2020 Trades
Pre-apprenticeships, Apprenticeships and Certificates
Trades

RMIT’s building trades work closely with industry to respond to the needs of the workforce and address current and future skill shortages.

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Pre-apprenticeships

A pre-apprenticeship program teaches you the basic skills of a particular industry and can be an advantage when applying to an employer for an apprenticeship. Classes combining theory and practical skills are taught in a simulated work environment to give you a sense of what a real working environment will be like. RMIT offers pre-apprenticeships in:
- Electrotechnology
- Plumbing

Programs are generally approximately 3 months duration.

Usually a pre-apprenticeship:
- Covers the basic principles and skills in your preferred trade area
- Does not require you to have an employer before you start
- Can reduce the amount of study time required for an apprenticeship

Many employers take on apprentices who have completed a pre-apprenticeship because:
- They have proven their interest in the trade
- They already know the basic principles of the trade
- They are familiar with most of the tools that the trade uses and many typical situations
- They have had the opportunity to receive occupational health and safety training and are likely to already have a Construction Induction Card (White Card)

Entrance requirements

You must be older than 16 years and an Australian or New Zealand citizen, or a permanent resident. You’ll be required to sit an entrance assessment to establish your English, mathematical and spatial-reasoning skills. This assessment will be conducted as part of the selection process.

Fees

Current fee information can be found at rmit.edu.au/programs/fees/vocational

How to apply

Pre-apprenticeship programs run throughout the year. You can apply directly through RMIT at any time by visiting rmit.edu.au/study-with-us/levels-of-study/apprenticeships-and-traineeships/preapprenticeships

Some pre-apprentice programs are free TAFE priority courses. Find out which programs and check your eligibility at rmit.edu.au/freetafe

Top tips for getting an apprenticeship

1. Do a pre-apprenticeship. In addition to giving you an idea of whether you like the trade, you’ll gain skills to put you ahead of the pack.

2. Be punctual, attentive and willing to learn while completing your pre-apprenticeship. RMIT receives many requests from employers looking for apprentices, and recommends only the best students.

3. Have a CV with referees prepared and keep an eye on job listings. The more applications you send out, the more likely you are to gain an apprenticeship.

4. Contact peak industry organisations within your trade. They often keep a list of employers looking for apprentices.

5. Use services such as Australian Apprenticeship Support Network providers or contact group training organisations. They can put you in touch with prospective employers.
Apprenticeships

For many trades, you need to complete an apprenticeship to be recognised as a tradesperson. Apprenticeships are the main method for people in Australia to become skilled in a trade.

RMIT offers apprenticeships in:
- Electrotechnology
- Instrumentation and Control
- Plumbing
- Refrigeration and Air-conditioning

An apprenticeship:
- requires you to have found an employer before you start. In some cases this can be on a part-time basis, or you can be a school-based apprentice
- takes between three and four years to complete
- combines paid skilled work with accredited training
- allows you to receive nationally recognised qualifications, usually at a Certificate III or Certificate IV level
- provides you with the skills and training to work professionally in your field

Entrance requirements

- You must be 16 years or older and be employed on a full-time or part-time basis by an employer within your chosen trade.
- You must have a signed federal apprenticeship contract with the employer and be registered as an apprentice with an Australian Apprenticeship Support Network provider.

Certificate IVs

Consider a Certificate IV if you want to continue studying to expand your qualifications, upskill or specialise. If your employer agrees, you can complete a Certificate IV as an apprentice.

RMIT offers Certificate IVs in:
- Electrical Instrumentation
- Instrumentation and Control
- Plumbing and Services

Entrance requirements

It is recommended that you have a relevant Certificate III trade qualification or relevant industry experience.

How to apply

The first step is to find an employer. Visit employment/job websites or use your network of family and friends. Many people find apprenticeships through industry exposure gained during their pre-apprenticeship.

Australian Apprenticeship Support Network Providers now provide apprenticeship recruitment services: australianapprenticeships.gov.au/find-my-aasn/full-list

The RMIT Skills and Jobs Centre can also help you find an employer. Visit rmit.edu.au/students/work-study-opportunities/jobs-and-career-advice/rmit-skills-and-jobs-centre

Once you’re employed, you and your employer will choose a registered training organisation (such as RMIT University) to provide you with education and training throughout your apprenticeship.

You and your employer will meet with an Australian Apprenticeship Network provider representative and sign a training contract.

Fees

Current fee information can be found at rmit.edu.au/programs/fees/vocational

Some Certificate IV programs are free TAFE priority courses. Find out which programs and check your eligibility at rmit.edu.au/freetafe.

How to apply

Apprentices must apply through their network provider.

Certificate IV in Instrumentation and Control applicants should apply via Direct application through the RMIT website.

Certificate IV Plumbing and Services applicants should apply by emailing vehs@rmit.edu.au
Electrotechnology and Refrigeration

**Electricians**

Electricians install, maintain, repair, test and commission electrical and electronic equipment and systems for industrial, commercial and domestic purposes. They also work on electrical transmission and distribution equipment. Tradespeople in these fields can be employed as:

- systems electricians working on residential and industrial buildings
- instrument technicians working on measuring, process control and scientific instruments
- electronic tradespeople providing electrical installation, repair maintenance, modification and testing of electrical/electronic systems

Instrument fitters select, install, maintain and commission instruments used to measure and control industrial processes such as pulp and paper manufacturing and petrochemical production. These types of instruments are used for controlling factors such as the flow of gases or liquids, temperature of materials, or pressure levels created during a process.

**Refrigeration**

Refrigeration mechanics assemble, install, service and repair industrial, commercial and domestic refrigeration and air-conditioning systems.

Refrigeration and air-conditioning tradespeople work in a range of sectors and locations:

- on shipping containers
- with trucks and transportation
- with industrial installations including supermarkets and bars
- within air-conditioning firms doing domestic or industrial air-flow solutions
Certificate II in Electrotechnology Studies
Pre-apprenticeship

What you will study
You’ll learn about extra-low voltage circuits, making utilities and components, solving electrotechnology problems and providing reports for the energy sector.
You’ll gain basic knowledge about the refrigeration and air-conditioning industry, learn about single phase 230v, refrigeration tubing and fitting, basic vapour compression systems and basic operating conditions of air-conditioning systems.

Prerequisites
Applicants are expected to have the equivalent of Year 10 level skills in literacy and numeracy.
You’ll sit a multiple-choice test to assess your skills in literacy, numeracy and spatial reasoning.

Industry connections
Guest speakers from industry will enhance your learning experience.
An industry engagement day is organised near the end of your program to provide you with relevant information on regulations, key employers and employment opportunities.
Students are also connected through industry associations and the RMIT Skills and Jobs Centre to assist with securing an apprenticeship.

Professional recognition
This qualification is recognised by the Electrical Trades Union (ETU) and the National Electrical and Communications Association (NECA).
You’ll receive exemptions if you go on to study the:
• Certificate III in Air-conditioning and Refrigeration (apprenticeship)
• Certificate III in Electrotechnology Electrician (apprenticeship)

Next steps
When you finish this pre-apprenticeship, you’ll have the basic skills to seek an apprenticeship as an electrician or a refrigeration/air-conditioning mechanic.

<table>
<thead>
<tr>
<th>RMIT Code</th>
<th>Campus</th>
<th>Duration</th>
<th>NCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2225</td>
<td>City or Bundoora campus</td>
<td>16 weeks full-time</td>
<td>NCC 2249VIC</td>
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</tbody>
</table>

*This is a free TAFE priority course. Check your eligibility and commencement dates at rmit.edu.au/freetafe.

The electrotechnology pre-apprenticeship provides you with an introduction to two industries: electrical and refrigeration/air-conditioning. Taught full-time at RMIT, it mixes theory with the practical skills required across these industries.
The program allows you to develop a broad range of skills and knowledge to help you make informed decisions about your career path. It leads to an apprenticeship as an electrician or an air-conditioning and refrigeration mechanic.
## Certificate III in Air-conditioning and Refrigeration

**Apprenticeship**

<table>
<thead>
<tr>
<th>Location</th>
<th>Option 1: 4 years part-time, one day on-campus per week or Option 2: 4 years part-time, full-time block release of seven weeks per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>City campus</td>
<td>NCC UEE32211 rmit.edu.au/programs/c3295</td>
</tr>
</tbody>
</table>

The Certificate III in Air-conditioning and Refrigeration is for people who are employed as air-conditioning and refrigeration apprentices. This program provides you with the skills to select components, install, set up, test, fault find, repair and maintain refrigeration systems, large-scale equipment for food storage and preservation, and air-conditioning and air distribution equipment. It includes regulatory requirements for purchasing and handling refrigerants.

On-the-job training with your employer is combined with studying at RMIT. You’ll complete practical and theoretical classes to gain the skills and knowledge to work at a trade level in the refrigeration and air-conditioning industry.

### What you will study

You’ll learn to:

- identify work health and safety hazards and document control measures
- fix, secure, mount, do basic fitting and fabrication techniques
- use drawings, diagrams, cable schedules, standards, codes and specifications
- carry out basic connections of refrigeration and air-conditioning piping/tubing and fittings
- install refrigeration and air-conditioning systems and associated equipment
- test and visually inspect refrigeration and air-conditioning systems and components for safety
- locate and rectify faults in appliances intended to operate to a connected supply up to 1000 volts AC or 1500 volts DC

### Industry connections

As an apprentice, you will learn while on-the-job. You may be able to be assessed in your workplace. Feedback from work supervisors and others can be used as evidence of competency, and an RMIT University assessor can visit your workplace to observe your work practice.

### Professional recognition

When you graduate, you’ll be eligible for a full refrigerant handling licence through the Australian Refrigeration Council (ARC).

### Career

Air-conditioning and refrigeration mechanics can work in commercial food storage, air-conditioning, transport refrigeration and industrial processing systems, in offices, technical laboratories, workshops or onsite.

### Next steps

You may further your studies with the Certificate IV in Refrigeration and Air-conditioning Systems to develop specialist skills that will enable you to work on larger systems and work for yourself. You can also complete a dual trade qualification with the Certificate III Electrotechnology Electrician.

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Daniel Farrugia

I chose to study at RMIT because my father studied here, and recommended it as the best place to learn. The RMIT program prepared me really well for work. It taught me the principles behind the methods we use, and why things work the way they do.
Certificate III in Electrotechnology Electrician

Apprenticeship

<table>
<thead>
<tr>
<th>Location</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3296, City campus</td>
<td>4 years part-time, one day on-campus per week</td>
</tr>
</tbody>
</table>

The Certificate III in Electrotechnology Electrician is an apprenticeship program. This program provides you with the skills to select, install, set-up, test, repair and maintain electrical systems and equipment.

On-the-job training with your employer is combined with studying at RMIT. You’ll complete practical and theoretical classes to gain the skills and knowledge to work at a trade level in the electrical industry.

When you graduate, you’ll have satisfied the Electrical Regulatory Authority Council’s requirements to become a licensed electrician.

What you will study

You’ll learn about:
- identifying work health and safety hazards and document control measures
- fabrication, dismantling and assembling of utilities industry components
- use of drawings, diagrams, cable schedules, standards, codes and specifications
- solving problems in AC and DC circuits
- arranging circuits, control and protection for general electrical installations
- troubleshooting and repairing faults in low-voltage electrical apparatus and circuits
- developing and connecting electrical control circuits
- installing low-voltage wiring, appliances and accessories

Industry connections

As an apprentice, you will learn while on-the-job. You may be able to be assessed in your workplace for some or all of your courses. Feedback from work supervisors and others can be used as evidence of competency, and an RMIT University assessor can visit your workplace to observe your work practice.

Professional recognition

Successful completion of this qualification allows students either to apply for an Electrician’s licence through Energy Safe Victoria (ESV) or to apply for an Open Cabler Registration licence endorsed by the Australian Communications and Media Authority (ACMA). Registration fees apply, payable to the licensing body.

Career

Skills in electrotechnology remain in high demand, particularly in industries such as construction, mining and manufacturing.

Electricians can work in-house for large companies, within smaller operations, as external consultants or as self-employed tradespeople. Some electricians may undergo further study to develop skills in electrical engineering, dual trade qualifications or a specialisation.

Next steps

You may further your studies with the Certificate III in Air-conditioning and Refrigeration to complete a dual trade qualification.
Certificate IV in Refrigeration and Air-conditioning Systems

- What you will study

Training is delivered as a combination of face-to-face and online. Assessments include assignments and work reports, written tests and practical assessments. Practical classes are delivered in fully equipped refrigeration and air-conditioning trade training facilities using industry standard equipment and trade practice.

You’ll gain the knowledge and skills to:

- compile and produce a detailed energy sector report
- establish the thermodynamic parameters of refrigeration and air-conditioning systems
- establish heat loads for commercial refrigeration and/or air-conditioning applications
- analyse the psychrometric performance of HVAC/R systems
- implement and monitor energy sector environmental and sustainable policies and procedures

- Industry connections

Throughout the program you’ll be able to engage with industry specialists, who can provide learning experiences in specific areas of refrigeration/air-conditioning, many of which you might not be exposed to during your normal working day.

- Career

This program will provide you with the knowledge and skills to progress from fixing and repairing to diagnosing faults and commissioning large-scale systems, allowing you greater flexibility to work on larger systems or to work for yourself.

The Certificate IV in Refrigeration and Air-conditioning Systems is designed for qualified air-conditioning and refrigeration mechanics looking to improve their career opportunities by developing specialist skills in this field.

This program provides the competencies to determine heat loads and select equipment for basic commercial refrigeration or residential air-conditioning applications. It includes regulatory requirements for purchasing and handling refrigerants.

Examples of commercial refrigeration settings include commercial cold rooms, freezer rooms and cabinets with a single compressor or condensing unit. This does not include large, complex commercial applications or industrial applications.

Examples of residential air-conditioning applications include all scenarios covered under the Building Code of Australia – Class 1A Residential Buildings.

The Certificate IV in Refrigeration and Air-conditioning Systems can be completed as an apprenticeship.

K C4301, City campus
2 years part-time
NCC UEE42911
rmit.edu.au/programs/c4301

The Certificate IV in Refrigeration and Air-conditioning Systems is designed for qualified air-conditioning and refrigeration mechanics looking to improve their career opportunities by developing specialist skills in this field. This program provides the competencies to determine heat loads and select equipment for basic commercial refrigeration or residential air-conditioning applications. It includes regulatory requirements for purchasing and handling refrigerants.

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Examples of residential air-conditioning applications include all scenarios covered under the Building Code of Australia – Class 1A Residential Buildings.

The Certificate IV in Refrigeration and Air-conditioning Systems can be completed as an apprenticeship.
Certificate IV in Electrical – Instrumentation Apprenticeship

What you will study

You’ll learn about:
- fixing and securing electrotechnology equipment
- fabrication, dismantling and assembly of utilities industry components
- using drawings, diagrams, cable schedules, standards, codes and specifications
- arranging circuits, control and protection for general electrical installations
- developing and connecting electrical control circuits
- solving problems in pressure measurement circuits and systems
- temperature and flow measurement circuits and systems

Professional recognition

This program has strong links to industry through a well established Industry Advisory Committee (IAC). The IAC includes industry professionals from a range of organisations, who provide regular feedback on the program and the changing needs of industry. Teaching staff have extensive industry experience and networks.

Career

Skills in electrical-instrumentation are in high demand, particularly in industries such as food processing, water, petrochemical, mining and manufacturing.
Certificate IV in Instrumentation and Control

What you will study

You’ll learn about control concepts, pressure, level and flow measurement principles, proportional-integral-derivative (PID) control principles, process control systems and industrial networking. You’ll gain skills in:

- checking instruments for accuracy and calibrating them to manufacturers’ specifications
- installing industrial instruments and equipment such as control panels, sensors, transmitters and controllers
- developing and verifying discrete control programs for programmable controllers
- using instrumentation drawings, diagrams, standards, schedules and equipment manuals
- finding and rectifying faults in final control elements
- industrial networking

Industry connections

This program has strong links to industry through a well-established Industry Advisory Committee (IAC). The IAC includes industry professionals from a range of organisations, who provide regular feedback on the program and the changing needs of industry.

Teaching staff have extensive industry experience and networks.

Career

There is a significant shortage of trained specialists in instrumentation and control. Qualified tradespeople who have expertise across both areas can expect strong employment opportunities.

When you complete this program you can find work in:

- lighting
- general power
- fire protection and security
- robotics and automated process systems
- instrumentation (food processing, water, petrochemical, mining and manufacturing)
- optical data and voice systems
- electrical motors and control systems

Next steps

Graduates may be eligible to apply for credit towards the Advanced Diploma of Engineering Technology – Electrical.

Richard Imierowicz
Certificate IV in Instrumentation and Control

I’ve learnt the fundamental principles needed to do my job, and also gained practical experience. The highlights have been the friends I’ve made, networking opportunities and being awarded the Best Instrument Apprentice.
Plumbers lay out, install, test and maintain pipes, fixtures, metal roofing, fittings, gas meters and regulators. They ensure the delivery of clean water, as well as drainage and sanitation.

Plumbers install and repair equipment such as: boilers, pumps, heating and cooling systems, natural gas appliances, water tanks, solar-heating systems, sinks, basins and showers.

They can be self-employed, work in small firms or with large construction companies. Plumbers are mainly employed in construction, electricity, gas, water and waste services, public administration and safety.
Certificate II in Plumbing
Pre-apprenticeship

| Location | C2222
| City campus
| 16 weeks full-time

NCC 22304VIC
rmit.edu.au/programs/c2222

*This is a free TAFE priority course. Check your eligibility and commencement dates at rmit.edu.au/freetafe.

The Certificate II in Plumbing provides you with basic skills and training in the plumbing field. It can be an important first step to your career as a plumber.

Studying full-time at RMIT, you’ll undertake practical workshops to give you hands-on experience, as well as important theory classes to give you a solid understanding of the industry. You can also complete on-the-job work experience to better prepare you for a full-time apprenticeship.

When finished, you’ll have the skills and knowledge that an employer looks for when hiring an apprentice.

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**What you will study**

You’ll learn about the plumbing industry, understand its expectations and how you can progress.

You’ll gain basic knowledge and skills through workshop classes, which develop your understanding of welding, sheet metal, roofing, drainage, sanitary, water and gas principles. These skills will be practised at work placements.

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**Prerequisites**

Applicants are expected to have the equivalent of Year 10 level skills in literacy and numeracy.

You’ll be required to sit an entrance assessment to establish your English, mathematical and spatial-reasoning skills.

This assessment will be conducted as part of the selection process. You can apply for special consideration.

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**Industry connections**

Guest speakers from industry will enhance your learning experiences.

An industry engagement day is organised near the end of your program to provide you with relevant information on regulations, key employers and employment opportunities.

Students are also connected through industry associations and the RMIT Skills and Jobs Centre to assist with securing an apprenticeship.

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**Professional recognition**

This program is recognised by plumbing associations and organisations such as the Master Plumbers and Mechanical Services Association of Australia and the Communications Electrical Plumbing Union.

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**Career**

Plumbers continue to be in high demand in Australia, and the job outlook is very strong. Plumbers may be self-employed, employed in small firms, or employed in large construction firms.

Many students find apprenticeships while still studying this program. A high percentage of students who successfully complete this program find an apprenticeship within six months.

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**Next steps**

When you finish this pre-apprenticeship, you’ll have the basic skills to seek an apprenticeship as a plumber.
Certificate III in Plumbing
Apprenticeship

What you will study
You’ll study five streams of plumbing: drainage, gas, roofing, sanitary and water. There is an optional stream in mechanics that can be added to the five streams.

Examples of what you’ll study include:
- fusion pipe welding
- gas principles
- installation of sanitary systems
- levelling
- measurement and calculation
- mechanical principles
- plumbing standards
- Regulation, roof safety and installation

Industry connections
As an apprentice you will learn while on-the-job, and you may be assessed in your workplace for some or all of your courses. Feedback from work supervisors and others can be used as evidence of competency, and an RMIT University assessor can visit your workplace to observe your work practice.

Professional recognition
This program is recognised by plumbing associations and organisations such as the Master Plumbers and Mechanical Services Association of Australia and the Communications Electrical Plumbing Union.

Career
Trained plumbers install and repair equipment such as boilers, pumps, heating and cooling systems, natural gas appliances, water tanks, solar-heating systems, sinks, basins and showers.

Plumbers may be self-employed, employed in small firms, or employed in large construction companies.

With new construction continuing to grow, the need for maintenance of infrastructure is increasing. The demand for skilled professionals in the plumbing trade remains strong, and graduates can expect excellent employment opportunities.

Next steps
You may further your studies with the Certificate IV in Plumbing and Services to gain licence accreditation in a range of specialist plumbing areas in order to become a licensed builder.

Jason Alford
Certificate III in Plumbing

The hands-on learning approach at RMIT, when combined with my on-the-job training, meant I felt very prepared for real work. This was one of many reasons why I enjoyed studying at RMIT.
Certificate IV in Plumbing and Services

<table>
<thead>
<tr>
<th>What you will study</th>
</tr>
</thead>
<tbody>
<tr>
<td>This program allows you to choose the skill sets or specialisations that you want to study.</td>
</tr>
<tr>
<td>The following are examples of topics covered:</td>
</tr>
<tr>
<td>• carry out work-based risk control processes</td>
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<tr>
<td>• commission and maintain backflow prevention devices</td>
</tr>
<tr>
<td>• commission and maintain hot water temperature control devices</td>
</tr>
<tr>
<td>• consumer gas installations</td>
</tr>
<tr>
<td>• deliver and monitor a service to customers</td>
</tr>
<tr>
<td>• domestic treatment plant disposal systems</td>
</tr>
<tr>
<td>• establish legal and risk management requirements of small business</td>
</tr>
<tr>
<td>• estimate and cost work</td>
</tr>
<tr>
<td>• hot and cold water services and systems</td>
</tr>
<tr>
<td>• identify hazards and assess work health and safety risks</td>
</tr>
<tr>
<td>• plan, size and lay out sanitary drainage systems</td>
</tr>
<tr>
<td>• read and interpret plans and specifications</td>
</tr>
<tr>
<td>• roof drainage systems</td>
</tr>
<tr>
<td>• sanitary pipework and fixtures</td>
</tr>
<tr>
<td>• stormwater drainage systems</td>
</tr>
</tbody>
</table>

RMIT provides you with opportunities for flexible exit points to meet your individual needs, although you will need to complete all courses required by the Plumbing Industry Commission (PIC) before you’re able to sit the Victorian Building Authority (VBA) PIC licence exam.

Professional recognition

The program is recognised by the Victorian Building Authority, allowing graduates who complete the required courses to register as a licensed plumbing contractor.

Career

Graduates will have enhanced career prospects and will be qualified to move into positions of responsibility, such as a team leader, site supervisor, business owner/operator or hydraulic consultant.

Sam Northeast
Certificate IV in Plumbing and Services

I seem to enjoy studying more as I get older and more mature, so I’m excited by the idea of doing a higher qualification part-time while working.
RMIT Trades Tours

If you’ve ever thought about a career in trades, now’s the time to get your questions answered.

RMIT Trades offer monthly tours of RMIT’s modern facilities and teaching spaces.

Tours are available every month on a Thursday morning for future students, employers, industry representatives and school groups.

For details or to book email: vehs@rmit.edu.au

Contact

Building and trades apprenticeship enquiries
Mobile: 0418 717 249

Every effort has been made to ensure the information contained in this publication is accurate and current at the date of printing. For the most up-to-date information, please refer to the RMIT University website before lodging your application.

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RMIT University Registered Training Organisation code: 3046.
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What’s next...