li>• Previous versions of Amazon-published Amazon Windows AMIs dated May 13, 2020 and earlier were made private.</li></ul> |
| 2020.7.15 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to July 14th, 2020</li><li>• Amazon Tools for Windows PowerShell version 3.15.1064</li><li>• ENA version 2.1.5</li><li>• SQL Server CUs installed<ul style="list-style-type: none"><li>• SQL_2017: CU21</li><li>• SQL_2019: CU5</li></ul></li><li>• Previous versions of Amazon-published Amazon Windows AMIs dated April 15, 2020 and earlier were made private.</li></ul>   |

| Release   | Changes  |
|-----------|--|
| 2020.7.01 | <p>A new version of Amazon Machine Images has been released. These images include EC2Launch v2 and serve as a functional preview of the new launch agent in advance of it being included by default on all Amazon Windows AMIs currently provided by Amazon later this year. Note that some SSM documents and dependent services, such as EC2 Image Builder, may require updates to support EC2 Launch v2. These updates will follow in the coming weeks. These images are not recommended for use in production environments. You can read more about EC2Launch v2 at <a href="http://www.amazonaws.cn/about-aws/whats-new/2020/07/introducing-ec2-launch-v2-simplify-customizing-windows-instances/">http://www.amazonaws.cn/about-aws/whats-new/2020/07/introducing-ec2-launch-v2-simplify-customizing-windows-instances/</a> and <a href="#">Configure a Windows instance using EC2Launch v2</a>. All current Windows Server AMIs will continue to be provided without changes to the current launch agent, either EC2Config (Server 2012 RTM or 2012 R2) or EC2Launch v1 v1 (Server 2016 or later), for the next several months. In the near future, all Windows Server AMIs currently provided by Amazon will be migrated to use EC2Launch v2 by default as part of the monthly release. EC2Launch v1V2_Preview AMIs will be updated monthly and remain available until this migration occurs.</p> <p><b>New Amazon Windows AMIs</b></p> <ul style="list-style-type: none"> <li>• EC2Launch v1V2_Preview-Windows_Server-2004-English-Core-Base-2020.06.30</li> <li>• EC2Launch v1V2_Preview-Windows_Server-2019-English-Full-Base-2020.06.30</li> <li>• EC2Launch v1V2_Preview-Windows_Server-2019-English-Core-Base-2020.06.30</li> <li>• EC2Launch v1V2_Preview-Windows_Server-2016-English-Full-Base-2020.06.30</li> <li>•</li> </ul> |

| Release   | Changes  |
|-----------|--|
|           | <p>EC2Launch v1V2_Preview-Windows_Server-2016-English-Core-Base-2020.06.30</p> <ul style="list-style-type: none"> <li>• EC2Launch v1V2_Preview-Windows_Server-2012_R2_RTM-English-Full-Base-2020.06.30</li> <li>• EC2Launch v1V2_Preview-Windows_Server-2012_R2_RTM-English-Core-Base-2020.06.30</li> <li>• EC2Launch v1V2_Preview-Windows_Server-2012_RTM-English-Full-Base-2020.06.30</li> <li>• EC2Launch v1V2_Preview-Windows_Server-2019-English-Full-SQL_2019_Express-2020.06.30</li> <li>• EC2Launch v1V2_Preview-Windows_Server-2016-English-Full-SQL_2017_Express-2020.06.30</li> </ul> |
| 2020.6.10 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows Security updates current to June 9th, 2020</li> <li>• Amazon Tools for Windows PowerShell version 3.15.1034</li> <li>• cfn-init version 1.4.33</li> <li>• SQL CU installed: SQL_2016_SP2: CU13</li> </ul>  |
| 2020.5.27 | <p><b>New Amazon Windows AMIs</b></p> <ul style="list-style-type: none"> <li>• Windows_Server-2004-English-Core-Base-2020.05.27</li> <li>• Windows_Server-2004-English-Core-ContainersLatest-2020.05.27</li> </ul>   |

| Release   | Changes  |
|-----------|--|
| 2020.5.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to May 12th, 2020</li><li>• Amazon Tools for Windows PowerShell version 3.15.1013</li><li>• EC2Launch v1 version 1.3.2003150</li></ul>   |
| 2020.4.15 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Windows Security updates current to April 14th, 2020</li><li>• Amazon Tools for Windows PowerShell version 3.15.998</li><li>• EC2Config version 4.9.4222</li><li>• EC2Launch v1 version 1.3.2003040</li><li>• SSM Agent version 2.3.842.0</li><li>• SQL Server CUs installed:<ul style="list-style-type: none"><li>• SQL_2017: CU 20</li><li>• SQL_2019: CU 4</li></ul></li></ul>   |
| 2020.3.18 | <p><b>Windows Server 2019 AMIs</b></p> <p>Resolves an intermittent issue discovered in the 2020.3.11 release in which the Background Intelligent Transfer Service (BITS) may not start within the expected time after initial OS boot, potentially resulting in timeouts, BITS errors in the event log, or failures of cmdlets involving BITS invoked quickly after the initial boot. Other Windows Server AMIs are not affected by this issue, and their latest version remains 2020.03.11.</p> |

| Release   | Changes   |
|-----------|---|
| 2020.3.11 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1490 1346" style="list-style-type: none"><li data-bbox="402 369 1240 399">• Windows Security updates current to March 10th, 2020</li><li data-bbox="402 457 1240 487">• Amazon Tools for Windows PowerShell version 3.15.969</li><li data-bbox="402 546 831 575">• EC2Config version 4.9.4122</li><li data-bbox="402 634 938 663">• EC2Launch v1 version 1.3.2002730</li><li data-bbox="402 722 847 751">• SSM Agent version 2.3.814.0</li><li data-bbox="402 810 799 840">• SQL Server CUs installed:<ul data-bbox="435 890 1403 1117" style="list-style-type: none"><li data-bbox="435 911 792 940">• SQL_2016_SP2: CU 12</li><li data-bbox="435 999 721 1029">• SQL_2017: CU 19</li><li data-bbox="435 1087 1403 1117">• SQL_2019: CU 2 not applied due to known issue with SQL Agent</li></ul></li><li data-bbox="402 1167 1490 1346">• Out of band security update (KB4551762) for server core 1909 and 1903 applied to mitigate CVE-2020-0796. Other Windows Server versions are not impacted by this issue. For details, see <a href="https://portal.msrc.microsoft.com/en-US/security-guidance/advisory/CVE-2020-0796">https://portal.msrc.microsoft.com/en-US/security-guidance/advisory/CVE-2020-0796</a></li></ul> |

| Release   | Changes   |
|-----------|---|
| 2020.2.12 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1279 1205" style="list-style-type: none"><li data-bbox="402 348 1279 407">• Windows Security updates current to February 11th, 2020</li><li data-bbox="402 436 1279 495">• Amazon Tools for Windows PowerShell version 3.15.945</li><li data-bbox="402 525 1279 852">• Intel SRIOV driver updates<ul data-bbox="435 617 987 852" style="list-style-type: none"><li data-bbox="435 617 987 676">• 2019/1903/1909: version 2.1.185.0</li><li data-bbox="435 705 987 764">• 2016/1809: version 2.1.186.0</li><li data-bbox="435 793 987 852">• 2012 R2: version 1.2.199.0</li></ul></li><li data-bbox="402 882 1279 1205">• SQL Server CUs installed:<ul data-bbox="435 974 721 1205" style="list-style-type: none"><li data-bbox="435 974 721 1033">• SQL_2019: CU 1</li><li data-bbox="435 1062 721 1121">• SQL_2017: CU 18</li><li data-bbox="435 1150 721 1205">• SQL_2016_SP2: CU 11</li></ul></li></ul> <p data-bbox="402 1314 1247 1344"><b>Windows Server 2008 SP2 and Windows Server 2008 R2</b></p> <p data-bbox="402 1394 1490 1667">Windows Server 2008 SP2 and Windows Server 2008 R2 reached End of Support (EOS) on 01/14/20 and will no longer receive regular security updates from Microsoft. Amazon will no longer publish or distribute Windows Server 2008 SP2 or Windows Server 2008 R2 AMIs. Existing 2008 SP2/R2 instances and custom AMIs in your account are not impacted, and you can continue to use them after the EOS date.</p> <p data-bbox="402 1709 1490 1793">For more information about Microsoft End of Service on Amazon, including upgrade and import options, as well as a full list of AMIs that are no longer</p> |

| Release   | Changes  |
|-----------|--|
|           | published as of 01/14/2020, see <a href="#">End of Support (EOS) for Microsoft Products</a> .  |
| 2020.1.15 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Microsoft security updates current to January 14, 2020</li> <li>• Amazon Tools for Windows PowerShell version 3.15.925</li> <li>• ENA version 2.1.4</li> </ul> <p><b>Windows Server 2008 SP2 and Windows Server 2008 R2</b></p> <p>Windows Server 2008 SP2 and Window Server 2008 R2 reached End of Support (EOS) on 01/14/20 and will no longer receive regular security updates from Microsoft. Amazon will no longer publish or distribute Windows Server 2008 SP2 or Windows Server 2008 R2 AMIs. Existing 2008 SP2/R2 instances and custom AMIs in your account are not impacted, and you can continue to use them after the EOS date.</p> <p>For more information about Microsoft End of Service on Amazon, including upgrade and import options, as well as a full list of AMIs that are no longer published as of 01/14/2020, see <a href="#">End of Support (EOS) for Microsoft Products</a>.</p> |

## Monthly AMI updates for 2019

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2019](#).

| Release    | Changes |
|------------|---------|
| 2019.12.16 |         |

| Release | Changes  |
|---------|--|
|         | <p data-bbox="402 212 526 243"><b>All AMIs</b></p> <ul data-bbox="402 300 1266 443" style="list-style-type: none"><li data-bbox="402 300 1266 359">• Microsoft security updates current to December 10, 2019</li><li data-bbox="402 390 1266 443">• Amazon Tools for Windows PowerShell version 3.15.903</li></ul> <p data-bbox="402 554 1247 585"><b>Windows Server 2008 SP2 and Windows Server 2008 R2</b></p> <p data-bbox="402 632 1487 905">Microsoft will end mainstream support for Windows Server 2008 SP2 and Windows Server 2008 R2 on January 14, 2020. On this date, Amazon will no longer publish or distribute Windows Server 2008 SP2 or Windows Server 2008 R2 AMIs. Existing 2008 SP2/R2 instances and custom AMIs in your account will not be impacted and you can continue to use them after the end-of-service (EOS) date.</p> <p data-bbox="402 951 1492 1129">For more information about Microsoft EOS on Amazon, including upgrade and import options, along with a full list of AMIs that will no longer be published or distributed on January 14, 2020, see <a href="#">End of Support (EOS) for Microsoft Products</a>.</p> |





| Release    | Changes   |
|------------|---|
| 2019.11.13 | <p data-bbox="399 258 526 289"><b>All AMIs</b></p> <ul data-bbox="399 348 1300 758" style="list-style-type: none"><li data-bbox="399 348 1243 401">• Amazon Tools for Windows PowerShell version 3.15.876</li><li data-bbox="399 432 1300 485">• Windows Security updates current to November 12th, 2019</li><li data-bbox="399 516 841 569">• EC2 Config version 4.9.3865</li><li data-bbox="399 600 906 653">• EC2 Launch version 1.3.2002240</li><li data-bbox="399 684 753 737">• SSM Agent v2.3.722.0</li></ul> <p data-bbox="399 869 1157 900">Previous versions of AMIs have been marked private.</p> <p data-bbox="399 949 824 980"><b>New Amazon Windows AMIs</b></p> <ul data-bbox="399 1039 1450 1854" style="list-style-type: none"><li data-bbox="399 1039 1214 1092">• Windows_Server-1909-English-Core-Base-2019.11.13</li><li data-bbox="399 1123 1390 1176">• Windows_Server-1909-English-Core-ContainersLatest-2019.11.13</li><li data-bbox="399 1207 1450 1260">• Windows_Server-2016-English-Full-SQL_2019_Enterprise-2019.11.13</li><li data-bbox="399 1291 1409 1344">• Windows_Server-2016-English-Full-SQL_2019_Express-2019.11.13</li><li data-bbox="399 1375 1433 1428">• Windows_Server-2016-English-Full-SQL_2019_Standard-2019.11.13</li><li data-bbox="399 1459 1365 1512">• Windows_Server-2016-English-Full-SQL_2019_Web-2019.11.13</li><li data-bbox="399 1543 1450 1596">• Windows_Server-2019-English-Full-SQL_2019_Enterprise-2019.11.13</li><li data-bbox="399 1627 1409 1680">• Windows_Server-2019-English-Full-SQL_2019_Express-2019.11.13</li><li data-bbox="399 1711 1433 1764">• Windows_Server-2019-English-Full-SQL_2019_Standard-2019.11.13</li><li data-bbox="399 1795 415 1848">•</li></ul> |

| Release    | Changes   |
|------------|---|
|            | Windows_Server-2019-English-Full-SQL_2019_Web-2019.11.13  |
| 2019.11.05 | <p data-bbox="402 352 824 386"><b>New Amazon Windows AMIs</b></p> <p data-bbox="402 436 760 470">New SQL AMIs available:</p> <ul data-bbox="402 529 1448 1201" style="list-style-type: none"><li data-bbox="402 529 1448 583">• Windows_Server-2016-English-Full-SQL_2019_Enterprise-2019.11.05</li><li data-bbox="402 613 1448 667">• Windows_Server-2016-English-Full-SQL_2019_Express-2019.11.05</li><li data-bbox="402 697 1448 751">• Windows_Server-2016-English-Full-SQL_2019_Standard-2019.11.05</li><li data-bbox="402 781 1448 835">• Windows_Server-2016-English-Full-SQL_2019_Web-2019.11.05</li><li data-bbox="402 865 1448 919">• Windows_Server-2019-English-Full-SQL_2019_Enterprise-2019.11.05</li><li data-bbox="402 949 1448 1003">• Windows_Server-2019-English-Full-SQL_2019_Express-2019.11.05</li><li data-bbox="402 1033 1448 1087">• Windows_Server-2019-English-Full-SQL_2019_Standard-2019.11.05</li><li data-bbox="402 1117 1448 1201">• Windows_Server-2019-English-Full-SQL_2019_Web-2019.11.05</li></ul> |

| Release    | Changes   |
|------------|---|
| 2019.10.09 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Amazon Tools for Windows PowerShell version 3.15.846</li><li>• Windows Security updates current to October 8th, 2019</li><li>• Windows Defender platform updates current and update block via registry removed. For details, see <a href="https://support.microsoft.com/en-us/help/4513240/sfc-incorrectly-flags-windows-defender-ps-files-as-corrupted">https://support.microsoft.com/en-us/help/4513240/sfc-incorrectly-flags-windows-defender-ps-files-as-corrupted</a></li></ul> <p><b>New Amazon Windows AMIs</b></p> <p>New ECS-optimized AMI available:</p> <ul style="list-style-type: none"><li>• Windows_Server-2019-English-Core-ECS_Optimized-2019.10.09</li></ul> |
| 2019.09.12 | <p><b>New Amazon Windows AMI</b></p> <ul style="list-style-type: none"><li>• amzn2-ami-hvm-2.0.20190618-x86_64-gp2-mono</li></ul> <p>.NET Core 2.2, Mono 5.18, and PowerShell 6.2 pre-installed to run your .NET applications on Amazon Linux 2 with Long Term Support (LTS)</p>  |

| Release    | Changes   |
|------------|---|
| 2019.09.11 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Amazon PV driver version 8.3.2</li><li>• Amazon NVMe driver version 1.3.2</li><li>• Amazon Tools for Windows PowerShell version 3.15.826</li><li>• NLA enabled on all OS 2012 RTM to 2019 AMIs</li><li>• Intel 82599 VF driver reverted to version 2.0.210.0 (Server 2016) or version 2.1.138.0 (Server 2019) due to customer reported issues. Engagement with Intel concerning these issues ongoing.</li><li>• Windows Security updates current to September 10, 2019</li><li>• Windows Defender platform update blocked via registry due to SFC failures introduced by latest client. Will be reenabled when patch available. See <a href="https://support.microsoft.com/en-us/help/4513240/sfc-incorrectly-flags-windows-defender-ps-files-as-corrupted">https://support.microsoft.com/en-us/help/4513240/sfc-incorrectly-flags-windows-defender-ps-files-as-corrupted</a>. Platform update block: HKLM:\SOFTWARE\Microsoft\Windows Defender\Miscellaneous Configuration\PreventPlatformUpdate type=DWORD, value=1</li></ul> <p>Previous versions of AMIs have been marked private.</p> <p><b>New Amazon Windows AMIs</b></p> <p>New STIG-compliant AMIs available:</p> <ul style="list-style-type: none"><li>• Windows_Server-2012-R2-English-STIG-Full</li><li>• Windows_Server-2012-R2-English-STIG-Core</li></ul> |

| Release | Changes  |
|---------|--|
|         | <ul style="list-style-type: none"><li>• Windows_Server-2016-English-STIG-Full</li><li>• Windows_Server-2016-English-STIG-Core</li><li>• Windows_Server-2019-English-STIG-Full</li><li>• Windows_Server-2019-English-STIG-Core</li></ul> <p><b>Windows Server 2008 R2 SP1</b></p> <p>Includes the following updates, which are required for Microsoft Extended Security (ESU) updates.</p> <ul style="list-style-type: none"><li>• KB4490628</li><li>• KB4474419</li><li>• KB4516655</li></ul> <p><b>Windows Server 2008 SP2</b></p> <p>Includes the following updates, which are required for Microsoft Extended Security (ESU) updates.</p> <ul style="list-style-type: none"><li>• KB4493730</li><li>• KB4474419</li><li>• KB4517134</li></ul> |

| Release    | Changes   |
|------------|---|
|            | <p> <b>Note</b></p> <p>NLA is now enabled on all 2012 RTM, 2012 R2, and 2016 AMIs to increase default RDP security posture. NLA remains enabled on 2019 AMIs.</p>  |
| 2019.08.16 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to August 13th, 2019. Includes KBs addressing CVE-2019-1181, CVE-2019-1182, CVE-2019-1222, and CVE-2019-1226.</li><li>• EC2Config version 4.9.3519</li><li>• SSM Agent version 2.3.634.0</li><li>• Amazon Tools for Windows PowerShell version 3.15.802</li><li>• Windows Defender platform update blocked via registry due to SFC failures introduced by update. Update will be re-enabled when new patch is available.</li></ul> <p> <b>Note</b></p> <p>Starting in September, NLA will be enabled on all 2012 RTM, 2012 R2, and 2016 AMIs to increase default RDP security posture.</p> |

| Release    | Changes  |
|------------|--|
| 2019.07.19 | <b>New Amazon Windows AMIs</b> <ul style="list-style-type: none"><li data-bbox="399 348 1357 407">• Windows_Server-2016-English-Full-ECS_Optimized-2019.07.19</li><li data-bbox="399 436 1357 495">• Windows_Server-2019-English-Full-ECS_Optimized-2019.07.19</li></ul> |
| 2019.07.12 | <b>All AMIs</b> <ul style="list-style-type: none"><li data-bbox="399 659 1192 718">• Microsoft security updates current to July 9th, 2019</li></ul>  |

| Release    | Changes  |
|------------|--|
| 2019.06.12 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to June 11th, 2019</li><li>• Amazon SDK version 3.15.756</li><li>• Amazon PV driver version 8.2.7</li><li>• Amazon NVMe driver version 1.3.1</li><li>• The following "P3" AMIs will be renamed as "Tesla" AMIs. These AMIs will support all GPU-backed Amazon instances using the Tesla driver. P3 AMIs will no longer be updated after this release and will be removed as part of our regular cycle.</li><li>• Windows_Server-2012-R2_RTM-English-P3-2019.06.12 replaced with Windows_Server-2012-R2_RTM-English-Tesla-2019.06.12</li><li>• Windows_Server-2016-English-P3-2016.06.12 replaced with Windows_Server-2016-English-Tesla-2019.06.12</li></ul> <p><b>New Amazon Windows AMIs</b></p> <ul style="list-style-type: none"><li>• Windows_Server-2019-English-Tesla-2019.06.12</li></ul> <p>Previous versions of AMIs have been marked private.</p> |
| 2019.05.21 | <p><b>Windows Server, version 1903</b></p> <ul style="list-style-type: none"><li>• AMIs are now available</li></ul>  |



| Release    | Changes  |
|------------|--|
| 2019.05.15 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1208 667" style="list-style-type: none"><li data-bbox="402 348 1208 407">• Microsoft security updates current to May 14th, 2019</li><li data-bbox="402 436 834 495">• EC2Config version 4.9.3429</li><li data-bbox="402 525 850 583">• SSM Agent version 2.3.542.0</li><li data-bbox="402 613 867 667">• Amazon SDK version 3.15.735</li></ul> |
| 2019.04.26 | <p data-bbox="402 749 526 779"><b>All AMIs</b></p> <ul data-bbox="402 837 1458 1035" style="list-style-type: none"><li data-bbox="402 837 1458 1035">• Fixed AMIs for Windows Server 2019 with SQL to address edge cases where the first launch of an instance may result in Instance Impairment and Windows displays the message "Please wait for the User Profile Service".</li></ul>                                  |
| 2019.04.21 | <p data-bbox="402 1117 526 1146"><b>All AMIs</b></p> <ul data-bbox="402 1205 1328 1264" style="list-style-type: none"><li data-bbox="402 1205 1328 1264">• Amazon PV Driver rollback to version 8.2.6 from version 8.3.0</li></ul>   |

| Release    | Changes  |
|------------|--|
| 2019.04.10 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to April 9, 2019</li><li>• Amazon SDK version 3.15.715</li><li>• Amazon PV Driver version 8.3.0</li><li>• EC2Launch v1 version 1.3.2001360</li></ul> <p><b>New Amazon Windows AMIs</b></p> <ul style="list-style-type: none"><li>• Windows_Server-2016-English-Full-SQL_2012_SP4_Standard-2019.04.10</li><li>• Windows_Server-2016-English-Full-SQL_2014_SP3_Standard-2019.04.10</li><li>• Windows_Server-2016-English-Full-SQL_2014_SP3_Enterprise-2019.04.10</li></ul> |
| 2019.03.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to March 12, 2019</li><li>• Amazon SDK version 3.15.693</li><li>• EC2Launch v1 version 1.3.2001220</li><li>• NVIDIA Tesla driver version 412.29 for Deep Learning and P3 AMIs (<a href="https://nvidia.custhelp.com/app/answers/detail/a_id/4772">https://nvidia.custhelp.com/app/answers/detail/a_id/4772</a>)</li></ul> <p>Previous versions of AMIs have been marked private</p>  |

| Release    | Changes  |
|------------|--|
| 2019.02.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to February 12, 2019</li><li>• SSM Agent version 2.3.444.0</li><li>• Amazon SDK version 3.15.666</li><li>• EC2Launch v1 version 1.3.2001040</li><li>• EC2Config version 4.9.3289</li><li>• Amazon PV driver 8.2.6</li><li>• <a href="#">EBS NVMe tool</a></li></ul> <p>SQL 2014 with Service Pack 2 and SQL 2016 with Service Pack 1 will no longer be updated after this release.</p> |
| 2019.02.09 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Amazon Windows AMIs have been updated. New AMIs can be found with the following date versions:<br/><br/>November "2018.11.29"<br/><br/>December "2018.12.13"<br/><br/>January "2019.02.09"<br/><br/>Previous versions of AMIs have been marked private</li></ul>  |

| Release    | Changes  |
|------------|--|
| 2019.01.10 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to January 10, 2019</li><li>• SSM Agent version 2.3.344.0</li><li>• Amazon SDK version 3.15.647</li><li>• EC2Launch v1 version 1.3.2000930</li><li>• EC2Config version 4.9.3160</li></ul> <p><b>All AMIs with SQL Server</b></p> <ul style="list-style-type: none"><li>• Latest cumulative updates</li></ul> |

## Monthly AMI updates for 2018

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2018](#).

| Release    | Changes   |
|------------|---|
| 2018.12.12 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to December 12, 2018</li><li>• SSM Agent version 2.3.274.0</li><li>• Amazon SDK version 3.15.629</li><li>• EC2Launch v1 version 1.3.2000760</li></ul> |

| Release | Changes   |
|---------|---|
|         | <p><b>New Amazon Windows AMIs</b></p> <ul style="list-style-type: none"><li>• Windows_Server-2012-R2_RTM-Japanese-64Bit-SQL_2014_SP3_Standard-2018.12.12</li><li>• Windows_Server-2012-R2_RTM-Japanese-64Bit-SQL_2014_SP3_Express-2018.12.12</li><li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2014_SP3_Enterprise-2018.12.12</li><li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2014_SP3_Standard-2018.12.12</li><li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2014_SP3_Express-2018.12.12</li><li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2014_SP3_Web-2018.12.12</li><li>• Windows_Server-2012-RTM-Japanese-64Bit-SQL_2014_SP3_Express-2018.12.12</li><li>• Windows_Server-2012-RTM-Japanese-64Bit-SQL_2014_SP3_Standard-2018.12.12</li><li>• Windows_Server-2012-RTM-Japanese-64Bit-SQL_2014_SP3_Web-2018.12.12</li><li>• Windows_Server-2012-RTM-English-64Bit-SQL_2014_SP3_Standard-2018.12.12</li><li>• Windows_Server-2012-RTM-English-64Bit-SQL_2014_SP3_Express-2018.12.12</li><li>•</li></ul> |

| Release | Changes  |
|---------|--|
|         | <p>Windows_Server-2012-RTM-English-64Bit-SQL_2014_SP3_Web-2018.12.12</p> <ul style="list-style-type: none"> <li>• Windows_Server-2012-R2_RTM-Japanese-64Bit-SQL_2016_SP2_Web-2018.12.12</li> <li>• Windows_Server-2012-R2_RTM-Japanese-64Bit-SQL_2016_SP2_Express-2018.12.12</li> <li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2016_SP2_Enterprise-2018.12.12</li> <li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2016_SP2_Standard-2018.12.12</li> <li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2016_SP2_Express-2018.12.12</li> <li>• Windows_Server-2012-R2_RTM-English-64Bit-SQL_2016_SP2_Web-2018.12.12</li> <li>• Windows_Server-2012-R2_RTM-Japanese-64Bit-SQL_2016_SP2_Standard-2018.12.12</li> <li>• Windows_Server-2016-Korean-Full-SQL_2016_SP2_Standard-2018.12.12</li> <li>• Windows_Server-2016-Japanese-Full-SQL_2016_SP2_Enterprise-2018.12.12</li> <li>• Windows_Server-2016-Japanese-Full-SQL_2016_SP2_Web-2018.12.12</li> <li>• Windows_Server-2016-English-Full-SQL_2016_SP2_Web-2018.12.12</li> <li>• Windows_Server-2016-Japanese-Full-SQL_2016_SP2_Standard-2018.12.12</li> </ul> |

| Release | Changes   |
|---------|---|
|         | <ul style="list-style-type: none"><li>• Windows_Server-2016-English-Full-SQL_2016_SP2_Express-2018.12.12</li><li>• Windows_Server-2016-English-Full-SQL_2016_SP2_Standard-2018.12.12</li><li>• Windows_Server-2016-English-Core-SQL_2016_SP2_Enterprise-2018.12.12</li><li>• Windows_Server-2016-English-Core-SQL_2016_SP2_Web-2018.12.12</li><li>• Windows_Server-2016-English-Core-SQL_2016_SP2_Express-2018.12.12</li><li>• Windows_Server-2016-English-Core-SQL_2016_SP2_Standard-2018.12.12</li><li>• Windows_Server-2016-Japanese-Full-SQL_2016_SP2_Standard-2018.12.12</li><li>• Windows_Server-2016-Korean-Full-SQL_2016_SP2_Standard-2018.12.12</li><li>• Windows_Server-2019-Spanish-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Japanese-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Portuguese_Portugal-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Chinese_Traditional-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Italian-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Swedish-Full-Base-2018.12.12</li><li>• Windows_Server-2019-English-Core-Base-2018.12.12</li><li>• Windows_Server-2019-Hungarian-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Polish-Full-Base-2018.12.12</li></ul> |

| Release | Changes  |
|---------|--|
|         | <ul style="list-style-type: none"><li>• Windows_Server-2019-Turkish-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Korean-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Dutch-Full-Base-2018.12.12</li><li>• Windows_Server-2019-German-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Russian-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Czech-Full-Base-2018.12.12</li><li>• Windows_Server-2019-English-Full-Base-2018.12.12</li><li>• Windows_Server-2019-French-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Portuguese_Brazil-Full-Base-2018.12.12</li><li>• Windows_Server-2019-Chinese_Simplified-Full-Base-2018.12.12</li><li>• Windows_Server-2019-English-Full-HyperV-2018.12.12</li><li>• Windows_Server-2019-English-Full-ContainersLatest-2018.12.12</li><li>• Windows_Server-2019-English-Core-ContainersLatest-2018.12.12</li><li>• Windows_Server-2019-English-Full-SQL_2017_Enterprise-2018.12.12</li><li>• Windows_Server-2019-English-Full-SQL_2017_Standard-2018.12.12</li><li>• Windows_Server-2019-English-Full-SQL_2017_Web-2018.12.12</li><li>• Windows_Server-2019-English-Full-SQL_2017_Express-2018.12.12</li><li>• Windows_Server-2019-English-Full-SQL_2016_SP2_Enterprise-2018.12.12</li></ul> |



| Release    | Changes   |
|------------|---|
|            | <ul style="list-style-type: none"> <li>• Windows_Server-2019-English-Full-SQL_2016_SP2_Standard-2018.12.12</li> <li>• Windows_Server-2019-English-Full-SQL_2016_SP2_Web-2018.12.12</li> <li>• Windows_Server-2019-English-Full-SQL_2016_SP2_Express-2018.12.12</li> </ul> <p><b>Updated Linux AMI</b></p> <ul style="list-style-type: none"> <li>• amzn2-ami-hvm-2.0.20180622.1-x86_64-gp2-dotnetcore-2018.12.12</li> </ul> |
| 2018.11.28 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• SSM Agent version 2.3.235.0</li> <li>• Changes in all power schemes to set the display to never turn off</li> </ul>   |
| 2018.11.20 | <p><b>Windows_Server-2016-English-Deep-Learning</b></p> <p><b>Windows_Server-2016-English-Deep-Learning</b></p> <ul style="list-style-type: none"> <li>• TensorFlow version 1.12</li> <li>• MXNet version 1.3</li> <li>• NVIDIA version 392.05</li> </ul>   |

| Release    | Changes  |
|------------|--|
| 2018.11.19 | <p data-bbox="399 258 526 289"><b>All AMIs</b></p> <ul data-bbox="399 348 1341 762" style="list-style-type: none"><li data-bbox="399 348 1268 405">• Microsoft security updates current to November 19, 2018</li><li data-bbox="399 436 894 493">• Amazon SDK version 3.15.602.0</li><li data-bbox="399 525 846 581">• SSM Agent version 2.3.193.0</li><li data-bbox="399 613 829 669">• EC2Config version 4.9.3067</li><li data-bbox="399 701 1341 758">• Intel Chipset INF configurations to support new instance types</li></ul> <p data-bbox="399 867 850 898"><b>Windows Server, version 1809</b></p> <ul data-bbox="399 957 773 1014" style="list-style-type: none"><li data-bbox="399 957 773 1014">• AMIs are now available.</li></ul> |

| Release    | Changes  |
|------------|--|
| 2018.10.14 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1471 894" style="list-style-type: none"><li data-bbox="402 348 1219 407">• Microsoft security updates current to October 9, 2018</li><li data-bbox="402 436 1252 495">• Amazon Tools for Windows PowerShell version 3.3.365.0</li><li data-bbox="402 525 873 583">• CloudFormation version 1.4.31</li><li data-bbox="402 613 886 672">• Amazon PV Driver version 8.2.4</li><li data-bbox="402 701 1471 810">• Amazon PCI Serial Driver version 1.0.0.0 (support for Windows 2008R2 and 2012 on Bare Metal instances)</li><li data-bbox="402 840 781 898">• ENA Driver version 1.5.0</li></ul> <p data-bbox="402 1003 1495 1033"><b>Windows Server 2016 Datacenter and Standard Editions for Nano Server</b></p> <p data-bbox="402 1083 1490 1205">Microsoft ended mainstream support for Windows Server 2016 Datacenter and Standard Editions for Nano Server installation options as of April 10, 2018.</p> |

| Release    | Changes   |
|------------|---|
| 2018.09.15 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1279 760" style="list-style-type: none"><li data-bbox="402 348 1279 407">• Microsoft security updates current to September 12, 2018</li><li data-bbox="402 436 1224 495">• Amazon Tools for Windows PowerShell version 3.3.343</li><li data-bbox="402 525 938 583">• EC2Launch v1 version 1.3.2000430</li><li data-bbox="402 613 932 672">• Amazon NVMe Driver version 1.3 0</li><li data-bbox="402 701 889 760">• EC2 WinUtil Driver version 2.0.0</li></ul> <p data-bbox="402 869 899 898"><b>Windows Server 2016 Base Nano</b></p> <p data-bbox="402 949 1490 1171">Access to all public versions of Windows_Server-2016-English-Nano-Base will be removed in September 2018. Additional information about Nano Server lifecycle, including details on launching Nano Server as a Container, can be found here: <a href="https://docs.microsoft.com/en-us/windows-server/get-started/nano-in-semi-annual-channel">https://docs.microsoft.com/en-us/windows-server/get-started/nano-in-semi-annual-channel</a>.</p> |

| Release    | Changes   |
|------------|---|
| 2018.08.15 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to August 14, 2018</li><li>• Amazon Tools for Windows PowerShell version 3.3.335</li><li>• AMIs now default to use Amazon's NTP service at IP 169.254.169.123 for time synchronization. For more information, see <a href="#">Set the time for your Windows instance</a>.</li></ul> <p><b>Windows Server 2016 Base Nano</b></p> <p>Access to all public versions of Windows_Server-2016-English-Nano-Base will be removed in September 2018. Additional information about Nano Server lifecycle, including details on launching Nano Server as a Container, can be found here: <a href="https://docs.microsoft.com/en-us/windows-server/get-started/nano-in-semi-annual-channel">https://docs.microsoft.com/en-us/windows-server/get-started/nano-in-semi-annual-channel</a>.</p> |
| 2018.07.11 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to July 10, 2018</li><li>• EC2Config version 4.9.2756</li><li>• SSM Agent 2.2.800.0</li></ul>   |
| 2018.06.22 | <p><b>Windows Server 2008 R2</b></p> <ul style="list-style-type: none"><li>• Resolves an issue with the 2018.06.13 AMIs when changing an instance from a previous generation to a current generation (for example, M4 to M5).</li></ul>   |

| Release    | Changes   |
|------------|---|
| 2018.06.13 | <p data-bbox="402 260 526 294"><b>All AMIs</b></p> <ul data-bbox="402 348 1188 848" style="list-style-type: none"><li data-bbox="402 348 1188 407">• Microsoft security updates current to June 12, 2018</li><li data-bbox="402 436 834 495">• EC2Config version 4.9.2688</li><li data-bbox="402 525 737 583">• SSM Agent 2.2.619.0</li><li data-bbox="402 613 1143 672">• Amazon Tools for Windows PowerShell 3.3.283.0</li><li data-bbox="402 701 818 760">• Amazon NVMe driver 1.2.0</li><li data-bbox="402 789 769 848">• Amazon PV driver 8.2.3</li></ul>  |
| 2018.05.09 | <p data-bbox="402 928 526 961"><b>All AMIs</b></p> <ul data-bbox="402 1016 1162 1339" style="list-style-type: none"><li data-bbox="402 1016 1162 1075">• Microsoft security updates current to May 9, 2018</li><li data-bbox="402 1104 834 1163">• EC2Config version 4.9.2644</li><li data-bbox="402 1192 737 1251">• SSM Agent 2.2.493.0</li><li data-bbox="402 1281 1143 1339">• Amazon Tools for Windows PowerShell 3.3.270.0</li></ul> <p data-bbox="402 1449 1386 1482"><b>Windows Server, version 1709 and Windows Server, version 1803</b></p> <ul data-bbox="402 1537 1406 1642" style="list-style-type: none"><li data-bbox="402 1537 1406 1642">• AMIs are now available. For more information, see <a href="#">Windows Server version 1709 and 1803 AMIs for Amazon EC2</a>.</li></ul> |

| Release    | Changes  |
|------------|--|
| 2018.04.11 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1464 898" style="list-style-type: none"><li data-bbox="402 369 1188 407">• Microsoft security updates current to April 10, 2018</li><li data-bbox="402 457 831 495">• EC2Config version 4.9.2586</li><li data-bbox="402 546 734 583">• SSM Agent 2.2.392.0</li><li data-bbox="402 634 1140 672">• Amazon Tools for Windows PowerShell 3.3.256.0</li><li data-bbox="402 722 1042 760">• Amazon CloudFormation templates 1.4.30</li><li data-bbox="402 810 1464 898">• Serial INF and Intel Chipset INF configurations to support new instance types</li></ul> <p data-bbox="402 1003 652 1041"><b>SQL Server 2017</b></p> <ul data-bbox="402 1100 824 1138" style="list-style-type: none"><li data-bbox="402 1121 824 1159">• Cumulative update 5 (CU5)</li></ul> <p data-bbox="402 1264 717 1302"><b>SQL Server 2016 SP1</b></p> <ul data-bbox="402 1360 824 1398" style="list-style-type: none"><li data-bbox="402 1381 824 1419">• Cumulative update 8 (CU8)</li></ul> |

| Release    | Changes   |
|------------|---|
| 2018.03.24 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to March 13, 2018</li><li>• EC2Config version 4.9.2565</li><li>• SSM Agent 2.2.355.0</li><li>• Amazon Tools for Windows PowerShell 3.3.245.0</li><li>• Amazon PV driver 8.2</li><li>• Amazon ENA driver 1.2.3.0</li><li>• Amazon EC2 Hibernate Agent 1.0 (rollback from 2.1.0 in the 2018.03.16 AMI release)</li><li>• Amazon EC2WinUtilDriver 1.0.1 (for troubleshooting)</li></ul> <p><b>Windows Server 2016</b></p> <ul style="list-style-type: none"><li>• EC2Launch v1 1.3.2000080</li></ul> |
| 2018.03.16 | Amazon has removed all Amazon Windows AMIs dated 2018.03.16 due to an issue with an unquoted path in the configuration for the Amazon EC2 Hibernate Agent.  |
| 2018.03.06 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Amazon PV driver 8.2.1</li></ul>   |



| Release    | Changes  |
|------------|--|
| 2018.02.23 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Amazon PV driver 7.4.6 (rollback from 8.2 in the 2018.02.13 AMI release)</li></ul>  |
| 2018.02.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to February 13, 2018</li><li>• EC2Config version 4.9.2400</li><li>• SSM Agent 2.2.160.0</li><li>• Amazon Tools for Windows PowerShell 3.3.225.1</li><li>• Amazon PV driver 8.2</li><li>• Amazon ENA driver 1.2.3.0</li><li>• Amazon NVMe driver 1.0.0.146</li><li>• Amazon EC2 HibernateAgent 1.0.0</li></ul> <p><b>Windows Server 2016</b></p> <ul style="list-style-type: none"><li>• EC2Launch v1 1.3.740</li></ul> |
| 2018.01.12 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to January 9, 2018</li></ul>   |

| Release    | Changes   |
|------------|---|
| 2018.01.05 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Microsoft security updates current to January 2018</li> <li>• Registry settings to enable mitigations for the Spectre and Meltdown exploits</li> <li>• Amazon Tools for Windows PowerShell 3.3.215</li> <li>• EC2Config version 4.9.2262</li> </ul> |

## Monthly AMI updates for 2017

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2017](#).

| Release    | Changes  |
|------------|--|
| 2017.12.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Microsoft security updates current to December 12, 2017</li> <li>• EC2Config version 4.9.2218</li> <li>• Amazon CloudFormation templates 1.4.27</li> <li>• Amazon NVMe driver 1.02</li> <li>• SSM Agent 2.2.93.0</li> <li>• Amazon Tools for Windows PowerShell 3.3.201</li> </ul> |
| 2017.11.29 |  |

| Release    | Changes   |
|------------|---|
|            | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>Removed components for Volume Shadow Copy Service (VSS) included in 2017.11.18 and 2017.11.19 due to a compatibility issue with Windows Backup.</li></ul>  |
| 2017.11.19 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>EC2 Hibernate Agent 1.0 (supports hibernation for Spot Instances)</li></ul>  |
| 2017.11.18 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>Microsoft security updates current to November 14, 2017</li><li>EC2Config version 4.9.2218</li><li>SSM Agent 2.2.64.0</li><li>Amazon Tools for Windows PowerShell 3.3.182</li><li>Elastic Network Adapter (ENA) driver 1.08 (rollback from 1.2.2 in the 2017.10.13 AMI release)</li><li><a href="#">Query for the latest Amazon Windows AMI using Systems Manager Parameter Store</a></li></ul> <p><b>Windows Server 2016</b></p> <ul style="list-style-type: none"><li>EC2Launch v1 1.3.640</li></ul> |

| Release    | Changes   |
|------------|---|
| 2017.10.13 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 352 1442 806" style="list-style-type: none"><li data-bbox="402 352 1237 407">• Microsoft security updates current to October 11, 2017</li><li data-bbox="402 436 831 491">• EC2Config version 4.9.2188</li><li data-bbox="402 520 717 575">• SSM Agent 2.2.30.0</li><li data-bbox="402 604 1042 659">• Amazon CloudFormation templates 1.4.24</li><li data-bbox="402 688 1442 806">• Elastic Network Adapter (ENA) driver 1.2.2. (Windows Server 2008 R2 through Windows Server 2016)</li></ul> |

| Release    | Changes  |
|------------|--|
| 2017.10.04 | <p data-bbox="399 258 721 289"><b>Microsoft SQL Server</b></p> <p data-bbox="399 338 1495 422">Windows Server 2016 with Microsoft SQL Server 2017 AMIs are now public in all regions.</p> <ul data-bbox="399 474 1448 800" style="list-style-type: none"><li data-bbox="399 495 1448 527">• Windows_Server-2016-English-Full-SQL_2017_Enterprise-2017.10.04</li><li data-bbox="399 579 1433 611">• Windows_Server-2016-English-Full-SQL_2017_Standard-2017.10.04</li><li data-bbox="399 663 1365 695">• Windows_Server-2016-English-Full-SQL_2017_Web-2017.10.04</li><li data-bbox="399 747 1409 779">• Windows_Server-2016-English-Full-SQL_2017_Express-2017.10.04</li></ul> <p data-bbox="399 905 1268 936">Microsoft SQL Server 2017 supports the following features:</p> <ul data-bbox="399 999 1495 1829" style="list-style-type: none"><li data-bbox="399 1020 1409 1104">• Machine Learning Services with Python (ML and AI) and R language support</li><li data-bbox="399 1146 824 1178">• Automatic database tuning</li><li data-bbox="399 1230 867 1262">• Clusterless Availability Groups</li><li data-bbox="399 1314 1495 1503">• Runs on Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and Ubuntu. For more information, see the following Microsoft article: <a href="#">Installation guidance for SQL Server on Linux</a>. Not supported on Amazon Linux.</li><li data-bbox="399 1556 954 1587">• Windows-Linux cross-OS migrations</li><li data-bbox="399 1640 886 1671">• Resumable online index rebuild</li><li data-bbox="399 1724 954 1755">• Improved adaptive query processing</li><li data-bbox="399 1808 415 1829">• </li></ul> |

| Release    | Changes  |
|------------|--|
|            | Graph data support   |
| 2017.09.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to September 13, 2017</li><li>• EC2Config version 4.9.2106</li><li>• SSM Agent 2.0.952.0</li><li>• Amazon Tools for Windows PowerShell 3.3.143</li><li>• Amazon CloudFormation templates 1.4.21</li></ul>  |
| 2017.08.09 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to August 9, 2017</li><li>• EC2Config version 4.9.2016</li><li>• SSM Agent 2.0.879.0</li></ul> <p><b>Windows Server 2012 R2</b></p> <ul style="list-style-type: none"><li>• Due to an internal error, these AMIs were released with an older version of Amazon Tools for Windows PowerShell, 3.3.58.0.</li></ul> |

| Release    | Changes  |
|------------|--|
| 2017.07.13 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 352 1175 583" style="list-style-type: none"><li data-bbox="402 352 1175 407">• Microsoft security updates current to July 13, 2017</li><li data-bbox="402 436 831 491">• EC2Config version 4.9.1981</li><li data-bbox="402 520 737 575">• SSM Agent 2.0.847.0</li></ul> <p data-bbox="402 693 727 722"><b>Windows Server 2016</b></p> <ul data-bbox="402 785 837 835" style="list-style-type: none"><li data-bbox="402 785 837 835">• Intel SRIOV Driver 2.0.210.0</li></ul> |

| Release    | Changes   |
|------------|---|
| 2017.06.14 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Microsoft security updates current to June 14, 2017</li> <li>• Updates for .NET Framework 4.7 installed from Windows Update</li> <li>• Microsoft updates to address the "privilege not held" error using the PowerShell Stop-Computer cmdlet. For more information, see <a href="#">Privilege not held error</a> on the Microsoft site.</li> <li>• EC2Config version 4.9.1900</li> <li>• SSM Agent 2.0.805.0</li> <li>• Amazon Tools for Windows PowerShell 3.3.99.0</li> <li>• Internet Explorer 11 for the desktop is the default, instead of the immersive Internet Explorer</li> </ul> <p><b>Windows Server 2016</b></p> <ul style="list-style-type: none"> <li>• EC2Launch v1 1.3.610</li> </ul> |
| 2017.05.30 | <p>The Windows_Server-2008-SP2-English-32Bit-Base-2017.05.10 AMI was updated to the Windows_Server-2008-SP2-English-32Bit-Base-2017.05.30 AMI to resolve an issue with password generation.</p>   |
| 2017.05.22 | <p>The Windows_Server-2016-English-Full-Base-2017.05.10 AMI was updated to the Windows_Server-2016-English-Full-Base-2017.05.22 AMI after some log cleaning.</p>  |



| Release    | Changes   |
|------------|---|
| 2017.05.10 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to May 9, 2017</li><li>• Amazon PV Driver v7.4.6</li><li>• Amazon Tools for Windows PowerShell 3.3.83.0</li></ul> <p><b>Windows Server 2016</b></p> <ul style="list-style-type: none"><li>• SSM Agent 2.0.767</li></ul>   |
| 2017.04.12 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to April 11, 2017</li><li>• Amazon Tools for Windows PowerShell 3.3.71.0</li><li>• Amazon CloudFormation templates 1.4.18</li></ul> <p><b>Windows Server 2003 to Windows Server 2012</b></p> <ul style="list-style-type: none"><li>• EC2Config version 4.9.1775</li><li>• SSM Agent 2.0.761.0</li></ul> <p><b>Windows Server 2016</b></p> <ul style="list-style-type: none"><li>• SSM Agent 2.0.730.0</li></ul> |

| Release    | Changes   |
|------------|---|
| 2017.03.15 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to March 14, 2017</li><li>• Current Amazon Tools for Windows PowerShell</li><li>• Current Amazon CloudFormation templates</li></ul> <p><b>Windows Server 2003 to Windows Server 2012</b></p> <ul style="list-style-type: none"><li>• EC2Config version 4.7.1631</li><li>• SSM Agent 2.0.682.0</li></ul> <p><b>Windows Server 2016</b></p> <ul style="list-style-type: none"><li>• SSM Agent 2.0.706.0</li><li>• EC2Launch v1 v1.3.540</li></ul> |
| 2017.02.21 | <p>Microsoft recently <a href="#">announced</a> that they will not release monthly patches or security updates for the month of February. All February patches and security updates will be included in the March update.</p> <p>Amazon Web Services did not release updated Windows Server AMIs in February.</p>   |

| Release    | Changes  |
|------------|--|
| 2017.01.11 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Microsoft security updates current to January 10, 2017</li> <li>• Current Amazon Tools for Windows PowerShell</li> <li>• Current Amazon CloudFormation templates</li> </ul> <p><b>Windows Server 2003 to Windows Server 2012</b></p> <ul style="list-style-type: none"> <li>• EC2Config version 4.2.1442</li> <li>• SSM Agent 2.0.599.0</li> </ul> |

## Monthly AMI updates for 2016

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2016](#).

| Release    | Changes  |
|------------|--|
| 2016.12.14 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Microsoft security updates current to December 13, 2016</li> <li>• Current Amazon Tools for Windows PowerShell</li> </ul> <p><b>Windows Server 2003 to Windows Server 2012</b></p> <ul style="list-style-type: none"> <li>• Released EC2Config version 4.1.1396</li> </ul> |

| Release | Changes   |
|---------|---|
|         | <ul style="list-style-type: none"> <li>Elastic Network Adapter (ENA) driver 1.0.9.0 (Windows Server 2008 R2 only)</li> </ul> <p><b>Windows Server 2016</b></p> <p>New AMIs available in all regions:</p> <ul style="list-style-type: none"> <li>Windows_Server-2016-English-Core-Base</li> </ul> <p><b>Microsoft SQL Server</b></p> <p>All Microsoft SQL Server AMIs with the latest service pack are now public in all regions. These new AMIs replace old SQL Service Pack AMIs going forward.</p> <ul style="list-style-type: none"> <li>Windows_Server-2008-R2_SP1-English-64Bit-SQL_2012_SP3_ <i>edition</i>-2016.12.14</li> <li>Windows_Server-2012-RTM-English-64Bit-SQL_2012_SP3_ <i>edition</i>-2016.12.14</li> <li>Windows_Server-2012-R2_RTM-English-64Bit-SQL_2014_SP2_ <i>edition</i>-2016.12.14</li> <li>Windows_Server-2012-RTM-English-64Bit-SQL_2014_SP2_ <i>edition</i>-2016.12.14</li> <li>Windows_Server-2012-R2_RTM-English-64Bit-SQL_2016_SP1_ <i>edition</i>-2016.12.14</li> <li>Windows_Server-2016-English-Full-SQL_2016_SP1_ <i>edition</i>-2016.12.14</li> </ul> |

| Release    | Changes  |
|------------|--|
|            | <p>SQL Server 2016 SP1 is a major release. The following features, which were previously available in Enterprise edition only, are now enabled in Standard, Web, and Express editions with SQL Server 2016 SP1:</p> <ul style="list-style-type: none"><li>• Row-level security</li><li>• Dynamic Data Masking</li><li>• Change Data Capture</li><li>• Database snapshot</li><li>• Column store</li><li>• Partitioning</li><li>• Compression</li><li>• In Memory OLTP</li><li>• Always Encrypted</li></ul>  |
| 2016.11.23 | <p><b>Windows Server 2003 to Windows Server 2012</b></p> <ul style="list-style-type: none"><li>• Released EC2Config version 4.1.1378</li><li>• The AMIs released this month, and going forward, use the EC2Config service to process boot-time configurations and SSM Agent to process Amazon Systems Manager Run Command and Config requests. EC2Config no longer processes requests for Systems Manager Run Command and State Manager. The latest EC2Config installer installs SSM Agent side-by-side with the EC2Config service. For more information, see <a href="#">Configure a Windows instance using the EC2Config service (legacy)</a>.</li></ul> |

| Release    | Changes   |
|------------|---|
| 2016.11.09 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to November 8 2016</li><li>• Released Amazon PV driver, version 7.4.3.0 for Windows 2008 R2 and later</li><li>• Current Amazon Tools for Windows PowerShell</li></ul>   |
| 2016.10.18 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to October 12, 2016</li><li>• Current Amazon Tools for Windows PowerShell</li></ul> <p><b>Windows Server 2016</b></p> <ul style="list-style-type: none"><li>• Released AMIs for Windows Server 2016. These AMIs include significant changes. For example, they don't include the EC2Config service.</li></ul> |
| 2016.9.14  | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to September 13, 2016</li><li>• Current Amazon Tools for Windows PowerShell</li><li>• Renamed AMI Windows_Server-2012-RTM-Japanese-64Bit-SQL_2008_R3_SP2_Standard to Windows_Server-2012-RTM-Japanese-64Bit-SQL_2008_R2_SP3_Standard</li></ul>  |

| Release   | Changes   |
|-----------|---|
| 2016.8.26 | All Windows Server 2008 R2 AMIs dated 2016.08.11 were updated to fix a known issue. New AMIs are dated 2016.08.25.  |
| 2016.8.11 | <p data-bbox="399 386 526 420"><b>All AMIs</b></p> <ul data-bbox="399 474 1481 756" style="list-style-type: none"><li data-bbox="399 474 753 529">• EC2Config v3.19.1153</li><li data-bbox="399 567 1221 621">• Microsoft security updates current to August 10, 2016</li><li data-bbox="399 659 1481 756">• Enabled the registry key User32 exception handler hardening feature in Internet Explorer for MS15-124</li></ul> <p data-bbox="399 865 1422 945"><b>Windows Server 2008 R2, Windows Server 2012 RTM, and Windows Server 2012 R2</b></p> <ul data-bbox="399 999 1455 1335" style="list-style-type: none"><li data-bbox="399 999 1081 1054">• Elastic Network Adapter (ENA) Driver 1.0.8.0</li><li data-bbox="399 1092 906 1146">• ENA AMI property set to enabled</li><li data-bbox="399 1184 1455 1335">• Amazon PV Driver for Windows Server 2008 R2 was re-released this month because of a known issue. Windows Server 2008 R2 AMI's were removed in July because of this issue.</li></ul> |
| 2016.8.2  | All Windows Server 2008 R2 AMIs for July were removed and rolled back to AMIs dated 2016.06.15, because of an issue discovered in the Amazon PV driver. The Amazon PV driver issue has been fixed. The August AMI release will include Windows Server 2008 R2 AMIs with the fixed Amazon PV driver and July/August Windows updates.   |

| Release   | Changes  |
|-----------|--|
| 2016.7.26 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1490 592" style="list-style-type: none"><li data-bbox="402 348 756 407">• EC2Config v3.18.1118</li><li data-bbox="402 457 1490 592">• 2016.07.13 AMIs were missing security patches. AMIs were re-patched. Additional processes were put in place to verify successful patch installations going forward.</li></ul>  |
| 2016.7.13 | <p data-bbox="402 667 526 697"><b>All AMIs</b></p> <ul data-bbox="402 756 1123 1079" style="list-style-type: none"><li data-bbox="402 756 1123 814">• Microsoft security updates current to July 2016</li><li data-bbox="402 865 1114 903">• Current Amazon Tools for Windows PowerShell</li><li data-bbox="402 953 935 991">• Updated Amazon PV Driver 7.4.2.0</li><li data-bbox="402 1041 1114 1079">• Amazon PV Driver for Windows Server 2008 R2</li></ul> |



| Release   | Changes   |
|-----------|---|
| 2016.6.16 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to June 2016</li><li>• Current Amazon Tools for Windows PowerShell</li><li>• EC2Config service version 3.17.1032</li></ul> <p><b>Microsoft SQL Server</b></p> <ul style="list-style-type: none"><li>• Released 10 AMIs that include 64-bit versions of Microsoft SQL Server 2016. If using the Amazon EC2 console, navigate to <b>Images, AMIs, Public Images</b>, and type <b>Windows_Server-2012-R2_RTM-English-64Bit-SQL_2016_Standard</b> in the search bar. For more information, see <a href="#">What's New in SQL Server 2016</a> on MSDN.</li></ul> |
| 2016.5.11 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to May 2016</li><li>• Current Amazon Tools for Windows PowerShell</li><li>• EC2Config service version 3.16.930</li><li>• MS15-011 Active Directory patch installed</li></ul> <p><b>Windows Server 2012 R2</b></p> <ul style="list-style-type: none"><li>• Intel SRIOV Driver 1.0.16.1</li></ul>   |

| Release   | Changes   |
|-----------|---|
| 2016.4.13 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1133 583" style="list-style-type: none"><li data-bbox="402 348 1133 407">• Microsoft security updates current to April 2016</li><li data-bbox="402 436 1133 495">• Current Amazon Tools for Windows PowerShell</li><li data-bbox="402 525 1133 583">• EC2Config service version 3.15.880</li></ul>              |
| 2016.3.9  | <p data-bbox="402 661 526 690"><b>All AMIs</b></p> <ul data-bbox="402 749 1156 984" style="list-style-type: none"><li data-bbox="402 749 1156 808">• Microsoft security updates current to March 2016</li><li data-bbox="402 837 1156 896">• Current Amazon Tools for Windows PowerShell</li><li data-bbox="402 926 1156 984">• EC2Config service version 3.14.786</li></ul>              |
| 2016.2.10 | <p data-bbox="402 1062 526 1092"><b>All AMIs</b></p> <ul data-bbox="402 1150 1205 1386" style="list-style-type: none"><li data-bbox="402 1150 1205 1209">• Microsoft security updates current to February 2016</li><li data-bbox="402 1239 1205 1297">• Current Amazon Tools for Windows PowerShell</li><li data-bbox="402 1327 1205 1386">• EC2Config service version 3.13.727</li></ul> |
| 2016.1.25 | <p data-bbox="402 1463 526 1493"><b>All AMIs</b></p> <ul data-bbox="402 1551 1188 1787" style="list-style-type: none"><li data-bbox="402 1551 1188 1610">• Microsoft security updates current to January 2016</li><li data-bbox="402 1640 1188 1698">• Current Amazon Tools for Windows PowerShell</li><li data-bbox="402 1728 1188 1787">• EC2Config service version 3.12.649</li></ul>  |

| Release  | Changes  |
|----------|--|
| 2016.1.5 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Current Amazon Tools for Windows PowerShell</li> </ul> |

## Monthly AMI updates for 2015

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2015](#).

| Release    | Changes  |
|------------|--|
| 2015.12.15 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Microsoft security updates current to December 2015</li> <li>• Current Amazon Tools for Windows PowerShell</li> </ul>  |
| 2015.11.11 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Microsoft security updates current to November 2015</li> <li>• Current Amazon Tools for Windows PowerShell</li> <li>• EC2Config service version 3.11.521</li> <li>• CFN Agent updated to latest version</li> </ul> |
| 2015.10.26 | Corrected boot volume sizes of base AMIs to be 30GB instead of 35GB  |
| 2015.10.14 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>•</li> </ul>   |

| Release  | Changes  |
|----------|--|
|          | <p>Microsoft security updates current to October 2015</p> <ul style="list-style-type: none"> <li>• EC2Config service version 3.10.442</li> <li>• Current Amazon Tools for Windows PowerShell</li> <li>• Updated SQL Service Packs to latest versions for all SQL variants</li> <li>• Removed old entries in Event Logs</li> <li>• AMI Names have been changed to reflect the latest service pack. For example, the latest AMI with Server 2012 and SQL 2014 Standard is named "Windows_Server-2012-RTM-English-64Bit-SQL_2014_SP1_Standard-2015.10.26", not "Windows_Server-2012-RTM-English-64Bit-SQL_2014_RTM_Standard-2015.10.26".</li> </ul> |
| 2015.9.9 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"> <li>• Microsoft security updates current to September 2015</li> <li>• EC2Config service version 3.9.359</li> <li>• Current Amazon Tools for Windows PowerShell</li> <li>• Current Amazon CloudFormation helper scripts</li> </ul>  |

| Release   | Changes   |
|-----------|---|
| 2015.8.18 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to August 2015</li><li>• EC2Config service version 3.8.294</li><li>• Current Amazon Tools for Windows PowerShell</li></ul> <p><b>Only AMIs with Windows Server 2012 and Windows Server 2012 R2</b></p> <ul style="list-style-type: none"><li>• Amazon PV Driver 7.3.2</li></ul> |
| 2015.7.21 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to July 2015</li><li>• EC2Config service version 3.7.308</li><li>• Current Amazon Tools for Windows PowerShell</li><li>• Modified AMI descriptions of SQL images for consistency</li></ul>  |

| Release    | Changes   |
|------------|---|
| 2015.6.10  | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 352 1133 672" style="list-style-type: none"><li data-bbox="402 373 1133 403">• Microsoft security updates current to June 2015</li><li data-bbox="402 457 922 487">• EC2Config service version 3.6.269</li><li data-bbox="402 550 1117 579">• Current Amazon Tools for Windows PowerShell</li><li data-bbox="402 642 1117 672">• Current Amazon CloudFormation helper scripts</li></ul> <p data-bbox="402 781 1013 810"><b>Only AMIs with Windows Server 2012 R2</b></p> <ul data-bbox="402 873 776 903" style="list-style-type: none"><li data-bbox="402 894 776 924">• Amazon PV Driver 7.3.1</li></ul> |
| 2015.5.13  | <p data-bbox="402 1003 526 1033"><b>All AMIs</b></p> <ul data-bbox="402 1096 1133 1327" style="list-style-type: none"><li data-bbox="402 1117 1133 1146">• Microsoft security updates current to May 2015</li><li data-bbox="402 1209 922 1239">• EC2Config service version 3.5.228</li><li data-bbox="402 1302 1117 1331">• Current Amazon Tools for Windows PowerShell</li></ul>  |
| 2015.04.15 | <p data-bbox="402 1407 526 1436"><b>All AMIs</b></p> <ul data-bbox="402 1499 1133 1730" style="list-style-type: none"><li data-bbox="402 1520 1133 1549">• Microsoft security updates current to April 2015</li><li data-bbox="402 1612 922 1642">• EC2Config service version 3.3.174</li><li data-bbox="402 1705 1117 1734">• Current Amazon Tools for Windows PowerShell</li></ul>  |

| Release    | Changes   |
|------------|---|
| 2015.03.11 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to March 2015</li><li>• EC2Config service version 3.2.97</li><li>• Current Amazon Tools for Windows PowerShell</li></ul> <p><b>Only AMIs with Windows Server 2012 R2</b></p> <ul style="list-style-type: none"><li>• Amazon PV Driver 7.3.0</li></ul> |
| 2015.02.11 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to February 2015</li><li>• EC2Config service version 3.0.54</li><li>• Current Amazon Tools for Windows PowerShell</li><li>• Current Amazon CloudFormation helper scripts</li></ul>  |
| 2015.01.14 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to January 2015</li><li>• EC2Config service version 2.3.313</li><li>• Current Amazon Tools for Windows PowerShell</li><li>• Current Amazon CloudFormation helper scripts</li></ul>  |

## Monthly AMI updates for 2014

For more information about Microsoft updates, see [Description of Software Update Services and Windows Server Update Services changes in content for 2014](#).

| Release    | Changes  |
|------------|--|
| 2014.12.10 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to December 2014</li><li>• EC2Config service version 2.2.12</li><li>• Current Amazon Tools for Windows PowerShell</li></ul>  |
| 2014.11.19 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to November 2014</li><li>• EC2Config service version 2.2.11</li><li>• Current Amazon Tools for Windows PowerShell</li></ul>  |
| 2014.10.15 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to October 2014</li><li>• EC2Config service version 2.2.10</li><li>• Current Amazon Tools for Windows PowerShell</li></ul> <p><b>Only AMIs with Windows Server 2012 R2</b></p> <ul style="list-style-type: none"><li>•</li></ul> |



| Release    | Changes   |
|------------|---|
|            | Amazon PV Driver 7.2.4.1 (resolves the issues with Plug and Play Cleanup, which is now enabled by default)  |
| 2014.09.10 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to September 2014</li><li>• EC2Config service version 2.2.8</li><li>• Current Amazon Tools for Windows PowerShell</li></ul> <p><b>Only AMIs with Windows Server 2012 R2</b></p> <ul style="list-style-type: none"><li>• Disable Plug and Play Cleanup (see <a href="#">Important information</a>)</li><li>• Amazon PV Driver 7.2.2.1 (resolves issues with the uninstaller)</li></ul> |
| 2014.08.13 | <p><b>All AMIs</b></p> <ul style="list-style-type: none"><li>• Microsoft security updates current to August 2014</li><li>• EC2Config service version 2.2.7</li><li>• Current Amazon Tools for Windows PowerShell</li></ul> <p><b>Only AMIs with Windows Server 2012 R2</b></p> <ul style="list-style-type: none"><li>• Amazon PV Driver 7.2.2.1 (improves disk performance, resolves issues with reconnecting multiple network interfaces and lost network settings )</li></ul>         |

| Release    | Changes   |
|------------|---|
| 2014.07.10 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 352 1123 579" style="list-style-type: none"><li data-bbox="402 352 1123 407">• Microsoft security updates current to July 2014</li><li data-bbox="402 436 883 491">• EC2Config service version 2.2.5</li><li data-bbox="402 520 1114 579">• Current Amazon Tools for Windows PowerShell</li></ul>   |
| 2014.06.12 | <p data-bbox="402 659 526 688"><b>All AMIs</b></p> <ul data-bbox="402 751 1416 1071" style="list-style-type: none"><li data-bbox="402 751 1133 806">• Microsoft security updates current to June 2014</li><li data-bbox="402 835 883 890">• EC2Config service version 2.2.4</li><li data-bbox="402 919 1416 974">• Removed NVIDIA drivers (except for Windows Server 2012 R2 AMIs)</li><li data-bbox="402 1003 1114 1071">• Current Amazon Tools for Windows PowerShell</li></ul> |
| 2014.05.14 | <p data-bbox="402 1155 526 1184"><b>All AMIs</b></p> <ul data-bbox="402 1247 1188 1566" style="list-style-type: none"><li data-bbox="402 1247 1123 1302">• Microsoft security updates current to May 2014</li><li data-bbox="402 1331 883 1386">• EC2Config service version 2.2.2</li><li data-bbox="402 1415 1114 1470">• Current Amazon Tools for Windows PowerShell</li><li data-bbox="402 1499 1188 1566">• Amazon CloudFormation helper scripts version 1.4.0</li></ul>      |

| Release    | Changes  |
|------------|--|
| 2014.04.09 | <p data-bbox="402 260 526 289"><b>All AMIs</b></p> <ul data-bbox="402 348 1133 583" style="list-style-type: none"><li data-bbox="402 348 1133 407">• Microsoft security updates current to April 2014</li><li data-bbox="402 436 1133 495">• Current Amazon Tools for Windows PowerShell</li><li data-bbox="402 525 1133 583">• Current Amazon CloudFormation helper scripts</li></ul>   |
| 2014.03.12 | <p data-bbox="402 663 526 693"><b>All AMIs</b></p> <ul data-bbox="402 751 1156 810" style="list-style-type: none"><li data-bbox="402 751 1156 810">• Microsoft security updates current to March 2014</li></ul>  |
| 2014.02.12 | <p data-bbox="402 886 526 915"><b>All AMIs</b></p> <ul data-bbox="402 974 1205 1390" style="list-style-type: none"><li data-bbox="402 974 1205 1033">• Microsoft security updates current to February 2014</li><li data-bbox="402 1062 880 1121">• EC2Config service version 2.2.1</li><li data-bbox="402 1150 1114 1209">• Current Amazon Tools for Windows PowerShell</li><li data-bbox="402 1239 613 1297">• <a href="https://support.microsoft.com/kb/2634328">KB2634328</a></li><li data-bbox="402 1327 1159 1390">• Remove the BCDEdit useplatformclock value</li></ul> <p data-bbox="402 1495 958 1524"><b>Only AMIs with Microsoft SQL Server</b></p> <ul data-bbox="402 1583 1328 1734" style="list-style-type: none"><li data-bbox="402 1583 1328 1642">• Microsoft SQL Server 2012 SP1 cumulative update package 8</li><li data-bbox="402 1671 1328 1734">• Microsoft SQL Server 2008 R2 cumulative update package 10</li></ul> |

# Subscribe to Amazon Windows AMI notifications

Whenever Amazon Windows AMIs are released, we send notifications to the subscribers of the `ec2-windows-ami-update` topic. Whenever released Amazon Windows AMIs are made private, we send notifications to the subscribers of the `ec2-windows-ami-private` topic. If you no longer want to receive these notifications, use the following procedure to unsubscribe.

To be notified when new AMIs are released or when previously released AMIs are made private, subscribe to notifications using Amazon SNS.

## To subscribe to Amazon Windows AMI notifications

1. Open the Amazon SNS console at <https://console.amazonaws.cn/sns/v3/home>.
2. In the navigation bar, change the Region to **US East (N. Virginia)**, if necessary. You must use this Region because the Amazon SNS notifications that you are subscribing to were created in this Region.
3. In the navigation pane, choose **Subscriptions**.
4. Choose **Create subscription**.
5. For the **Create subscription** dialog box, do the following:
  - a. For **Topic ARN**, copy and paste one of the following Amazon Resource Names (ARNs):
    - `arn:aws:sns:us-east-1:801119661308:ec2-windows-ami-update`
    - `arn:aws:sns:us-east-1:801119661308:ec2-windows-ami-private`

For **Amazon GovCloud (US) Regions**:

`arn:aws-us-gov:sns:us-gov-west-1:077303321853:ec2-windows-ami-update`

- b. For **Protocol**, choose **Email**.
  - c. For **Endpoint**, enter an email address that you can use to receive the notifications.
  - d. Choose **Create subscription**.
6. You'll receive a confirmation email with the subject line `Amazon Notification - Subscription Confirmation`. Open the email and choose **Confirm subscription** to complete your subscription.

## To unsubscribe from Amazon Windows AMI notifications

1. Open the Amazon SNS console at <https://console.amazonaws.cn/sns/v3/home>.
2. In the navigation bar, change the Region to **US East (N. Virginia)**, if necessary. You must use this Region because the Amazon SNS notifications were created in this Region.
3. In the navigation pane, choose **Subscriptions**.
4. Select the subscriptions and then choose **Delete**. When prompted for confirmation, choose **Delete**.

# Security in Amazon Windows AMI

Cloud security at Amazon is the highest priority. As an Amazon customer, you benefit from a data center and network architecture that is built to meet the requirements of the most security-sensitive organizations.

Security is a shared responsibility between Amazon and you. The [shared responsibility model](#) describes this as security of the cloud and security in the cloud:

- **Security of the cloud** – Amazon is responsible for protecting the infrastructure that runs Amazon services in the Amazon Cloud. Amazon also provides you with services that you can use securely. Third-party auditors regularly test and verify the effectiveness of our security as part of the [Amazon Compliance Programs](#). To learn about the compliance programs that apply to Windows AMI, see [Amazon Services in Scope by Compliance Program](#).
- **Security in the cloud** – Your responsibility is determined by the Amazon service that you use. You are also responsible for other factors including the sensitivity of your data, your company's requirements, and applicable laws and regulations

For detailed information about how to configure Amazon EC2 to meet your security and compliance objectives, see [Security in Amazon EC2](#) in the *User Guide for Windows Instances*.

# Document history for the Amazon Windows AMI reference

The following table describes the documentation releases for Amazon Windows AMI.

| Change                          | Description  | Date           |
|---------------------------------|--|----------------|
| <a href="#">Initial release</a> | Initial release of the Amazon Windows AMI reference. | April 30, 2024 |